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List of Abbreviations and Acronyms

AfDB	African Development Bank
AGOA	Africa Growth and Opportunity Act
AIC	Akaike Information Criterion
ANC	African National Congress
APEC	Asia–Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BIC	Bayesian Information Criterion
BLNS	Botswana, Lesotho, Namibia and Swaziland
BMZ	Federal Ministry of Economic Cooperation and Development
COMESA	Common Market for Eastern and Southern Africa
DBSA	Development Bank of Southern Africa
DTI	Department of Trade and Industry
EAC	East African Community
EFF	Economic Freedom Fighters
EPA	Economic Partnership Agreement
ESS	Enterprise Specific Skill
EU	European Union
FET	Further Education and Training
FTA	Free Trade Agreement
GCI	Global Competitiveness Index
GEM	Global Entrepreneurship Monitor
GVC	Global Value Chain
IDC	Industrial Development Corporation
JSE	Johannesburg Stock Exchange
KAS	Konrad Adenauer Stiftung
LPI	Logistics Performance Index
LSCI	Liner Shipping Connectivity Index

MNC	Multinational Corporation
NGO	Non-Government Organisation
NIE	Newly Industrializing Economy
NTB	Non-Tariff Barrier
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OLS	Ordinary Least Squares
R&D	Research and Development
RCA	Revealed Comparative Advantage
REC	Regional Economic Community
RSS	Relation Specific Skills
RVC	Regional Value Chain
SACU	Southern African Customs Union
SADC	Southern African Development Community
SEZ	Special Economic Zone
SMEs	Small and Medium Enterprises
SSA	Sub-Saharan Africa
PPP	Public-Private Partnership
TEA	Total Early Stage Entrepreneurial Activity
TFTA	Tripartite Free Trade Agreement
UAFL	United Africa Feeder Line
UNECA	United Nations Economic Commission for Africa
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
US	United States
WBES	World Bank Enterprise Survey
WEF	World Economic Forum
WTO	World Trade Organization

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German Summary

In den letzten 25 Jahren haben Ökonomen wesentlich zur Entwicklung eines institutionellen Ansatzes in der Entrepreneurship-Forschung beigetragen, indem sie institutionelle Faktoren identifiziert haben, die die Entwicklung von Unternehmertum stärken, was wiederum das Wirtschaftswachstum ankurbelt (Urbano, et al., 2018). Trotz des zunehmenden Interesses an der Erforschung der Rolle von Entrepreneurship-Institutionen in den Industrieländern ist nicht viel über einen ähnlichen Ansatz in Entwicklungsländern, insbesondere Subsahara-Afrika (SSA), bekannt.

Afrika ist derzeit die Region mit dem schnellsten Bevölkerungswachstum. Jedes Jahr wächst die Bevölkerung des Kontinents um zusätzlich 20 Millionen Einwohner. Bis Ende 2050 werden in Afrika voraussichtlich 2,5 Milliarden Menschen leben, doppelt so viel wie heute (United Nations, 2017). Angesichts des demografischen Wandels ist die Untersuchung von Entrepreneurship-Institutionen in SSA wichtig, da sie eine Schlüsselrolle für die Bereitstellung von Arbeitsplätzen für junge Generationen in SSA spielen. Ein starker institutioneller Rahmen für die Entwicklung des Unternehmertums würde das Wirtschaftswachstum ankurbeln, indem die Arbeitslosigkeit junger Menschen bekämpft wird (Le, 1999), da arbeitslose Jugendliche die Ursache für viele Entwicklungsfragen wie Armut, Gewalt und illegale Einwanderung sind.

Im Hinblick auf die Schaffung von Arbeitsplätzen ist es wichtig, nach Maßnahmen zu suchen, die sowohl die Quantität als auch die Qualität von kleinen und mittleren Unternehmen (KMU) steigern und gleichzeitig zu mehr unternehmerischem Handeln und einer besseren Leistung von Unternehmern führen. Der Rahmen der Institutionenökonomie liefert Einblicke in integrative Institutionen (Acemoglu & Robinson, 2013), welche die Nachhaltigkeit und Überlebensfähigkeit von KMU sicherstellen, da sie sowohl aus formalen Institutionen wie Regeln, Gesetzen und Verfassungen als auch aus informalen Institutionen wie sozialen Normen, Konventionen und Kulturen bestehen (North, 1990). Diese sind von entscheidender Bedeutung für die Untersuchung von

unternehmerischen Aktivitäten (Baumol, 1990; Henrekson, 2007; Freytag & Thurik, 2007; Freytag & Noseleit, 2009; Wyrwich, 2013).

Die vorliegende Studie basiert auf einem Forschungsaufenthalt in Ghana und Kenia im Jahr 2016, der zur Datenerhebung genutzt wurde. Für die Analyse des Einflusses des sozioökonomischen Hintergrunds der dortigen Unternehmer auf die Leistung ihrer Unternehmen wurden 266 lokale Unternehmer in Accra (n) und Nairobi (n) befragt. Der Fragebogen besteht aus vierzig quantitativen Fragen und ist in drei Hauptabschnitte unterteilt: Der erste Abschnitt enthält Fragen zu demografischen Merkmalen, persönlichen Informationen der Unternehmer und zu Informationen über die Unternehmen, z.B. zur Größe des Geschäfts und zur wirtschaftlichen Leistung in den letzten Jahren. Der zweite Teil befasst sich mit dem Bildungs- und Ausbildungshintergrund der Unternehmer. Der dritte Teil behandelt daraufhin die Rolle der Clan-, Familien- und Freundschaftsbeziehungen der Unternehmer.

Die Dissertation besteht aus sieben Kapiteln. Nach dem einleitenden ersten Kapitel befasst sich das zweite Kapitel mit der Literatur zu Entrepreneurship-Institutionen und zur Entrepreneurship-Entwicklung in SSA, sowie der Beschreibung des Forschungsdesigns. In den darauffolgenden vier Kapiteln wird ein institutionen-ökonomischer Rahmen für verschiedene Wirtschaftsmodelle verwendet. Die ersten beiden Kapitel verwenden dazu Mikrodaten, um die Leistung der befragten Unternehmer als KMU-Qualität zu untersuchen. In den anderen beiden Kapiteln werden Makrodaten verwendet. In diesen vier Kapiteln werden zum einen die wirtschaftliche Aktivität als Maß der Größe von KMU untersucht und zum anderen eine makroökonomische Implikation für große Unternehmen als Alternative zu KMU herangezogen. Im Detail sieht es wie folgt aus:

Das dritte Kapitel untersucht die Rolle von Institutionen bei der Analyse, ob unternehmerisches Lernen die Fähigkeit von Unternehmern beeinflusst, mehr Angestellte einzustellen und ein hohes Wachstum der Beschäftigungsquote aufrechtzuerhalten. Das basiert auf dem Modell des unternehmerischen Lernens (Cope, 2005; Minniti & Bygrave, 2001; Harrison & Leitch, 2005). Hypothesen zur Entstehung unternehmerischen Lernens

werden gebildet. Diese beziehen sich auf die Rolle formaler Institutionen, wie formale Bildung und Ausbildung, unternehmerische Bildung, Berufsschulen und auf die Rolle informaler Institutionen wie Existenzgründung und bezahlter Arbeitserfahrung. Zudem beziehen sie sich auch auf die Rolle von situationsorientiertem Lernen innerhalb der Gemeinschaft, der Familie und des Freundeskreises. Die Ergebnisse dieses Kapitels sind ein Beitrag zur bestehenden Literatur zum Einfluss von Human- und Sozialkapital eines Unternehmers auf die Leistung und den Erfolg des Unternehmens (Bublitz & Noseleit, 2014; Santarelli & Tran, 2013). Die empirischen Ergebnisse dieses Kapitels können für politische Entscheidungsträger hilfreich sein, sich an geeigneteren Bildungs- und Ausbildungsprogrammen zu orientieren, die darauf abzielen, die Fähigkeiten und Lernfähigkeiten von Unternehmern zu verbessern. Dieses Kapitel verwendet die Mikrodaten aus der Erhebung in Ghana und Kenia, die stellvertretend West- und Ostafrika repräsentieren.

Das vierte Kapitel untersucht den Einfluss von selbständig erwerbstätigen Eltern auf das Eintrittsalter von Unternehmern in das Unternehmen und die Gründungsgröße des Unternehmens. Hypothesen werden auf der Grundlage vorhandener Literatur zur intergenerationalen Übertragung von Unternehmertum erstellt (Wyrwich, 2015; Fritsch & Rusakova, 2012), um besser zu verstehen, wie Politik auf die Entwicklung nachhaltigen Unternehmertums in Bezug auf Quantität und Qualität abzielen kann. Die Ergebnisse zur Unternehmensgröße tragen dazu bei, den Mechanismus der Schaffung von Unternehmen mit mehr als einer Person aufzuzeigen, einem wichtigen Punkt in der Entwicklungsstrategie für KMUs in SSA. Die Ergebnisse zum Eintrittsalter tragen dazu bei, geeignete Entwicklungsprogramme für Jungunternehmer zu entwickeln und entsprechende altersentsprechende Programme für unternehmerische Initiativen zu entwickeln. Auch dieses Kapitel verwendet Mikrodaten aus der Umfrage in Ghana und Kenia.

Das fünfte Kapitel zielt darauf ab, den Ansatz für das Modell der unternehmerischen Ökonomie nach Audretsch & Thurik (1997; 2000; 2001; 2004; 2010), zu untersuchen und vergleicht dessen Merkmale mit den aktuellen wirtschaftlichen Merkmalen der SSA-

Länder, um eine angemessene Umsetzung durch die Politik zu ermöglichen. Jede der vierzehn Dimensionen der unternehmerischen Ökonomie wird im Vergleich zu einer gelenkten Wirtschaft parallel zu entsprechenden Merkmalen der SSA-Institutionen betrachtet. Ursprünglich erklärt das Modell der unternehmerischen Ökonomie die gegenwärtige Transformation des industriellen Downsizings und des Auftauchens von Unternehmertum in den OECD Ländern. Dies wurde aber nicht auf die Entwicklung der Entwicklungsländer übertragen, zusammen mit alternativen Ansätzen, die auf der Entwicklung des „Light Manufacturing“ basieren (Dinh, et al., 2012) oder auf der Entwicklung regionaler und globaler Wertschöpfungsketten (Draper, et al., 2015; Draper, et al., 2016) in SSA. Die empirische Analyse umfasst die Darstellung einer Reihe wirtschaftlicher Aktivitäten der SSA-Länder zu dem U-förmig verlaufenden Zusammenhang zwischen der gesamten wirtschaftlichen Aktivität und dem Grad der wirtschaftlichen Entwicklung (Wennekers, et al., 2010). Das Kapitel verwendet Daten des Global Entrepreneurship Monitors (2016) und der Weltbank (2018).

Das sechste Kapitel untersucht das Potenzial der wirtschaftlichen Entwicklung von Großunternehmen und multinationalen Unternehmen als Alternativen für KMU mit der Anwendung in der relativ reicheren Region Südliches Afrika. In diesem Kapitel werden die beiden Paradigmen des Flying Geese-Modells (Akamatsu, 1962) und des Gateway-Modells (Cohen, 1982) unter Berücksichtigung der Merkmale der Region bewertet, wobei Südafrika als Lead Goose und Gateway dient. Die Untersuchung kann als Teil einer umfassenderen makroökonomischen Befürwortung für die Gründung eines Factory Southern Africa in der SACU-Region (Farole, 2016).

Das letzte Kapitel fasst die Arbeit zusammen. Dazu werden die Ergebnisse und Grenzen der Studie zusammengefasst und Anregungen für zukünftige Forschung gegeben.

1. Executive Summary

In the last twenty-five years, economists have significantly contributed to the development of institutional approach in entrepreneurship research by identifying institutional factors that strengthen entrepreneurship development, which in turn spur economic growth (Urbano, et al., 2018). Despite increasing interest in research on the role of entrepreneurship institutions in developed countries, not much is known about similar approach in developing countries, especially Sub-Saharan Africa (SSA).

Africa is currently the region with the fastest population growth. Every year, the continent adds an extra 20 million people to its population, as it is projected to reach the number of 2.5 billion citizens by the end of 2050, double to the its amount today (United Nations, 2017). Given the demographic change, the study of entrepreneurship institutions in SSA is important because it is key to address the issue of job provision for young generations in SSA. A strong institutional framework for entrepreneurship development would stimulus economic growth by tackling unemployment (Le, 1999), as jobless youth is the root cause of many developmental issues such as poverty, violence and illegal immigration.

In terms of job creation, it is important to seek for policies that enhance both the quantity and quality of Small and Medium Enterprises (SMEs), translated to more entrepreneurial activity and better performance of entrepreneurs at the same time. The framework of institutional economics give insights to inclusive institutions (Acemoglu & Robinson, 2013) that ensure sustainability and survivability of SMEs, as both formal institutions consist of rules, laws and constitutions, and informal institutions consist of social norms, conventions and cultures (North, 1990) are crucial in studying entrepreneurs' activities (Baumol, 1990; Henrekson, 2007; Freytag & Thurik, 2007; Freytag & Noseleit, 2009; Wyrwich, 2013).

The study involves a research stay in Ghana and Kenya in 2016 for data collection. Two hundred and sixty-six local entrepreneurs in Accra and Nairobi were interviewed for the

analysis of entrepreneurs' background influence on the performance of their businesses. The questionnaire consists of forty quantitative questions and is divided into three main sections: the first section contains questions on demographics, personal information of the entrepreneurs and businesses, e.g. the size of the business and performance in recent years; the second section is about education and training background of the entrepreneurs; and the third section is about the role of clan, family and friend relations of the entrepreneurs.

The dissertation consists of seven chapters. The second chapter reviews the literature of entrepreneurship institutions and entrepreneurship development in SSA, as well as describes the research design. The next four chapters apply institutional framework on different economic models, with the first two chapters use micro data to study entrepreneurs' performance as SMEs' quality; the other two chapters use macro data, one to study economic activity as SMEs' quantity and one advocates macroeconomic implication for large firms as alternatives to SMEs. Details are as followed:

The third chapter bases the model of entrepreneurial learning (Cope, 2005; Minniti & Bygrave, 2001; Harrison & Leitch, 2005) on the role of institutions to investigate whether entrepreneurial learning could affect entrepreneurs' ability to hire more employees and sustain a high growth rate of employment. Hypotheses are built on how entrepreneurial learning are formed from formal institutions, such as formal education and training, entrepreneurship education, vocational schools, and informal institutions such as start-up and paid job experience, as well as from situated learning among communities of practice of family and friends. Results from this chapter contribute to the existing literature on the entrepreneurs' performance bases on their levels of skills, human and social capital (Bublitz & Noseleit, 2014; Santarelli & Tran, 2013). Empirical findings from this chapter would pave the way for policy makers in approaching more appropriate education and training programs aiming at enhancing entrepreneurs' skills and learning capability. This chapter uses the micro data collected from the survey in Ghana and Kenya, represent West and East Africa.

The fourth chapter explores the influence of self-employed parents on the entry age of entrepreneurs and the start-up size of the company. Hypotheses are built based on existing literature on intergenerational transmission of entrepreneurship (Wyrwich, 2015; Fritsch & Rusakova, 2012), to better understand how policy can aim at developing sustainable businesses with regards to both quantity and quality. Results on the size of business help shed light on the mechanism of how to create bigger-than-one-person business, a vital point in development strategy for SMEs in SSA. Results on the entry age help target appropriate development schemes for young entrepreneurs and tailor relevant entrepreneurship programs which are related to age. This chapter also uses micro data from the survey in Ghana and Kenya.

The fifth chapter aims at exploring the approach for the model of the entrepreneurial economy (Audretsch & Thurik, 1997; 2000; 2001; 2004; 2010), comparing its characteristics with the current economic features of SSA countries for appropriate policy implementation. Each in fourteen dimensions of the entrepreneurial economy is viewed in comparison with the managed economy, in parallel with the characteristics of SSA's institutions. The entrepreneurial economy model explains the current transformation of industrial downsizing and emergence of entrepreneurship in the OECD, but has not been implied to the development of developing world (Thurik, 2011), together with alternative advocates based on development of light manufacturing (Dinh, et al., 2012) or regional and global value chains (Draper, et al., 2016; Draper, et al., 2015) in SSA. Empirical analysis includes the plot of a range of SSA countries' total economic activity on the U-shaped map on the relation of the total economic activity and the level of economic development (Wennekers, et al., 2010). The chapter uses data from Global Entrepreneurship Monitor (2016) and the World Bank (2018).

The sixth chapter examines the potential of economic development from large firms and multinational companies as the alternatives for SMEs, with the application to the relatively richer Southern Africa region. In this chapter, the two paradigms of flying geese model (Akamatsu, 1962) and gateway model (Cohen, 1982) are assessed given the characteristics of the region, with South Africa serves as the principal leading goose and

gateway. The study is a part of a more comprehensive macroeconomic advocacy toward the formation of a Factory Southern Africa in SACU region (Farole, 2016).

The last chapter concludes, summarises the findings and limitations of the study, advocates policy implications, and gives suggestions for future research.

2. Introduction

“Modern free and democratic constitutions have [therefore] enshrined the right to ownership in their canon of human rights. This includes not only consumer goods and commodities, savings and legal titles but also private ownership of the means of production.”

The Social Market Economy: What does it really mean? (KAS, 2010)

2.1 The Role of Entrepreneurship and Private Sector in Economic Development

Aristotle understands that the desire for private ownership is innate human nature. One who owns the property will have responsibility and liability over their possessions, includes the ownership of the means of productions (KAS, 2010). Historically based, collective ownership has not proven its effectiveness over systems that grant and foster private ownership, if not the reverse approaches closer to reality. Adam Smith (1776), in his *magnum opus* “An Inquiry into the Nature and Causes of the Wealth of Nations”, originates the concept of the “invisible hand” as the metaphor to describe how the society benefits from individuals’ profit maximisation under the free market mechanism. Private ownership motivates individuals to maximise their utilities under enlightened self-interest, provide innovative entrepreneurship to drive the whole economic system to advance onward.

As the means of productions are allocated to a wide range of SMEs instead of the state or several conglomerates, employees have the freedom to choose the appropriate employers and workplace. The entrepreneurs hence compete to bring about the optimum benefits for their employees, in terms of not only labour’s rights, work ethic but also social

responsibility, and become the engine of economic development. Citizens who are not the owners of factors of productions, generally employees and their families, benefit from the entrepreneurs in a sustainable manner of education, training and human development as employers treasure their factors of productions in a long term responsible fashion.

The role of private sectors and business environment is the core for development of any country, since entrepreneurship has positive impacts on development and enhance economic growth (Carree & Thurik, 2003), even regarded “at the heart of national advantage” (Porter, 2011). Entrepreneurs are defined as agents who bring about economic change by combining their own effort with other factors of production in search of economic rents (Henrekson, 2007).

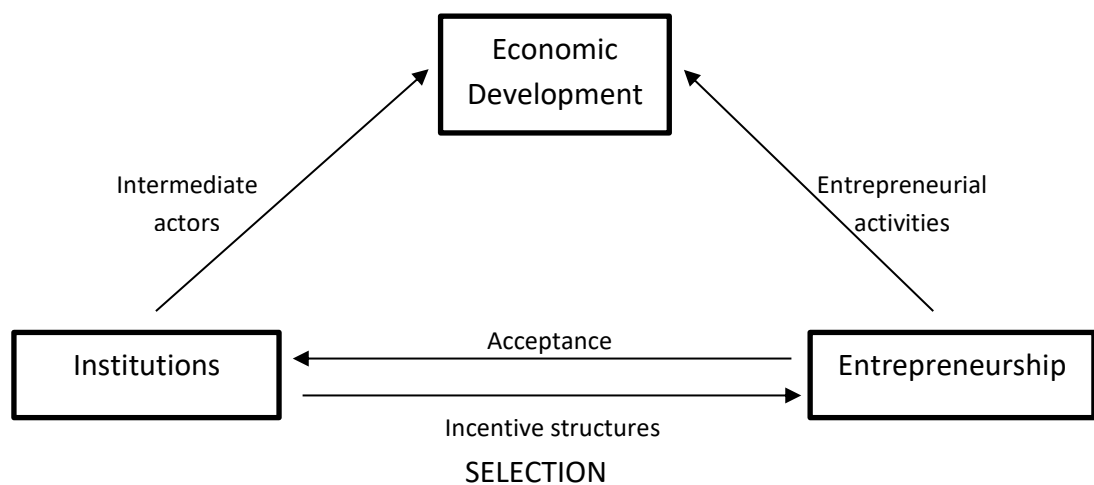
Moreover, entrepreneurs form the citizenship in a country, of which middle class is a driving force of democratisation and modernisation. Bhalla (2007) claims that good institutions are considered luxury goods, naturally demanded by the middle class, once they have achieved sustainable income to progress further needs for democracy, equality, environmental protection. In Germany, a large number of citizens belong to what is called the “Mittelstand” class, is the target group under Social Market Economy model for economic development. The term "Mittelstand", stands for not only SMEs but also families engaged in businesses, in general individuals and households who own the means of production, which is regarded as the main driver of Germany's economic growth in the 20th century. Once the private ownership of the means of productions is distributed to the Mittelstand, they have the freedom to generate income and compete in the market at their optimal efficiency. Among other middle income careers such as bureaucrats, engineers and other types of white collar workers, the Mittelstand class in Germany is specially supported as they are the determinant of job creation and welfare for the society.

2.2 Institutional Approach to Entrepreneurship

Institutions, defined as “the rules of the game”, consist of legal frameworks and social norms that form the structure of the society and economy, which have influences on individual behaviour and interactions (North, 1990; Williamson, 2000). It is not an easy task to measure the interactions between human behaviour and the society’s rules, or to find out which one triggers the other: human behaviour decides the rules or the rules form the pattern of human behaviour.

As the role of institutions in the development process has been throughout analysed (Acemoglu, 2002; Acemoglu & Robinson, 2013), it is pointed out that major world’s problems of poverty, conflict and corruption are fundamentally related to weak institutional settings. In terms of job creation, the long-term solution needs a substantial understanding of causes of unemployment and individual motivation for work. Furthermore, institutions relevant for development differ strongly across countries and regions in both developed and developing world. In other words, there is no one-size-fits-all solution to development problems. What drives entrepreneurship in one country or region, might be counterproductive in others.

Figure 1: Institutions, Entrepreneurship, and Economic Development



Source: Freytag & Noseleit (2009)

Figure 1 depicts the triangle relationship among institutions, entrepreneurship and economic development. Institutions stipulate incentives for entrepreneurs to enter the market, either to promote productive, unproductive or destructive businesses (Baumol, 1990). Entrepreneurs adjust their acceptance and adapt according to the institutional design, and contribute toward economic development via entrepreneurial activities (Freytag & Noseleit, 2009). Thus, institutions are important channels linking entrepreneurship and economic development.

Given the ubiquity and centrality of institutional approach in entrepreneurship research (Urbano, et al., 2018), a comprehensive amount of literature emphasises on how entrepreneurship thrives in different countries is the direct result from both formal (Baumol, 1990; Henrekson, 2007; Freytag & Noseleit, 2009) and informal (Freytag & Thurik, 2007; Wyrwich, 2013) institutional settings.

Formal institutions consist of rules, laws and constitutions (North, 1990). To speed up economic development in SSA, there is a need for changes in formal institutions to support the implementation of entrepreneurship policy, thus the creation of firms and companies to be the sources of not only job provision for local inhabitants, but also innovation and competition, encouragement for the expansion of economies of scale and private research and development. For example, SMEs can have better access to credit, make better use of the credit and generate better profit rate, thus speed up the process of economic development. Given the theoretical background, the main formal institutions that affects business environment include property rights protection, savings policies, taxation, regulation of labour markets (Henrekson, 2007), regulation of entry, fiscal incentives and disincentives for entrepreneurship (Lundstrom & Stevenson, 2005).

It is suggested that a developing country does not need many formal state level institutions to achieve a semi-industrial level of income (Dixit, 2007). The reason is in the early stage of development, with small scale economic activity, localised trade and small circle of economic transactions, self-enforcing governance is possible with basic protection of property right. It is argued that many important economic transactions are

more relation-based rather than rule-based in developing countries (Bardhan, 2005) Therefore, relation-based governance systems could be proven to be more effective in SSA cases. However, there is a common agreement on the importance of state level institutions e.g. the provision of security and public infrastructure, which also emphasise the importance of the Public-Private Partnership (PPP) in development policy.

Informal institutions consist of social norms, conventions and cultures (North, 1990). In entrepreneurship research, informal institutions are regarded as the cultural aspects on entrepreneurship, which are different from country to country (Freytag & Thurik, 2007) and have substantial effect on the entrepreneurial dynamism of the nation (Hayton, et al., 2002). Although it is more difficult and takes more time to change informal institutions than formal institutions (Williamson, 2000; Boettke & Coyne, 2009), policy makers can build appropriate policy which relies on cultural aspects, such as attitudes toward entrepreneurship, to enhance entrepreneurship outcomes. For example, the success from microfinance, a frugal innovation that brings about foremost advancement in poverty eradication, cannot be achieved without the empowerment of women. Changing the attitudes of and promoting gender equality play an important role in the improvement of SMEs' efficiency, especially in innovative financing. The principle of inclusive growth (Acemoglu & Robinson, 2013) indicates that entrepreneurship development must align with the basis of equal opportunity access, as basic rights and needs must be accessible indiscriminately at both individual and firm's levels.

Changing attitudes toward entrepreneurship is crucial. There still exists assumption from the public that SMEs care only about short run benefits and ignore other superior goods e.g. human rights and environmental protection, which neglect the contention that SMEs provide healthier spill-over effects, most importantly the role of job creation to the society. The formers are characteristics of opportunity entrepreneurs, with motivation of starting the business for opportunity or arbitrage, while the latters are associated with necessity entrepreneurs, aim at more need-based activities and considered reliable source of development for the society (Reynolds, et al., 2002; Sternberg, et al., 2006). While the

governments in developed countries such as Germany play an active role in promoting necessity entrepreneurs via programs to alleviate unemployment (Bergmann & Sternberg, 2007), similar implications have not been applied successfully in SSA to bring about optimal benefits from SMEs. This makes organisations do not pay attention and invest enough to SMEs, especially under critical views from NGOs, which lead to consumers and politicians' negative perception about SMEs and create huge cost to entrepreneurs.

The combine efforts in changing formal and informal institutions for the promotion of entrepreneurship are necessary. The majority of business owners in developing countries are solo, necessity entrepreneurs, who often own unregistered and low profit generated businesses such as street vendors, small catering (Wennekers, et al., 2005). Micro, ineffective and sometimes destructive businesses may cause more harms than benefits (Baumol, 1990), since informal competition keeps enlarging the portion of shadow economy, which hinders the governments from harnessing tax and combating corruption. Therefore, the solution is not only about supporting individuals in creating bigger businesses, which recruits more people and helps resolve unemployment, but also enhancing the duration, sustainability and effectiveness of businesses, which raises individuals' income and negates the consequence of jobs shredding, or prevents people from falling back to poverty.

2.3 Sub-Saharan Africa Context

In 2014, Chancellor Merkel has stated in the EU-Africa Summit: "Not invest in Africa is not looking into the future". SSA has been growing fast but still lagging, as it remains at the bottom of the world development. For decades, the region has been suffering from poverty, conflicts and corruption. Rooted from weak institutional settings, these problems persist, of which many are caused by young and jobless generations. It is not far from reality that with exponential growing population in SSA, jobless generations will trigger further troubles in the future, including radical violence, terrorism and widespread of

underdeveloped phenomena. Therefore, efficient policies for entrepreneurship and job creation are crucial to SSA to attain sustainable development.

SSA still inherits many negative characteristics that challenge the business environment; one of which is insufficient infrastructure to develop larger businesses and participate in regional or even global value chains (Draper & Lawrence, 2013). Inadequate infrastructural services include transportation and logistics, telecommunication, finance and insurance and energy. Besides, SSA lack several requisite institutional qualities to participate in the value chains, such as the functioning rule of law, property rights, proper health system, education and innovation policies, a transparent tax environment and administrative capacity, which influence the business and trade environment of target countries (Draper, et al., 2014). Educational system and job training give higher priority for bureaucratic, public careers instead of founding and running businesses and do not emphasize the importance of private sectors in the economy. Ineffective public administration includes widespread tax evasion, lack of trust and protection of property rights and high level of corruption prevent businesses from expansion and innovative motivation. Further problems include the lack of social securities, ineffectiveness of healthcare and social systems, disincentives for capital accumulation and underdeveloped financial sectors.

On the one hand, the aim of this research is to increase the rate of entrepreneurship activities, measured as the percentage of owners/managers of incorporated and unincorporated business relative to the labour force, together with the rate of nascent entrepreneurs and latent entrepreneurship (Freytag & Thurik, 2007). Although SSA countries possess large number of SMEs, they are mostly small, self-employed and typically household run but low profit generated businesses e.g. shop/store owning, small restaurant, street food venture (Wennekers, et al., 2005), which stop at individuals and households' self-sufficient need rather than have strong effect on local job provision and welfare enhancement. Therefore, on the other hand, it is also crucial to improve the

quality of SMEs, extend the duration of the business as well as expand the scale of bigger-than-one-person business.

2.3.1 The Two Case Studies of Ghana and Kenya

Two of valuable destinations for evaluating SMEs in SSA are Kenya and Ghana, as two large democratic, English speaking countries possess stable and high GDP growth rates in the past decade and relative strong private own sectors compared to other neighbouring countries. Two countries, one in the East and the other in the West coast of Africa, share some same cultural settings as former British colonies such as legal frameworks, but are differentiate in mental foundation. Ghana has a population of 28,2 million, of which 58% are in working age of 15-64, while Kenya has 48,5 million inhabitants with 55% in working age (World Bank, 2018). By conducting researches on these two case studies, a wide range of different business and cultural elements will be covered. Similar comparative analysis with Ghana and Kenya was done by Chu, et al. (2007).

The market-led country Ghana has been one of the fastest growing economies in SSA in recent years, with GDP per capita growth of 63% in the last recent decade, albeit major productions and exports still rely on agriculture (cocoa) and extraction of natural resources e.g. gold and bauxite (Sutton & Kpentey, 2012). The country needs more active role of SMEs in diversifying productions and taking advantages of citizens' potential for development. According to Association of Ghana Industries' Business Barometer quarter 1/2018 report, major challenges facing Ghana's SMEs are high cost of electricity, cost of credits and access to credits, which create the disincentives to form SMEs, beside delayed payment and high exchange rate (Association of Ghana Industries, 2018).

In Kenya, SMEs significantly contribute over half of new jobs created, albeit three out of five SMEs fail within the first few months, while most businesses last an average time of only three years. Major obstacles and challenges facing businesses in Kenya include insecurity, debt collection, lack of working capitals and power interruptions (Bowen, et al., 2009). One important subject to conduct studies on is the role of informal institutions for specific cases such as the role of clans and demographic distribution. For example, the

majority 60 percent of SMEs in Kenya are owned by Indian-Asians minority ethnic groups rather than indigenous-Africans (Biggs & Shah, 2006), which is distinctive from neighbouring countries. Therefore, two case studies about Kenya and Ghana would be an initiation for building models for various institutional implementations in SSA.

2.4 Research Design

This study involves a field study in Ghana and Kenya in 2016. The empirical analyses are based on the data of 266 samples collected using a questionnaire completed by Ghanaian and Kenyan small business owners in the period of two months, February and March 2016. Samples were collected from two capital cities, Accra in Ghana and Nairobi in Kenya respectively.

The questionnaire contains 40 standardized questions (Section Questionnaire), which is translated to 120 variables in total including demographic and sub-questions. Of these, about 20 main variables are used in the analysis of this paper. The language of the questionnaire is English, fully understandable to entrepreneurs in Ghana and Kenya since both countries use English as the official language. Questions are constructed with reviews from Global Entrepreneurship Monitor (2016)'s Adult Population Survey, World Bank's Enterprise Survey (2016a) and Doing Business Report (2016b), and a recent German survey on entrepreneurs conducted via Computer Assisted Telephone Interviewing (Fritsch, et al., 2015). Two versions of the questionnaire differ in terms of currency used in questions related to financial status of entrepreneurs and businesses, which are Ghanaian Cedi and Kenyan Shilling respectively.

Six assistants, three master students from University of Ghana - Legon and three students from Strathmore University in Nairobi were hired to deliver paper-based questionnaires to respective business owners for direct interview or self-fulfilment. All six assistants were carefully chosen among recommended students by lecturers in both universities. At the time of the interview, they are currently working part time for the University of Ghana

Business School and Strathmore Business School with main tasks of doing interviews and inputting data for academic purposes. The authors and lecturer partners at both universities carefully supervise and give instruction of the questionnaire and interview procedure to the assistants, directly monitor the data collection process. Prior to the main data collection phase, a pilot study was conducted in Ghana for correctness of the questions.

Selective cluster/spatial random sampling was used with targeted areas in Accra and Nairobi chosen to select entrepreneurs to interview. In general, entrepreneurs in Accra were grouped into three areas: Accra Central, Accra North and Accra West. Similarly, three broad categories in Nairobi are Nairobi Central, Nairobi West and Nairobi East.

Figure 2: Calculating Sample Size

$$n = \left[\frac{1}{N} + \frac{N-1}{N} \frac{1}{P(1-P)} \left(\frac{k}{z_{1-\frac{\alpha}{2}}} \right)^2 \right]^{-1}$$

Sample size of n is estimated based on the World Bank’s Enterprise Survey (2009)’s formula, where N is population size, P is population proportion, k is desired level of precision, and $z_{1-\frac{\alpha}{2}}$ is the value of the normal standard coordinate for a desired level of confidence $1 - \alpha$.

Due to the lack of standardised surveys, the total number of SMEs measurable in Ghana and Kenya are ambiguous. With the available statistics from the World Bank development indicators (2018) of estimated size of 802,176 SMEs in Ghana (Trading Economics, 2003) and 1,000,816 SMEs in Kenya (Trading Economics, 2005), the formula was applied to give the result of 121 needed samples for both countries, with the default precision k of 7.5% and 90% confidence.

In the end, 324 raw samples were collected for analysis. However, 58 invalid samples were deleted as they do not meet requirement of the study, for example contain ambiguous answers, are undone or come from untrusted sources, which represents 17.8% of all

samples. The remaining 146 samples in Ghana and 120 samples in Kenya, in total 266 samples which meet high requirements of data quality are used in the final analysis of this dissertation. The average time to finish one questionnaire is 24.7 minutes. The interviews were made at business owners' working place. 47% of the samples are from face to face interviews, the rest are self-fulfilment questionnaires collected from entrepreneurs.

3. Entrepreneurial Learning under Institutional Context: The Effectiveness of Education and Training on Entrepreneurs' Performance in Ghana and Kenya

3.1 Introduction

Education and training are important determinants of entrepreneurship (Parker, 2009). The role of formal education and training is to provide general and specific knowledge and skills for future career development, one of which is the path of entrepreneurship. Education and background experiences are valuable for entrepreneurs to obtain specific information relevant to the venture and help them deploy the resources (Kirzner, 1983). From policy makers' point of view, it is difficult to understand how to best educate potential and nascent entrepreneurs (Pihie & Bagheri, 2010), due to a lack of agreed-upon frameworks (Fayolle, et al., 2006). By debunking the mechanism of how entrepreneurs learn to acquire necessary skills and knowledge to form and run a business, researchers in the fields of entrepreneurship and management have developed the subject of "entrepreneurial learning" to better understand and narrow the bridge between education and entrepreneurs' performance.

Entrepreneurial learning is an area of research at the interface between organisational learning and the entrepreneurial context (Harrison & Leitch, 2005). Entrepreneurial learning is the key for new business performance, both in terms of survival and growth. In order to grow a small business, the entrepreneur must adapt and change as the business moves through its life-cycle (Kazanjian, 1988). Cope (2005) postulates the importance of the entrepreneurial learning task as it is a key area for development when linking to the small business growth process. Economists have various focuses on entrepreneurial learning, ranging from learning experienced by entrepreneurs (Cope & Watts, 2000; Cope,

2003; 2005), learning as knowledge acquisition, assimilation and organisation (Minniti & Bygrave, 2001; Politis, 2005; Holcomb, et al., 2009), learning processes in start-up phase (Ravasi & Turati, 2005), learning by the venture team (Berglund, et al., 2007), recognizing and acting on opportunities (Rae, 2006), and what, how and why entrepreneurs learn (Parker, 2006). In our paper, the learning experience and knowledge acquisition approach is applied, as learning is viewed individually from entrepreneurs' perspective.

Systematic studies on entrepreneurial learning have been conducted with data availability mostly in the UK (Cope, 2011; Hughes, et al., 2007; Jones & Macpherson, 2006; Lee & Jones, 2008; Parker, 2006; Wang, 2008; Taylor & Thorpe, 2004; Sullivan, 2000; Pittaway, et al., 2015; Nabi, et al., 2018), the US (Almeida, et al., 2003; Bingham & Davis, 2012; Corbett, 2007; Covin, et al., 2006; Lamont, 1972; Newbert, 2005; Nicholls-Nixon, et al., 2000; Schildt, et al., 2005; Young & Sexton, 2003), and other countries such as Sweden (Honig, 2001; Politis, 2008; Politis & Gabrielsson, 2009; Sanz-Velasco, 2006), Finland (Huovinen & Tihula, 2008; Sirén, et al., 2012; Hietanen & Järvi, 2015), South Korea (Rhee, et al., 2010), Denmark (Sundbo, 1996), Belgium (Clarysse & Moray, 2004), Germany (Dencker, et al., 2009), Taiwan (Fang, et al., 2010), Spain (Garcia-Cabrera & Garcia-Soto, 2009), the Netherlands (Mulder, et al., 2007; Oosterbeek, et al., 2010), Italy (Ravasi & Turati, 2005), Greece (Voudouris, et al., 2011), China (Zhao, et al., 2011), Australia (Sardana & Scott-Kemmis, 2010). However, despite rising scholar interest in entrepreneurial learning since 2000 (Wang & Chugh, 2014), there is little contribution of data from African countries to the topic. To the best of our knowledge, there are only two studies with African data available, which are Kropp, et al. (2006) for South Africa and Agbim, et al. (2013) for Nigeria. Furthermore, the dominant of empirical studies are conducted at firm-level data or qualitative based, case study research. Our study is conducted at individual level, quantitative based and will contribute to the understanding of entrepreneurial learning in Ghana and Kenya, as well as reproduce existing theories of entrepreneurial learning with available data on the subject.

In our research, entrepreneurial learning is studied under the approach of institutional economics. Contemporaneous differences in determinants of entrepreneurship, of which

education and training is a part of, are of mainly institutional or cultural nature (Freytag & Thurik, 2007). The phenomenon that educated people in developing countries opt more for paid job is an aspect of attitude or culture toward entrepreneurship vs paid job career, which can be regarded as an informal institution. The explanation of why there is difference between developed and developing countries' results, for example examining necessity vs opportunity entrepreneurship, may have the guideline in appropriate policy change for stimulation of entrepreneurship in developing countries, especially in Africa.

Section 3.2 reviews the literature on entrepreneurial learning, its basic concept and current development. Section 3.3 applies the framework of institutional economics on entrepreneurial learning, which divides into formal and informal institutions approaches. Section 3.4 describes empirical strategy, section 3.5 displays the results, and section 3.6 concludes.

3.2 The Development of Entrepreneurial Learning in Entrepreneurship Research

Human capital attained from education and training can be accumulated over time and transferred between individuals, which results in higher performance and productivity (Becker, 1975). Individual characteristics, such as personality traits, are also a form of inborn human capital, have also been studied throughout in determination of entrepreneurship intention (Chlosta, et al., 2012; Schröder & Schmitt-Rodermund, 2006). However, personality traits have been found to have less impact on entrepreneurial outcomes (Wright, et al., 2007). The development of the theory of entrepreneurial learning has reflected the unconvincing past research of personality traits approach on entrepreneurs' performance, which excludes an entrepreneur's ability to learn, adapt, develop and change (Gartner, 1988).

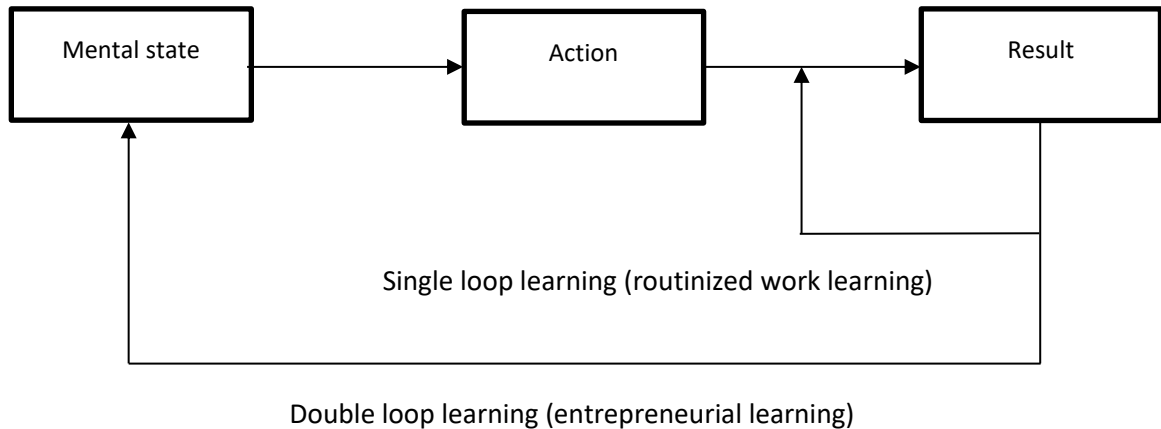
Though the background of entrepreneurs' is studied intensively, mostly with regards to entrepreneurial intention prior to the foundation of the business, the post start-up study

of entrepreneurs' learning and adaptation is largely overlooked. Instead of relying solely on pre-start-up background of entrepreneurs, it makes more sense to further study entrepreneurs' performance based on their learning during the process of formation and management of their business, or in another word, "it is through learning that entrepreneurs develop and grow" (Cope, 2005). Minniti & Bygrave (2001) highlight that entrepreneurship itself is a process of learning, thus further state that "a theory of entrepreneurship requires a theory of learning". In this regard, defining "who an entrepreneur is" is a less productive view to a contextual process of "becoming" (Rae, 2000). Rather, it is more about "who becomes an entrepreneur".

The term entrepreneurial learning has been extensively used since 2000, with rising scholar interest from both theoretical and empirical approaches. Systematic literature review from Wang & Chugh (2014) identifies existing literature on entrepreneurial learning context vary in terms of theoretical perceptions, from organisational learning (Lant & Mezias, 1990; Covin, et al., 2006; Wang, 2008), experiential learning (Minniti & Bygrave, 2001; Cope, 2003; 2005; Clarysse & Moray, 2004), social cognitive theory (Erikson, 2003), population ecology (Dencker, et al., 2009), and configuration theory (Hughes, et al., 2007). There are different frameworks for the sources for entrepreneurs to learn from, from positive and negative experience (Minniti & Bygrave, 2001), from past experience (Rerup, 2005; Sardana & Scott-Kemmis, 2010), learning from participation and learning from the experience of others (vicarious learning) (Lévesque, et al., 2009), learning by doing (Lentz & Laband, 1990; Gibb, 1991; Cope, 2003) and learning from past business experience (Lamont, 1972).

Entrepreneurial learning from self-employed individuals is differentiated from routinized work learning from employed individuals in the sense that entrepreneurial learning is more about high-level (Fiol & Lyles, 1985), transformative learning (Mezirow, 1991), or double-loop learning (Argyris & Schön, 1978; Argyris, 1977) rather than single-loop learning. Double-loop learning is where the mental state can be changed after each time a critical learning event takes place, while single-loop learning does not stimulate such feedback mechanism.

Figure 3: Double and Single Loop Learning



Source: Argyris & Schön (1978)

Entrepreneurs learn predominantly through learning by doing (Cope & Watts, 2000), with trial and error, problem solving, discovery, learning from peers, learning by experience, learning from making mistakes (Young & Sexton, 1997; Gibb, 1997; Deakins & Freel, 1998) as the main affective modes of learning processes (Postle, 1993), and there can never be any shortcut or substitute for such experience (Dalley & Hamilton, 2000). In terms of entrepreneurial learning tasks, Sexton, et al. (1997) identify five major learning needs of growth-oriented entrepreneurs, which are: learning about oneself, learning about the business, learning about the environment and entrepreneurial networks, learning about small business management, and learning about the nature and management of relationships.

Prospective entrepreneurs enter start-up phase with a stock of experience (Reuber & Fischer, 1999), each varies with a unique range of skills and abilities in a proactive process (Harvey & Evans, 1995), which prepare individuals for a career in entrepreneurship by shaping their attitudes, beliefs and abilities (Starr & Fondas, 1992). Entrepreneurs' own function within their business change along with the development of the business, from

innovator to manager, small business owner, division president etc. (Gartner, 1988). Therefore, the nature and the need of learning of entrepreneurs may change along with the development of their venture. Therefore, it is important to connect the two relevant stages of entrepreneurial learning: learning prior to and during the entrepreneurial process (Cope, 2005).

Lentz & Laband (1990) propose that entrepreneurship skills can be an integrated combination set of skills that can be learned by doing. This is important especially at the start-up stage of business formation when entrepreneurs' learning curve is extremely steep, much of entrepreneurs' knowledge absorption is learning by doing (Gibb, 1991), since they need more of practical support of immediate value (Weinrauch, 1984). On a later step of the business development, when entrepreneurs have clearer long-term strategic planning, they can form their own educational strategies (Cope & Watts, 2000), identify what management and specific sectorial knowledge required for personal and organisational growth are needed. This, however, is based on the presumption that personality traits do not change over time, whilst skills can be enhanced through training or classes.

Learning by doing is supported by "Jack-of-all-trades" theory which denotes that entrepreneurs, as individuals who are multifaceted, accumulate a balanced skill-mix across different fields of expertise rather than excel in any one skill (Lazear, 2004; 2005). Silva (2007) questions whether the "Jack-of-all-trades" balance skill mix is innate talent or can be acquired via learning. Analysis from Bublitz, et al. (2015)'s raises the question of potential compensation for jack-of-few-trades entrepreneurs who lack sufficient skills, as in their paper the high market thickness as found in the cities is enacted.

In comparison with employees, entrepreneurs have advantages in skill balance, which is associated with the level of competence across a range of skills instead of excelling in just one skill and lack of expertise in others (Wagner, 2003; Wagner, 2006). Bublitz & Noseleit (2014) find that entrepreneurs who possess higher level of skill balance earn more, and

skill balance is correlated with the skill level and skill scope, which increase with formal education levels but decrease with the number of previous occupations.

Cope & Watts (2000) stress the importance of parallel processes of personal development and organisational growth, with respect to entrepreneurs' ability to learn new behaviours and learn to think in different ways thanks to the experience of managing developmental crises within the organisation (Greiner, 1972). These crises are extremely important and cause permanent change for both the individual and the business, hence Scott & Bruce (1987) suggest that small business owners need to proactively monitor events that may cause a crisis, with the aim of moving their businesses from one growth stage to another. In order to learn to cope with and predict future organisational crisis, entrepreneurs should engage in higher level learning (Cope & Watts, 2000).

3.3 Institutional Approach of Entrepreneurial Learning

In entrepreneurship research, institutional context is a strong determinant of entrepreneurial preference and activities (Baumol, 1990; Henrekson, 2007; Freytag & Thurik, 2007). Both formal and informal institutions have strong effects on the supply and allocation of entrepreneurs (Acs, et al., 2008; Sobel, 2008). While formal institutions consist of rules, laws and constitutions, informal institutions are social norms, conventions and cultures (North, 1990; 1991; 1994). Davidsson (1991) applies path analysis to categorize formal and informal institutions regarding entrepreneurship. Among various formal institutions as factors affecting entrepreneurship such as property rights, saving policies, regulations of labour markets, taxation, fiscal environment, administrative complexities (Henrekson, 2007; Audretsch, et al., 2007; Stevenson & Lundström, 2001), education and skill upgrading is key in determining the entrepreneurial dynamism of an economy (Freytag & Thurik, 2007). Regarding informal institutions, the level of entrepreneurship activities is determined by cultural aspects, in terms of how the society views and accepts entrepreneurship, or how individual values and beliefs are embedded (Mueller & Thomas, 2001; Davidsson, 1995; Uhlaner & Thurik, 2007; Hofstede, et al.,

2004; Noorderhaven, et al., 2004; Hayton, et al., 2002). Etzioni (1987)'s view on cultural aspects that shape the entrepreneurial environment refers to the level of legitimation or moral approval of entrepreneurship within a culture. Higher degree of legitimation of entrepreneurship means more appreciation for entrepreneurship such as higher status for entrepreneurs, more tax incentives to encourage business start-ups, and more attention for entrepreneurship within the educational system (Etzioni, 1987; Freytag & Thurik, 2007). An effort in bridging education and entrepreneurship is the introduction of entrepreneurship education in the curriculum of the general education system. Our paper links both the formal and informal aspects of entrepreneurial learning through the lens of institutional economics to the performance of entrepreneurs in Africa.

3.3.1 Formal Learning as Formal Institutions

Formal learning is in the form of formal education, vocational education and formal trainings provided from institutions such as schools, colleges and universities. These institutions aim at providing knowledge and developing job-specific or occupational skills for young individuals prior to entering the job market. A career in entrepreneurship also requires knowledge and skills which actively enhance individuals' performance in starting and managing their own businesses. While an employed career is viewed as the work one performs (Arthur, et al., 1989), a self-employed career is dominantly influenced by what is taking place during the entrepreneur's personal life and family (Dyer & Handler, 1994). It is ambiguous whether the knowledge and skills young individuals acquire from formal education match their expected performance in a career in entrepreneurship. As entrepreneurship is observed as an important career path, entrepreneurship education has been formally introduced in colleges as an important boost for students who seek for being future entrepreneurs. The designated education and training to uplift entrepreneurial profile is still characterized by uncertainty and ambiguity about what and how it should be taught (Pittaway & Cope, 2007).

3.3.1.1 Formal Education Attainment

There is a large body of research about the link between formal education attainment and entrepreneurship outcomes. In general, formal education, including both general education up to high school and higher education at university level, has been argued as both complement and substitute to entrepreneurship. On the one hand, formal education provides general skills which help entrepreneurs in managing their businesses such as search skills, communication skills and computational skills, as well as specific sectorial skills and knowledge with respect to their field of business. Even if formal education does not provide necessary skills to form a business, it can stimulate one's ambition and endurance (Parker, 2009). The length of education measured by years of schooling has been shown to positively correlate with entrepreneurs' performance in terms of earning compared to employees (Van der Sluis, et al., 2007). The college environment surrounding with peers of similar entrepreneurial interest also stimulate students to create new venture together. Hannon (2009) documents that 39% of Irish students surveyed are interested in setting up new business through their own college infrastructure. Especially for developing countries, higher education is key instrument to help promote entrepreneurial activity (Nabi & Liñán, 2011).

On the other hand, a different strand of literature shows that formal education provides unrelated skills for entrepreneurs' success (Casson, 1982), better prepares students for the corporate life (Timmons, 1989), and even suppresses creativity of entrepreneurial mind-set (Plaschka & Welsch, 1990). Time spent on formal education is the opportunity cost for experience learnt from engaging in actual business, as entrepreneurship requires long term "trial-and-error learning" to advance in growth and innovation (Sosna, et al., 2010). Besides, as individuals age alongside with long duration of formal education, the rise of the "fear of failure" prevents them from stepping into entrepreneurship (Arenius & Minniti, 2005). In this sense, an early engagement in entrepreneurship may worth more than time spent in schools/universities. Furthermore, for highly educated people, entrepreneurship seems relatively less attractive since higher education raises the value of the alternative option of paid employment (Le, 1999). In this case, highly educated people

may engage in part-time rather than full-time entrepreneurship, because they can maintain their main profession, which is relatively stable based on higher education degree, as well as be able to pursue entrepreneurship at the same time.

The picture is necessarily truer for developing countries, since Van der Sluis, et al. (2005) points out that educated individuals in developing countries tend to opt for paid jobs, whilst in developed countries there is a vast range of literature that supports the positive relationship between education attainment and entrepreneurship. This comes in hand with the theory of necessity vs opportunity entrepreneurs, where the former are more prominent in developing countries (Wennekers, et al., 2005; 2010). In Ghana, there is evidence of negative relation between formal education and entrepreneurship development (Robertson, 1984), albeit a recent study points out that majority students have positive attitude towards entrepreneurship (Owusu-Ansah, 2004).

3.3.1.2 Entrepreneurship Education

The importance of entrepreneurship education is highlighted as many individuals do not choose entrepreneurship because it simply never happens to them (Bridge, et al., 1998). Policy makers suggest that education, especially entrepreneurship education can increase levels of entrepreneurship (European Commission, 2006). Entrepreneurship education could encourage student to pursue entrepreneurship as a career (Wilson, et al., 2007). Hietanen & Järvi (2015) advocate that entrepreneurship education should be available at a lower education level, not just at higher education level i.e. at university level. However, the effectiveness of entrepreneurship education in terms of entrepreneurial learning remains underdeveloped (Jones, 2010).

Oosterbeek, et al. (2010) identify three major skills which are useful for entrepreneurship that can be boosted from entrepreneurship education: market awareness, creativity, and flexibility. In their study, students in the Netherlands who take entrepreneurship education course obtain more realistic perspectives both on themselves and entrepreneurship career. In fact, after the course the students' intention of getting a career in entrepreneurship is significantly negative. Nabi, et al. (2018) also find that

entrepreneurial intentions of students who take entrepreneurship education courses at first year in British university are variable, in some cases even leading to negative intentions. These results may show a detrimental image for entrepreneurship education, especially in terms of policy implication. However, it is necessary to review the expectation for the outcome of entrepreneurship education. Given the low rate of firm survivability, instead of trying to increase the rate of start-up, we could focus more on the quality side rather than quantity side of outcome from entrepreneurship policy. For example, if entrepreneurship education is obligated in tertiary education, it could serve as the “filter” to single out future incompetent entrepreneurs who are prone more to failure than success, as they would foresee the difficulties and realistic picture of taking the entrepreneurship career. At the same time, students who are keen on and feel suitable for a career path in entrepreneurship would benefit substantially from entrepreneurship education via enhancement of realistic knowledge as well as necessary skills. These small numbers of prospective entrepreneurs are expected to perform better in the future, hence improve firms’ survivability rate as a whole.

In Ghana, similar method of surveying business students before and after an entrepreneurship course is used in Owusu-Ansah & Poku (2012)’s, which shows that entrepreneurship education helps students in creating awareness, intention and aspiration toward entrepreneurship: after graduation, the percentage of students who identified self-employment as immediate prime career decision rose to 25.8%, compared to 6.5 % of all career paths for students prior to entrepreneurship course. In Kenya, Nelson & Johnson (1997) project a long-term “enterprise culture” from the implementation of entrepreneurship education, even though the impact is difficult to determine in the short-term. However, teaching and assessment methods are still insensitive to entrepreneurial learning, and there are insufficient training resources for entrepreneurship education programs in technical training institutions (Mkala & Wanjau, 2013).

3.3.1.3 Vocational and Technical Education

The system of vocational education and training is an important channel of entrepreneurial learning (Avis, 2012; Jossberger, et al., 2010; Maritz & Brown, 2013; Almeida, et al., 2014; Pihie & Bagheri, 2010). Entrepreneurial learning is argued to be more effective through entrepreneurship education at vocational schools than at general education (Hietanen & Järvi, 2015). Appropriate entrepreneurial learning initiatives could enhance entrepreneurs' self-efficacy (Breslin & Jones, 2012), one of which is through vocational entrepreneurship education programs (Maritz & Brown, 2013). Vocational interests have been regarded a strong indicator for career-related outcomes, one of which is entrepreneurship pathway (Schmitt-Rodermund, 2004). Specifically, vocational choices are predictors of a wider range of entrepreneurial activities based on individual differences of personality (Almeida, et al., 2014). Learning experiences via vocational education occur in a wide variety of settings, in which learners focus on skill development needed for certain occupations (Rojewski, 2002). Vocational education serves as an alternative to academic education in providing skills (Symonds, et al., 2011), in the sense that it focuses on specific trades instead of general education (Hoeckel & Schwartz, 2010).

In Kenya, vocational education system offers a wide range of skilled trades including skills training complementary in entrepreneurship education such as accounting. Most, but not all, technical and vocational schools offer (mandatory) entrepreneurship programs (Hicks, et al., 2011), albeit suffer from high rate of trainee dropouts (Kiplagat, et al., 2017). In Ghana, technical vocational education and training system is identified as a major contributor to skills development for the workforce, since a large number of children are unable to get into general school and vocational education serves as the next best alternative for the training of students (Alagaraja & Arthur-Mensah, 2013). With Germany and Japan in mind as examples of having strong vocational education systems, Ghana looks forward to effectively building its own. However, vocational schools have long been suffered from low prestige because of widely held perception that it is for less academically inclined students (Boateng, 2012). As a result, vocational schools in Ghana are generally filled up by students with low academic performance and limited career

options, thus the vocational graduates resort to retail trading at the expense of their training (Alagaraja & Arthur-Mensah, 2013). This eventually links to exposure of entrepreneurial learning since retail trading is closely related to the formation of business from necessity entrepreneurs. Skills and knowledge learned and developed from attending vocational schools and retail trading could help entrepreneurs in running their business.

3.3.1.4 Entrepreneurship Training

Entrepreneurs engage in formal entrepreneurship training are clearly aware of knowledge or skills required to better manage their businesses. It is expected that the more entrepreneurs invest in their entrepreneurship training, the more diverse and adept skills they learn and thus perform better in business. Previous researches show a positive correlation between training and entrepreneurship outcomes. For example, training in business is proved to be effective for entrepreneurs who applied for microfinance in starting business (Valdivia & Karlan, 2006). However, there is also evidence that training has not been a source of improvement for entrepreneurs (Fairlie, et al., 2015). Rafflo, et al. (2000) propose a provision of business training that advocates a more dialogic and discursive environment based on situated learning through “doing with others”.

Figure 4: The Learning Task Facing Start-up Entrepreneurs

		Sector experience	
		Low	High
Business/ management experience	Low	<i>Innocents</i>	<i>Knowledge improvisers</i>
	High	<i>Confident entrants</i>	<i>Veterans</i>

Source: Cope & Watts (2000)

In our analysis, entrepreneurial training is specifically categorized into training in managing general business and training in specific sector related to entrepreneurs’

ventures, based on Cope & Watts (2000). Figure 2 displays a four-way typology of entrepreneurs regarding their prior experience in entrepreneurial learning. A mixture of two different levels of experience forms four types of entrepreneurs with different learning capability. In this regard, two dimensions of business/management experience and sector experience are reflected by knowledge and skills accumulation through two types of entrepreneurship training: entrepreneurship training and sector training.

3.3.2 Informal Learning as Informal Institutions

In the second strand of literature, learning is considered a social process (Burgoyne, 1995; Holman, et al., 1997; Pavlica, et al., 1998; Lave & Wenger, 1991). By incorporating informal institutional aspects, social dynamic is integrated in entrepreneurship learning (Deakins, et al., 2000; Rae, 2002; Taylor & Thorpe, 2004). As informal institutions comprise of attitudes, values, norms (North, 1991), informal institutions in entrepreneurship research are seen as cultural aspects, which are different from country to country and have substantial effect on the entrepreneurial dynamism of a country (Hayton, et al., 2002; Freytag & Thurik, 2007).

In terms of policy implication, it is more difficult and takes more time to change informal institutions than formal institutions (Williamson, 2000; Boettke & Coyne, 2009). However, policy makers can build appropriate policy which relies on cultural aspects, such as attitudes toward entrepreneurship, to enhance entrepreneurship outcomes. Up to date, despite a vast range of researches that use formal institutions measure into studies of entrepreneurship, there is still limited number of researches incorporate informal institutions. For example, Ferri & Urbano (2015) use “fear of failure” and “role model” as factors influencing social and commercial entrepreneurship, or Welter (2006) explores the role of trust in entrepreneurial activity. Regarding entrepreneurial learning, the quality of informal learning is based on trust, respect, and shared experience (Sexton, et al., 1997; Deakins, et al., 2000; Sullivan, 2000). These factors have been used at aggregate/national levels, though König, et al. (2010) claim that cultural orientation should be measured at individual levels.

Entrepreneurs are generally recognized as action-orientated individuals and their learning is experienced based (Rae & Carswell, 2000; 2001). Entrepreneurs engage in social relationships, both inside and outside of their ventures, thus they are viewed as “practitioners who operate within multiple, overlapping social communities of knowledge and practice” (Cope, 2005). They learn from their social connections, family, friends, colleagues etc. as described as learning informally in an entrepreneurial climate (Davidsson, 1995), or situated learning (Lave & Wenger, 1991; Taylor & Thorpe, 2004; Hamilton, 2011). Networks of entrepreneurs are considered learning systems (Mäkinen, 2002), in which individuals are learning agents (Hines & Thorpe, 1995) who learn within a wider context of personal and business relationships. The role of learning partnership (Gibb, 1997) is of utmost importance for entrepreneurs in the case of start-up for small businesses, where key network agents are the ones they need to learn from and with. Furthermore, individuals learn how to work in entrepreneurial ways of becoming effective managers of people and resources (Rae, 2000), which often involves the interaction between people and accumulation of tacit knowledge and experience rather than from formal education’s qualifications.

In our research, micro data obtained provide insights into how entrepreneurs view different institutions that have influence on their business performance. These experience from different informal sources, often regarded as tacit knowledge helps building successful entrepreneurial profile. (Cope & Watts, 2000) question the entrepreneurs’ ability to learn how to learn, identify which source of entrepreneurial learning that provides the optimal outcomes for their need.

3.3.2.1 Learning from Experience

Past research shows a consistent positive relationship between experience and entrepreneurship, (Parker, 2009). Experience is considered the development of skills that entrepreneurs learn over time (Jovanovic, 1982). These skills are associated with exploitation of opportunities, such as selling, negotiating, leading, planning, decision-making, problem solving, organisation and communicating (Shane, 2003).

Though the term experience is defined broadly, in this study experience is categorized into exposure to previous self-employment and paid-employment. Evans & Leighton (1989a) argue that the former has positive effect, whilst the later has no impact. However, entrepreneurs regularly acquire ideas for new ventures from previous jobs. Bhide (2000) finds that the majority of fastest growing private companies in the USA replicate or modify ideas from previous employment, while only 4 percent obtain idea from systematic search. This means previous paid-employment experience take an important role in the promotion of entrepreneurship, especially in case of entrepreneurs starting businesses closely related to their former jobs. These entrepreneurs develop the idea of forming business while being employed by other companies. By accumulating skills while working for others, they have prepared for a post-exit paid employment career to enter full time entrepreneurship when opportunity cost of staying in the former company surpasses the opportunity cost of forming a business. In many cases, instead of a solo employee, a group of employees leave their former work place and form ventures together, since they have acquired different skill sets and identified which roles are sufficient in forming a business similar to the former company. Besides there are other reasons such as they require enough capital from more than one person to start-up.

Learning from prior experience is important because the knowledge relevant for making business decisions is often tacit and requires time spent observing and studying a specific activity before tacit knowledge of the activity is developed (Cooper, et al., 1994). Cope (2011) shows that entrepreneurs also learn critically from venture failure. The learning outcome from entrepreneurs' failures consists of learning about themselves, the nature of networks and relationship, and the pressure points of venture management, which enhance their entrepreneurial preparedness for future business activities. However, evidence from Chrisman et al. (2005) argues that too much knowledge in turn results in diminishing returns on the sales and employment growth of new firms. In our study, experience is classified in terms of start-up and paid job experience as dummy variables, as also used in Politis (2008).

3.3.2.2 Situated Learning

Situated learning is described as “an integral and inseparable aspect of social practice” (Lave & Wenger, 1991), which captures the social complexity of entrepreneurial learning (Taylor & Thorpe, 2004). It refers to the way entrepreneurs learn embedded in everyday social practice in particular historical and cultural contexts, and in relation to network relationships (Hamilton, 2011), which vary from family members to friends, bankers, staffs as well as studying and working peers (Gibb, 1997). Situated learning theory revolves around the concept of communities of practice, regarded as places where individuals, in this case entrepreneurs, develop, negotiate and share their understanding of the world (Lave & Wenger, 1991). In this regard, family, schools, colleges and workplaces are communities of practice where latent entrepreneurs actively develop ideas for prospective business by exchanging opinions with family members and peers, or “learning through participation” (Hamilton, 2011). Through engagement with and participation in practices in different social contexts, entrepreneurs become members of multiple, overlapping communities (Gherardi & Nicolini, 2002).

In our study, communities of practice are categorized into different sources of informal entrepreneurial learning, including circles of friends and peers from colleges, working places, local communities and neighbourhoods, clubs and associations, and families and relatives. Pittaway, et al. (2015) find that student clubs stimulate important aspects of entrepreneurial learning, including learning by doing, learning through mistakes, and learning from entrepreneurs. Falck, et al. (2012) investigates school peers’ influence on entrepreneurial intentions. Hamilton (2011) emphasizes the role of family in entrepreneurship learning. Nanda & Sorenson (2010) study the role of co-workers in workplace on entrepreneurial intentions.

Furthermore, research on situated learning also focuses on the legitimate peripheral participation, which examines the relationship between the members of a community of practice (Hamilton, 2011), as newcomers become a part of community through engagement in social practice (Lave & Wenger, 1991) and reciprocal knowledge

development process involves of power-laden notions such as “novice” and “expert”, “master” and “apprentice” (Tempest, 2003). In this regard, the relation between master and apprentice is reflected by family apprenticeship, whether the entrepreneur has worked for any of family members or relatives prior to the formation of their own business. A further aspect of entrepreneurial learning from self-motivation is added in our research, as learning from book, magazine and online sources are included in the questionnaire.

3.4 Empirical Strategy

We first theoretically discuss how entrepreneurship learning formed from formal institutions (e.g. formal education and training, vocational and technical schools) and informal institutions (start-up and paid job experience, situated learning) have effect on performance of entrepreneurs. Based on these considerations, hypotheses are built. Data used in the chapter is described in Section 2.4.

Table 1: Mapping of Formal and Informal Institutions on Entrepreneurial Learning

Entrepreneurial learning	Formal learning	Formal education (1)	General knowledge
			Sectorial knowledge
		Formal training (2)	Entrepreneurship training (2)
			Sectorial training (2)
	Entrepreneurship education (2)	From friends in colleges (3)	
	Informal learning	Paid job experience (2)	From working peers (3)
		Family apprenticeship (2)	From family/relatives (3)
		Situated learning	From local community (3)
			From clubs/associations (3)
From books/magazine (3)			
Online learning (3)			

Data availability on entrepreneurial learning under institutional context

Data information: (1) continuous variables; (2) binary variables; (3) 5-point Likert scale variables

From abovementioned information on existing theory and available data, two hypotheses are raised:

H1: Formal entrepreneurial learning of education and training has positive effect on the outcome of entrepreneurs' performance in terms of number of employees and employment growth.

H2: Informal entrepreneurial learning as experience and situated learning has positive effect on the outcome of entrepreneurs' performance in terms of number of employees and employment growth.

There is a number of studies using variables related to human capital as indicators for entrepreneurial learning. The most common variables are education attainment and training (Barkham, 1994). Dencker, et al. (2009) specifically use education and education squared as factors of entrepreneurial learning. Corbett (2007) studies product opportunity by grouping independent variables into general human capital, specific human capital, learning acquisition mode, information transformation. Politis & Gabrielson (2009) include entrepreneurship education and start-up experience as determinant to failure attitude. Chrisman, et al. (1998) include experience in founding companies, similar working positions, formal education, general management experience, industry experience, pre-start-up training, shared experience of founders, and start-up experience. Politis (2008) adds years of self-employment, paid career experience, higher education, prior business experience.

In our study, sources of entrepreneurial learning vary in terms of formal and informal settings. Regarding education attainment, education duration is the measurement of number of years in education, including nursery or kindergarten. A series of binary variables indicate whether the entrepreneur takes part in corresponding entrepreneurial learning activity. Entrepreneurship education specify whether respondent has had subject related to building entrepreneurship or business in their tertiary education. Vocational and technical programme implies whether the entrepreneur has any experience in vocational and technical school or programme. Entrepreneurship and sector training show

whether the entrepreneur has training in respective programme of starting or managing business, and training in their area or field of business. Start-up experience indicates whether the entrepreneur has any other business prior to the current one. Paid job experience asks whether the entrepreneur has done any formal paid work prior to founding their business. Family apprenticeship means the entrepreneur has worked or helped running a business for a family member or relative before, which also reveals the role of family role model or the role of clan. Business association signifies whether the entrepreneur subscribes for membership of a formal association.

Extra information related to each item is provided. In terms of education attainment, further questions are the highest degree the entrepreneur has obtained, or which type of education institution (public or private) the entrepreneur has attended. Training are categorized into formal education, past employers, government agency, non-government agency, and private agency as institutions who provide the corresponding entrepreneurship or sector training. Current and prior business' sector are recorded. Previous paid job's sector and the size of the business or the company the entrepreneur has worked for are presented. The relationship of the family member or relative to the entrepreneur is provided. Name of each corresponding organisations, such as training institutions and business associations are also recorded. Businesses are categorized into six sectors: retail, wholesale, production, casual service, professional service and technical service. Please see the Appendix for more information.

Table 2: Sources of Entrepreneurial Learning Experience

Sources of entrepreneurial learning	Ghana		Kenya		Wilcoxon
	N	Mean	N	Mean	rank sum test Prob> z
General education	127	3.826772	115	4.573913	0.0000
Vocational & technical education	41	3.780488	35	4.057143	0.329
Entrepreneurship education	48	4.354167	99	4.535354	0.0858
Entrepreneurship training	46	4.478261	50	4.68	0.0308
Sector training	45	4.733333	60	4.65	0.4516
Paid job experience	91	3.725275	75	4.346667	0.0009
Business association	32	3.5	39	4.641026	0.0002
Friends from clubs, associations	138	2.811594	116	4.137931	0.0000
Working peers/ job-related	142	3.443662	116	4.137931	0.0000
Friends from school/ college	136	2.764706	117	4.059829	0.0000
Local community/ neighbourhood	142	2.535211	117	3.333333	0.0000
Family/ relatives	143	3.097902	115	3.973913	0.0409
Family apprenticeship	38	4.078947	22	4.590909	0.3034
Book/ magazine	127	3.031496	115	4.226087	0.0000
Online sources	125	3.016	114	4.27193	0.0000

Items are measured in a 5-point Likert scale, mapped from questions of how helpful an item to entrepreneur's current business is (1: totally unhelpful; 2 relatively unhelpful; 3 medium; 4 relatively helpful; 5 totally helpful)

In addition to the binary variables regarding participation in each entrepreneurial learning activity, table 4.2 sums up the learning experience from entrepreneurs in Ghana and Kenya. Entrepreneurs respond to series of questions on how helpful each formal and informal learning source mean to them in the five-point Likert scale measure. In terms of formal learning sources, general education, vocational and technical education and entrepreneurship education are mentioned. Since items are measured in bounded ordinal

value, the non-parametric method of Wilcoxon rank sum test is used instead of two-sample t-test to check if the mean scores of experience learning of Ghanaian and Kenyan are statistically different for given items.

The results show for majority of items Kenyans are more satisfied with their experience in learning and training institutions than Ghanaians, among which the difference in vocational & technical education, sector training, and family apprenticeship are not statistically significant at 5% level, while the rest are. Among Ghanaian entrepreneurs, training is generally valued higher than education regarding to usefulness to their businesses with mean scores for entrepreneurship training and sector training are highest at 4.5 and 4.7 respectively. Kenyan entrepreneurs also value training, but not too deviated from other aspects of education and experience from previous start-up, paid job and being member of business association. Among situated learning factors, family apprenticeship plays an important role in both Kenya and Ghana. They both rank lower scores on helpfulness from friends from clubs, associations and local community in comparison with education and training.

The effectiveness of entrepreneurial learning is measured by the performance of entrepreneurs based on their ability to hire a number of employees. The rationale is that SME owners perform better when they have a bigger business in terms of size and provide more jobs for the local community. Job provision is important especially in Africa because of Ghana and Kenya's high unemployment rate.

Dependent variables are the current number of employees and the growth rate of employment. This quantitative measurement is selected as the number of employees is more accurate and easier to access than other figures to measure business size and growth such as sales. Two methods to capture growth rate are compounded annual growth rate and conventional growth rate of employees are calculated as followed:

Figure 5: Calculating Annual Growth Rate

$$\text{Compounded annual growth rate} = \left(\frac{\text{Current number of employees}}{\text{Initial number of employees}} \right)^{\frac{1}{\text{Years of business}}} - 1$$

$$\text{Conventional growth rate} = \frac{\text{Current number of employees} - \text{Initial number of employees}}{\text{Initial number of employees}}$$

Compounded annual growth rate of employment is used instead of conventional growth rate because even though the current number of employees is recorded at the time of interview (2016), the initial number of employees is not recorded at the same time, as different businesses in this study have different start-up years. The convenient growth rate formula calculating the growth rate between the time t and t-1 is widely used and could be applied with the number of employees recorded in 2016 and 2015, for instance, but it is unsuitable in this particular research with the examination of start-up size and entry age of entrepreneurs, as the data constructed is cross-sectional instead of panel data. Therefore, the conventional growth rate in this case varies according to the business duration in years (measured as the growth rate between the time t and t-n, as n is the years of business) and is not as accurate as the compounded annual growth rate.

Table 3: Descriptive Continuous Variables

	Ghana					Kenya				
	N	Mean	Sd	Min	Max	N	Mean	Sd	Min	Max
Education attainment (in years)	146	14.71	4.14	0	23	117	16.07	2.37	8	23
Current number of employees	146	6.38	7.83	0	62	116	9.58	9.77	1	63
Growth rate of employees	145	0.45	0.57	0.01	4	113	0.63	0.57	0.04	3.56
Business duration (in years)	146	11.24	9.30	0	46	120	5.76	5.19	0	30
Age of entrepreneurs (in years)	145	41.26	11.71	23	76	119	34.62	8.62	20	59
Gender (Female =1)	146	0.37	0.48	0	1	120	0.25	0.43	0	1

Gender is added here as binary variables; other binary variables are presented in Table 2

Table 4: Correlation Matrices of Dependent and Independent Variables

All	1	2	3	4	5	6	7	8	9	10	11	12	13
1.General education	1												
2.Entrepreneurship education	0.3262*	1											
3.Vocational education	0.0238	0.004	1										
4.Entrepreneurship training	0.2526*	0.1334	0.1633*	1									
5.Sector training	0.1704*	0.1676*	0.1993*	0.2866*	1								
6.Start-up experience	0.0308	0.0931	0.0077	0.0044	-0.0958	1							
7.Paid job experience	0.2937*	0.0735	0.0813	0.112	0.1900*	0.1375	1						
8. Family apprenticeship	0.0136	0.0617	-0.0328	-0.0755	0.0716	0.0122	0.0309	1					
9.Business association	0.1348	0.0951	0.1028	0.2469*	0.3535*	0.0488	0.0928	0.0261	1				
10.Gender	-0.1808*	-0.0468	-0.0593	-0.1129	-0.1669*	0.0954	-0.0826	0.1185	-0.1295	1			
11.Age	-0.2144*	-0.2705*	0.0627	0.0369	-0.0943	0.1025	0.042	-0.0263	0.0415	0.1920*	1		
12.Number of employees	0.2644*	0.1394	0.0792	0.2205*	0.2059*	0.1669*	0.2064*	-0.0663	0.1709*	-0.1475	0.1081	1	
13.Employment growth	0.2309*	0.1082	-0.0311	0.144	0.0399	0.0294	0.1498	-0.1463	0.0242	-0.0927	-0.2923*	0.2963*	1

Ghana	1	2	3	4	5	6	7	8	9	10	11	12	13
1.General education	1												
2.Entrepreneurship education	0.2926*	1											
3.Vocational education	0.0327	0.0098	1										
4.Entrepreneurship training	0.2696*	0.2104	0.1853	1									
5.Sector training	0.062	0.0184	0.2219*	0.1822	1								
6.Start-up experience	0.0618	0.1189	0.0456	-0.0895	-0.2018	1							
7.Paid job experience	0.3635*	0.1246	0.0486	0.2097	0.1954	0.0695	1						
8. Family apprenticeship	0.0693	0.1841	0.0456	-0.0575	0.0664	-0.0146	-0.0915	1					
9.Business association	0.0816	-0.0218	0.1692	0.1124	0.2700*	-0.0106	0.0437	0.0272	1				
10.Gender	-0.2305*	0.0451	-0.0253	-0.0916	-0.2041	0.1467	-0.1887	0.1467	-0.1549	1			
11.Age	-0.2342*	-0.1235	0.117	0.0439	-0.0393	0.1129	-0.0198	-0.0363	0.0993	0.2137*	1		
12.Number of employees	0.2021	0.0336	0.0864	0.2706*	0.1312	0.1593	0.2098	0.0026	0.2539*	-0.2042	0.1524	1	
13.Employment growth	0.2255*	0.0017	-0.0384	0.2213*	0.025	0.0777	0.2079	-0.1633	0.016	-0.1144	-0.2418*	0.3014*	1

Kenya	1	2	3	4	5	6	7	8	9	10	11	12	13
1.General education	1												
2.Entrepreneurship education	0.2193	1											
3.Vocational education	-0.0026	-0.0267	1										
4.Entrepreneurship training	0.2316	0.0024	0.1361	1									
5.Sector training	0.3041*	0.1688	0.1764	0.3971*	1								
6.Start-up experience	-0.0666	0.0059	-0.038	0.1064	-0.0117	1							
7.Paid job experience	0.1881	0.0114	0.1212	-0.0073	0.1896	0.216	1						
8. Family apprenticeship	-0.0686	-0.0078	-0.1355	-0.0924	0.1178	0.0573	0.1997	1					
9.Business association	0.1873	0.1117	0.0303	0.3819*	0.4025*	0.0941	0.146	0.0478	1				
10.Gender	0.0092	-0.0177	-0.1024	-0.131	-0.0687	0.0514	0.0643	0.0539	-0.0663	1			
11.Age	0.0283	-0.1901	-0.0119	0.0691	-0.0308	0.1562	0.1607	-0.0786	0.0721	0.0592	1		
12.Number of employees	0.3482*	0.0891	0.0701	0.1634	0.2166	0.1546	0.2088	-0.1201	0.0597	-0.0492	0.2251	1	
13.Employment growth	0.1859	0.08	-0.0295	0.031	-0.0117	-0.0558	0.0741	-0.099	-0.0136	-0.0218	-0.3075*	0.2527*	1

Significance level (asterisk) at 1% level

Multiple regression analysis with ordinary least squares regression models is used in this study, since measurement of performance in terms of employment size and growth are all continuous variable. Main independent variables are grouped into formal and informal entrepreneurial learning inputs. Dependent variables are measurement of entrepreneurship performance. Control variables contain of demographic, individual-level and firm-level inputs.

There are various approaches on quantifying entrepreneurial learning in past research literature. The dominant of past empirical studies are conducted at firm-level data or qualitative based, case study research (Cope, 2011; Jones & Macpherson, 2006; Rae, 2000; Ravasi & Turati, 2005). In our study, an individual, quantitative based approach is conducted.

Table 5: Test for Heteroscedasticity

Heteroscedasticity test	Number of employees		Employment growth	
	Ghana	Kenya	Ghana	Kenya
Breusch-Pagan test	chi2(1) = 173.61 Prob > chi2 = 0.0000	chi2(1) = 87.01 Prob > chi2 = 0.0000	chi2(1) = 103.27 Prob > chi2 = 0.0000	chi2(1) = 41.63 Prob > chi2 = 0.0000
White's test	chi2(143) = 144.00 Prob > chi2 = 0.4608	chi2(111) = 113.00 Prob > chi2 = 0.4293	chi2(142) = 143.00 Prob > chi2 = 0.4607	chi2(108) = 110.00 Prob > chi2 = 0.4284

Heteroscedasticity problem is more common in cross-sectional data because units and groups are more heterogeneous in nature. Breusch-Pagan (1979) test and White (1980)'s test are implied to check for the presence of heteroscedasticity. Reports show large chi-square and low significance level in Breusch-Pagan tests for all models, which indicates heteroscedasticity in all models. However, significance level for White's test results show the opposite. While Breusch-Pagan test is designed to detect linear form of heteroscedasticity, it has problems when the errors are not normally distributed. White's test is a special case of Breusch-Pagan test where the assumption of normally distributed errors has been relaxed, which makes it more generic to test more types of heteroscedasticity. However, the models contain a high number of explanatory variables

given the number of observations, which mean in this particular situation White’s test has less statistical power than Breusch-Pagan test. To conclude, the presence of heteroscedasticity in the models reject the estimation of the standard OLS, thus the robust regression method capable of correcting heteroscedasticity errors is applied.

3.5 Results

Comparative analysis between Ghana and Kenya is shown in Table 6 and Table 7 for dependent variables of current number of employees and employment growth. In each table, three models for each country are presented. The first model contains the group of formal entrepreneurial learning, including five binary independent variables are taken into consideration, namely general education, entrepreneurship education, vocational education, entrepreneurship training and sector training. The second model contains the group of four binary informal entrepreneurial learning factors, which are start-up experience, working (paid job) experience, family apprenticeship (working for a family member or relative before) and membership of a business association. The third model combines both groups of formal and informal entrepreneurial learning. Control variables of gender and age of entrepreneurs, and the duration and sector of the business are included in all models.

Table 6: Ghanaian and Kenyan Entrepreneurs’ Business Employment Capability based on Entrepreneurial Learning

DP: Current number of employees	Ghana			Kenya		
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Formal education (in years)	0.253*		0.142	0.872**		0.830**
	(0.151)		(0.161)	(0.346)		(0.336)
Entrepreneurship education (Yes = 1)	0.0625		-0.303	0.991		0.917
	(1.793)		(1.557)	(1.967)		(1.975)

Vocational education (Yes = 1)	0.275 (1.358)		-0.327 (1.452)	1.530 (2.296)		0.987 (2.275)
Entrepreneurship training (Yes = 1)	3.061** (1.373)		3.314** (1.458)	1.545 (2.025)		2.094 (1.947)
Sector training (Yes = 1)	-0.178 (1.823)		-0.513 (1.880)	0.662 (1.965)		1.547 (2.164)
Prior start-up experience (Yes = 1)		3.078* (1.755)	3.365** (1.554)		1.950 (2.047)	2.403 (2.043)
Prior working experience (Yes = 1)		2.061** (0.823)	1.361 (0.984)		3.335** (1.475)	2.417 (1.493)
Family apprenticeship (Yes = 1)		0.356 (1.769)	0.475 (1.788)		-3.325 (2.156)	-2.789 (2.065)
Business association (Yes = 1)		3.815** (1.734)	3.499* (1.976)		-1.119 (1.950)	-3.271 (2.345)
Gender (Female = 1)	-2.765** (1.116)	-3.099** (1.301)	-2.759** (1.295)	0.235 (2.159)	0.0591 (2.099)	0.225 (2.124)
Age of entrepreneur (in years)	0.182* (0.0984)	0.165 (0.104)	0.147 (0.0953)	0.150* (0.0865)	0.0971 (0.0878)	0.112 (0.0911)
Business duration (in years)	-0.0253 (0.0879)	-0.0698 (0.100)	-0.0194 (0.0880)	0.238 (0.193)	0.212 (0.212)	0.225 (0.209)
Sector = 2, wholesale	1.394 (3.593)	2.335 (4.047)	1.223 (4.059)	3.338* (1.818)	4.034** (1.934)	3.022 (2.032)
Sector = 3, production	1.998 (1.620)	2.413* (1.278)	1.353 (1.385)	11.01 (8.148)	11.86 (8.345)	10.48 (7.531)
Sector = 4, casual service	3.239** (1.341)	3.730*** (1.215)	3.723*** (1.247)	0.568 (2.269)	1.715 (2.154)	0.818 (2.196)
Sector = 5, professional service	4.994 (4.076)	4.871 (3.234)	4.864 (3.412)	7.820*** (2.654)	9.666*** (3.302)	8.399*** (3.028)
Sector = 6, technical service	4.696 (3.255)	4.103 (3.002)	4.441 (3.188)	4.798** (2.223)	6.493*** (1.827)	3.951 (2.434)
Constant	-6.326 (4.821)	-3.236 (3.856)	-5.646 (4.554)	-16.43*** (6.171)	-0.732 (2.820)	-15.40** (5.970)
Observations	144	145	144	113	114	113
R-squared	0.220	0.248	0.290	0.311	0.290	0.360
Adjusted R-squared	0.14177464	0.18012046	0.19453942	0.2204952	0.20513037	0.24559595
AIC	994.3636	992.8358	988.7261	822.8911	830.6435	822.5321
BIC	1035.941	1031.533	1042.183	861.0745	866.2141	871.625

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Regarding formal entrepreneurial learning in Table 6, model (4) and (6) in table 5.1 shows there is indication of positive relationship between Kenyan entrepreneurs' number of years in formal education and the size of their business, albeit the similar result for Ghanaian entrepreneurs in model (1) and (2) is ambiguous. Entrepreneurship education and vocational education dummies do not provide better hiring prospects for entrepreneurs in both countries. This result either supports the existing literature on the inefficiency of entrepreneurship education programmes in general/higher as well as vocational education, or highlight the need for better engagement in structuring a better entrepreneurship education approach to enhance performance of learners, especially in Ghana and Kenya. Entrepreneurship training, which includes start-up training and management training, in turn has positive and significant result on the number of employees hired in Ghana (model (1) and (2)) instead of Kenya (model (4) and (6)). An average Ghanaian entrepreneurs who undertake entrepreneurship training hire 3.1 more employees than those without training. Sector training does not have significant impact for both cases.

For informal entrepreneurial learning, model (2) and (3) show Ghanaian entrepreneurs with prior start-up experience hire 3.1 more employees than those without experience. This indicates a steep learning curve for serial entrepreneurs in Ghana regarding their ability to form bigger business after trials. Prior working experience also positively affect both Ghanaian and Kenyan entrepreneurs' business employment capacity at 2.1 and 3.3 more employees in model (2) and (5) respectively. However, the full models (3) and (6) do not give significant results. Subscription to a business association results in a significant 3.8 more employees in capacity for Ghanaian entrepreneurs. Family apprenticeship does not boost entrepreneurs' ability to hire more for both cases. Therefore, the role of clan has less impact on entrepreneur's performance via entrepreneurial learning channel. In general, Ghanaian entrepreneurs benefit more from informal entrepreneurial learning than Kenyan entrepreneurs.

Regarding control variables, sector of the business is added in priority because the size of the business is largely dependent on its sector. Besides, female entrepreneurs in Ghana

own fewer employees than their male counterparts, while there is no statistical difference of gender in Kenya's case.

Table 7: Ghanaian and Kenyan Entrepreneurs' Business Employment Growth Capability based on Entrepreneurial Learning

DP: Employment growth VARIABLES	Ghana			Kenya		
	(1)	(2)	(3)	(4)	(5)	(6)
Formal education (in years)	0.00172 (0.00819)		-0.00229 (0.00991)	0.0283 (0.0194)		0.0259 (0.0209)
Entrepreneurship education (Yes = 1)	-0.0861 (0.0881)		-0.0824 (0.0837)	0.0735 (0.0967)		0.0454 (0.0955)
Vocational education (Yes = 1)	-0.0794 (0.0761)		-0.0799 (0.0832)	-0.00853 (0.118)		-0.0482 (0.121)
Entrepreneurship training (Yes = 1)	0.202** (0.0943)		0.198** (0.0888)	0.0562 (0.130)		0.0597 (0.150)
Sector training (Yes = 1)	-0.0401 (0.0946)		-0.0485 (0.0936)	-0.0859 (0.0977)		-0.0420 (0.111)
Prior start-up experience (Yes = 1)		0.103 (0.0994)	0.130 (0.0980)		0.0651 (0.110)	0.0546 (0.131)
Prior working experience (Yes = 1)		0.0995* (0.0584)	0.0964 (0.0707)		0.0961 (0.0944)	0.104 (0.0952)
Family apprenticeship (Yes = 1)		-0.173** (0.0756)	-0.140** (0.0696)		-0.217* (0.121)	-0.212* (0.120)
Business association (Yes = 1)		0.0845 (0.133)	0.0877 (0.134)		-0.0354 (0.0810)	-0.0722 (0.126)
Gender (Female = 1)	-0.0717 (0.0662)	-0.0433 (0.0661)	-0.0357 (0.0707)	0.0189 (0.133)	0.00457 (0.125)	0.00717 (0.135)
Age of entrepreneur (in years)	0.00504 (0.00433)	0.00369 (0.00450)	0.00221 (0.00461)	-0.00798 (0.00535)	-0.00978* (0.00499)	-0.00989* (0.00537)
Business duration (in years)	-0.0308*** (0.00631)	-0.0292*** (0.00629)	-0.0275*** (0.00622)	-0.0496*** (0.00714)	-0.0511*** (0.00878)	-0.0491*** (0.00884)
Sector = 2, wholesale	0.0933 (0.147)	0.170 (0.169)	0.149 (0.165)	0.0434 (0.101)	0.0604 (0.111)	0.0362 (0.114)
Sector = 3, production	-0.0874 (0.121)	-0.0481 (0.0813)	-0.0877 (0.114)	0.499 (0.513)	0.573 (0.480)	0.512 (0.486)
Sector = 4, casual service	0.126 (0.103)	0.173 (0.108)	0.168 (0.109)	0.130 (0.166)	0.152 (0.158)	0.147 (0.167)
Sector = 5, professional service	0.576** (0.227)	0.605** (0.231)	0.615*** (0.226)	0.113 (0.0898)	0.128 (0.104)	0.0999 (0.101)
Sector = 6, technical service	-0.00296	-0.0133	-0.00617	-0.0100	-0.0156	-0.0612

	(0.117)	(0.111)	(0.117)	(0.115)	(0.118)	(0.127)
Constant	0.496**	0.483***	0.534**	0.623	1.153***	0.733*
	(0.213)	(0.144)	(0.227)	(0.391)	(0.257)	(0.414)
Observations	143	144	143	110	111	110
R-squared	0.422	0.428	0.453	0.323	0.330	0.351
Adjusted R-squared	0.36417703	0.37564392	0.37819533	0.23153119	0.24803695	0.23049579
AIC	194.5631	191.7044	194.8707	171.216	168.7366	174.6826
BIC	236.0429	230.312	248.2019	209.0228	203.9605	223.2912

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 7 examines the impact of similar set of formal and informal entrepreneurial learning factors on the annual employment growth. Entrepreneurship training again has significant impact on Ghanaian entrepreneurs' business growth rate, at 0.2 employees increase per year, or one employee extra hire per five year. This result from models (1) and (3) and similar result from Table 6 indicate a robust impact from entrepreneurship training on Ghanaian entrepreneurs' performance. Other factors from formal entrepreneurial learning group do not show significant sign for correlation.

On the other hand, family apprenticeship has negative impact on growth rate of employment in both cases of Ghana and Kenya, albeit its usefulness is recognized in both countries in table 4a. This result is interesting as factors of entrepreneurial learning are all expected to positively affect entrepreneurs' performance. One speculated reason for this result is the cultural influence from nepotism, as individuals who have experience working for close members of their clan would have tendency to hire fewer people but close to them in a selective manner, instead of aiming for mass hiring of new employees. However, the data collected does not provide more insight information for this particular trend. Other informal entrepreneurial learning factors do not provide extra significant result on growth of employment, except for prior working experience for Ghanaian entrepreneurs in model (2), albeit the result is not robust in the full model (3).

A similar set of control variables as in Table 6 is applied in Table 7, which shows a negative relationship between business duration and growth rate of employment. This means

businesses grow faster when they are new to the market, especially at start-up level and slow down when they reach a bigger size (reducing marginality on size). This particular result further reassures the validity of the traditional Gibrat (1931)'s law of relationship between size and growth of firms.

3.6 Conclusion

This research makes new contributions to the understanding of entrepreneurial learning with the novelty of data input from African countries of Ghana and Kenya. Results from this research may help policy makers get insights into factors stimulate entrepreneurship outcomes resulted from different sources of entrepreneurial learning in African context. Two batches of variables grouped into formal and informal institutional factors are used in the study with further descriptive analysis conducted on perception of entrepreneurs toward these items. Findings from empirical results show more informal institutions have impact on entrepreneurs' capacity in hiring employees than formal institutions, especially in the case of Ghana.

There are certain limitations for this study. Firstly, data are cross-sectional and limited for the capital cities of Accra and Kenya. A larger scale of similar study with stratified samplings and time variant would bring more robust results and satisfy more external validity. A panel data approach is costlier but more convenient in computing conventional growth rate instead of using compounded growth rate in this paper. Secondly, the questionnaire is designed in a favour of quantitative measurement and lack qualitative approach to better understand further results drawn from empirical analysis in this paper. For example, a follow-up survey with qualitative questionnaire items would clarify why entrepreneurs with working experience for family members have slower growth of employment in comparison with others who do not have similar experience.

Further research could dwell into extension of further factors of entrepreneurial learning, such as management styles and critical learning events. A more comprehensive study

could use alternative measurements of entrepreneurs' performance such as sale and sale growth of the business. In general, the prospective for research in the field of entrepreneurial learning, especially in the case of Africa, is open and widely need further studies of its kind.

4 The Effect of Parental Role Model on Entrepreneurs' Entry Age, Start-up Size, and Business Development: Empirical Evidence from two Developing Countries

4.1 Introduction

There is mounting empirical evidence showing that there is a positive link between having self-employed parents and entrepreneurial intention (Laspita, et al., 2012; Colombier & Masclet, 2008; Dunn & Holtz-Eakin, 2000; Niittykangas & Tervo, 2005)¹. The literature identifies several channels underlying this relationship. This is transfer of entrepreneurial intentions, via entrepreneurial traits, personality and genes (Nicolaou, et al., 2008; Chlosta, et al., 2012; Schröder & Schmitt-Rodermund, 2006; Crant, 1996; Thurik, 2015), human and non-human capital transfer (Lentz & Laband, 1990; Fairlie & Robb, 2007; Georgellis, et al., 2005; Aldrich & Kim, 2007; Parker, 2009), propensities (Meager & Bates, 2004), taste (Halaby, 2003), values (Wyrwich, 2015) and risk (Dohmen, et al., 2006). Intergenerational transmission of entrepreneurship can be a crucial source of the self-perpetuation of entrepreneurship and the formation of an entrepreneurship culture (Hayton, et al., 2002; Slavtchev & Wyrwich, 2017), which itself is a crucial source for economic development (Glaeser, et al., 2015; Fritsch & Wyrwich, 2017). Most of the previous literature on the effects of parental entrepreneurship among intention and start-up activity among kids is on developed countries. To the best of our knowledge, our study is first one investigating this pattern in developing countries in Africa.

Studies on entrepreneurship conducted with primary data in Africa generally focus on descriptive outcomes regarding constrains and challenges in forming and running

¹ It is worth to keep in mind that there are studies which challenge the effect of parental role model on entrepreneurial choice, e.g. Kim, et al. (2006), Ghazali, et al. (1995), Brenner, et al. (1991), De Vries (1977).

businesses, (Bowen, et al., 2009; Mabe, et al., 2013; Martey, et al., 2013), motivation (Chu, et al., 2007) or performance and growth (Appiah Fening, et al., 2008; Setsoafia, et al., 2015). Two of the very few but notable works on intergenerational links in Africa are Pasquier-Doumer (2013)'s study on transmission of self-employment status in the informal sector with data from seven West African countries, and Nordman & Pasquier-Doumer (2015)'s on the role of family networks in West African labor market. It is of importance to understand intergenerational transmission of entrepreneurship in the African context since entrepreneurship is a crucial source for achieving economic development in developing countries, particularly in Africa (Global Entrepreneurship Monitor, 2015; World Bank, 2011; Ayyagari, et al., 2014). This is quite important in contexts like Africa where it might be difficult for entrepreneurs to acquire external resources. Furthermore, it is also important to understand the drivers of successful business development in the African context. It is crucial to learn about how to develop sustainable entrepreneurship in Africa, given the survival rate for young firms is especially low in the region (Bowen, et al., 2009).

Our paper adds to the parental entrepreneurship literature by studying the link between self-employed parents and age of entry, initial business size, and post-entry business development among the offspring. Despite various papers on mechanism in explaining entrepreneurship intention and business success based on parental role model, the role of parental self-employment for entrepreneurial entry age and initial size of business is neglected in mainstream research.

On one hand, entrepreneurial age is studied largely as a determinant of start-up decisions (Levesque & Minniti, 2006; Backman & Karlsson, 2017; Miller, 1984; Uusitalo, 2001; van Praag & van Ophem, 1995; Blanchflower, et al., 2001; Wyrwich, 2013), while the link between self-employed parents and children's entry age to business has not been thoroughly explored. Lentz & Laband (1990), observed that second generation of entrepreneurial family tradition achieve greater success than the first generations, because the later generation is able to found their businesses at younger age with higher

amount of human capital, however the authors did not formally econometrically test the descriptive statistics with available data.

On the other hand, initial size of the business is studied largely as a component to predict firms' future performance (Cooper, et al., 1994; Hart & Oulton, 1996; Klaesson & Karlsson, 2014). Several research have linked entrepreneurs' background with initial business size (Sandberg & Hofer, 1987; Cooper, et al., 1989; Barkham, 1994; Chrisman, et al., 1998; Mata, 1996; Colombo, et al., 2004; Capelleras & Hoxha, 2010; Hvide & Møen, 2010; Coad, et al., 2014). However, only a few researchers consider parental self-employment a determinant of start-up size (Chrisman, et al., 1998; Melillo, et al., 2012).

The lack of analyses is surprising for two reasons. First, if entrepreneurial parents affect entrepreneurial choice via entrepreneurial resources such as financial assets, one should also observe higher initial business sizes as compared to entrepreneurs without self-employed parents. Firms that start larger can achieve the minimum efficient size to survive in the market earlier (Audretsch, 1995). Second, parental support may affect entry age. It is a well-established fact that start-up decisions over the lifecycle follow an inverted U-shape (Backman & Karlsson, 2017; Uusitalo, 2001; Stangler & Spulber, 2013; Levesque & Minniti, 2006). So, entrepreneurial propensity first increases with age while it decreases in later stages of working age. This pattern is driven by entrepreneurial resource accumulation in terms of skills and finance. If the kids of entrepreneurial parents are better equipped with entrepreneurial resources, they should be able to systematically start their venture at younger ages. Therefore, parental entrepreneurship should affect the age distribution of the future generations of entrepreneurs.

Younger entrepreneurs act as role models encouraging other peers of the same age to try in entrepreneurship. This is the prediction of the extensive literature on entrepreneurial role model effects (Sørensen, 2007; Bosma, et al., 2012; Van Auken, et al., 2006). So, understanding the link between parental entrepreneurship and entry age is particularly interesting in countries with a high share of population in younger ages like in Africa (United Nations, 2012; International Monetary Fund, 2014).

Our analysis relies on a representative survey of entrepreneurs in Ghana and Kenya. We treat self-employment status of parents as an exogenous variable since kids have no control over previous decisions of their parents. Since age cannot be influenced by respondents as well, we are able to establish a causal relationship between parental entrepreneurship and entry age. Similarly, having self-employed parents and entrepreneurs' initial size of business also indicate a causal relationship, as the latter is occurrence of the former. We also investigate how parental self-employment affects business development.

The structure of the chapter is as followed. In section 4.2, we review literature on parental role model, transmission of entrepreneurship intention, entrepreneurs' age and business size. Section 4.3 briefly describes methodology. Section 4.4 presents the results and the last section concludes the findings of the paper.

4.2 Literature Review: Parental Role Model and Entrepreneurship Intentions

A large number of studies on entrepreneurship role models has emphasized the dominant role of parents (Chlosta, et al., 2012; Mungai & Velamuri, 2011; Schmitt-Rodermund, 2004; Schröder & Schmitt-Rodermund, 2006). Bosma et al. (2012, p. 422) identify four dominant functions of role models in entrepreneurship, which are “learning by example”, “learning by support”, “increasing entrepreneurial self-efficacy” and “inspiration/motivation”. In the case of parental role models, by being exposed to parents for most of childhood and adolescence besides school, children can be inclined by all four functions in a “strong ties” relationship. Later in adulthood, entrepreneurs' weak ties relationship may bring about new ideas and opportunities, but in the earlier foundation period, parental strong ties role model appears to be the most effective way to build a

solid, resilient entrepreneurial profile². Furthermore, parents can be considered natural “mentors” for children to learn entrepreneurship skills (Kim, et al., 2006).

Applying Bandura (1977)’s social learning theory, Chlosta, et al. (2012) explain the positive influence of parental role model on children’s decision to enter entrepreneurship, which is moderated by personality, especially individual’s openness. The mechanism implies that children observe their parents’ actions hence transfer these hints into “internal codes”, which form mental models (Bandura, 1986) and determine their decisions in entering entrepreneurship (Schröder & Schmitt-Rodermund, 2006).

Not only affecting offspring’s intention and actual decision to join business, self-employed parents also have a lasting impact on their children’s performance in business after the foundation process. Entrepreneurs with working experience in family members’ businesses have better outcomes with their later own businesses (Lentz & Laband, 1990). By distinguishing between paternal and maternal self-employment, Georgellis, et al. (2005, p. 424) found that parents have an important influence on children’s business creation, but less impact on survival probability of their businesses.

Under a life course perspective, Aldrich & Kim (2007) sort age under influence of parental occupational inheritance into three categories: (1) childhood under the age of 12; (2) adolescence from 12 to 21 years old and (3) adulthood over the age of 21, of which they hypothesize significant parental effects differ from one period to another. In particular, during childhood genes and nurturing play the most important transmission role, whilst adolescence acquires the most human capital and adulthood obtains mainly social and physical capital.

² For categorization of strong ties and weak ties relationships, please see Granovetter (1973)

4.2.1 Transmission Channels of Entrepreneurship Intentions: Nature vs Nurture

There are two main bodies of research about the intergenerational transmission channels of entrepreneurship. The first strand of literature is on the role of nature and stresses the importance of an “entrepreneurial gene.” The respective papers combine insights from neuroscience and economics (Thurik, 2015; Van der Loos, et al., 2011; Nicolaou, et al., 2008). Besides, studies about the impact of entrepreneurial traits (Crant, 1996; Chlosta, et al., 2012) can be also regarded as research exploring the “nature”-component of intergenerational transmission since traits are arguably exogenous factors similar to genes; unmalleable and difficult to alter, although there are arguments that traits “are dynamic and potentially reversible processes occurring throughout the lifetime” (González-Pardo, 2013, p. 9).

Nurture, on the other hand means the transfer of resources via social interaction. Transmission channels via heritage can be grouped into human and non-human capital transfers through generations. Human capital transfer in the form of entrepreneurial skills set can be divided into general managerial skills and enterprise/industry specific skills. Managerial skills are transferable, soft skills like leadership and management skills, or even accounting and bookkeeping which children can learn from entrepreneurial parents. Formal education provides children of non-self-employed parents with job specific skills and occupational skills, but do not formally provide entrepreneurial specific skills. Task-specific skills are taught in form of broader subjects and topics, whilst entrepreneurial skills are more likely an integrated combination or sets of skills that can be improved by “learning by doing” (Lentz & Laband, 1990).

Industry knowledge, on the other hand, is “hard” knowledge, regarded as enterprise-specific human capital / industry or firm specific business experience (Fairlie & Robb, 2007). By visiting entrepreneurial parents’ working place, children learn insider

information about the business sector, as well as enhance pro-business attitude, hence build up intention in joining the particular business.³

Non-human capital transfers are mainly physical assets of parents' business, as well as brand name loyalty and business contact networks. Family members have greater interest in success of their children; therefore, they transfer capital to their children rather than outsiders (Pasquier-Doumer, 2013). Empirical evidence from Dunn & Holtz-Eakin (2000) shows that self-employment parents are three-time wealthier on average than non-self-employment parents, and Georgellis, et al. (2005)'s statistics confirm richer individuals are also more likely to transit to entrepreneurship. Children of entrepreneurial parents may also choose to follow their heirs' careers because they expect better income than other paid job occupations.

Parents' business contact networks with friends doing similar businesses and their established relationships with customers and clients can be beneficial to children (Fairlie & Robb, 2007). In this regard, Fafchamps & Minten (2002) point out that "social network improve the circulation of reliable information about technology and market opportunities as well as the blacklisting of unreliable agents". By having such information, entrepreneurs can have higher probability to avoid failure, especially at the early stage of their businesses. To sum up, nature and nurture represent the two channels that explain individual's decision in becoming entrepreneurs.

4.2.2 Parental Self-Employment and Entrepreneurs' Entry Age to Business

In general, the variable age is treated as a factor exogenous to the utility function of the decision maker and is introduced indirectly in analytical models (Levesque & Minniti, 2006). Especially in entrepreneurship research, entrepreneurial age is usually categorized as a proxy explaining other outcomes that, in turn, predict entrepreneurial choice. So, a person's age can be a good prediction to that person's entrepreneurial tendencies that

³ Industry knowledge does not apply nor has little effect if children found business in far different sector compared to their heirs though.

nevertheless, varies across space and time (Lévesque & Minniti, 2011; Backman & Karlsson, 2017; Bönnte, et al., 2009; Wyrwich, 2013). Entrepreneurs' age is also subject of analysis in research on nascent and latent entrepreneurship (Davidsson & Honig, 2003).

Levesque & Minniti (2006) theoretically suggest the peak age for entry to entrepreneurship lies between 25 and 35 year of age. Uusitalo (2001) indicates the peak age of 44 for Finnish data. Statistics from Kauffman Firm Survey shows that the peak age for American first-time founders concentrates highest in the late thirties and early forties (Stangler & Spulber, 2013). A more recent study from Sweden shows the turning point is at about 46 years of age (Backman & Karlsson, 2017). German data regional age structure also confirms the U-shape relationship (Bönnte, et al., 2009). It is important to note that demographic structures change over time, hence data for different period of the same or across country may vary, which lead to different peak entry age observed although the pattern of the inverted U-shape remains.

It is a well-established fact in the literature that the relationship between age and entrepreneurial choice follows an inverted U-Shape (Evans & Leighton, 1989a; Evans & Leighton, 1989b; Singh & DeNoble, 2003; Backman & Karlsson, 2017; Levesque & Minniti, 2006; Stangler & Spulber, 2013; Uusitalo, 2001; Bönnte, et al., 2009). The propensity of starting a firm, first, increases in younger ages while it decreases in later ages. This relationship is primarily explained by the hypothesis that the accumulation of resources required for launching a venture takes time. One can think of accumulated savings but also of work experience. The decrease of entrepreneurial age in later ages is often explained by increased risk aversion and a growing preference for economic activities which yield immediate income streams and is not necessarily achieved in the first time after launching a venture (Levesque & Minniti, 2006).⁴

We argue that if entrepreneurial resource access, in terms of finance and skills, is superior in the presence of entrepreneurial parents than resource accumulation for being able to

⁴ In other strand of literature, Cooper & Dunkelberg (1986) surveyed how ownership types differentiate by entry age. Results show entrepreneurs who enter business at a younger age has a higher percentage of ownership as inheriting than self-starting (p. 63).

start a firm should take less time. Accordingly, entry age of kids of entrepreneurs should be lower on average. For example, offspring have the chance to learn by examples of real “entrepreneurs” from their own self-employed parents, thus shorten the time for accumulating entrepreneurial skill sets to enter a business. Besides, having direct support from parents in guiding to entrepreneurship, children also increase entrepreneurial self-efficacy and get inspiration/motivation sooner to form own business. Similarly, specific industry knowledge learned from parents at early age could directly help children in stepping in the same field of business. Children of self-employed parents have the opportunity to engage into their parents’ business workplace since young age, thus being able to accumulate pre-market working knowledge to start a similar business. There children can learn insider information, have a realistic future job preview, as well as enhance pro-business attitude at earlier age even before entering working age.⁵ Furthermore, physical assets transfer from successful entrepreneurial parents may help their offspring jump start at the beginning of entrepreneurship career, both in terms of time (earlier age) and scale (bigger business in size). Financial support from self-employed parents helps children to shorten the capital accumulating process prior to formation of their first business. The linkage should be stronger when children open their business in the same field as their parents, as they can inherit both tangible and intangible assets from their parents or even grandparents or extended relatives (as a “family tradition”). Based on these arguments related to financial resources and entrepreneurial skills, we expect the U-shape to shift to the left, with both lower median and peak age for children of self-employed parents. We hypothesize:

H1: Entrepreneurs with parental self-employment enter business at younger age than entrepreneurs without parents in self-employment.

⁵ The argument is not fully applicable for children who decide to form business in different sector to their parents.

4.2.3 Parental Self-Employment, Start-up Size, and Post-Entry

Business Development

Ajzen (1991, p. 181)'s theory of planned behaviour states that intentions are indications of how much effort people are planning to exert in order to perform a behaviour. Carr & Sequiera (2007, p. 1095) imply that exposure to prior family business serves as an important intergenerational influence on entrepreneurial intent. Family business exposure of entrepreneurs consists of having parents and/or other family members owning a business as well as having worked for a family member's business. Initial bricolage activities such as writing a business plan, looking for equipment, saving money, developing a product and service from scratch, or formally summed up as an early planned start-up event sequence (Carter, et al., 1996) can be considered past behaviour to predict future intention in carrying out larger business plans, thus linking to the ability to form bigger sized business.

Criaco, et al. (2017) show that perceived parents' performance in entrepreneurship enhances offspring' both desirability and feasibility in forming business. Recognizing the ability to start early, big and grow fast, offspring of self-employed parents favour entrepreneurship over other alternative paths of further education and employed careers. In general, perceived desirability and feasibility to start-up bigger at earlier age serves as the bridge in connecting entrepreneurship intentions and the ability to found actual business.

By having entrepreneurial parents, children learn tacit knowledge of doing business within family (informal institutions) via different and diverse transmission channels. By observing parents managing a number of employees, children also learn pros and cons in leadership skills; hence get the ability to employ more people at the starting of business. Human and non-human capital transfer from parents to children should also enhance offspring's ability to manage bigger businesses. Entrepreneurial specific skill sets learnt by children by observing their parents' work also cover management and leadership skills, which contribute to their ability to manage a larger amount of employees. Besides receiving

financial and managerial resources from self-employed parents, children may inherit the ability to respond successfully to environmental change. This pre-experience of adaptability and dealing with multi-task and diverse employees enables them to manage bigger businesses. We can expect when children observe their parents running businesses and arrange works for a number of employees, they can observe, learn and also be motivated to manage a greater number of employees. Based on these considerations, we hypothesize:

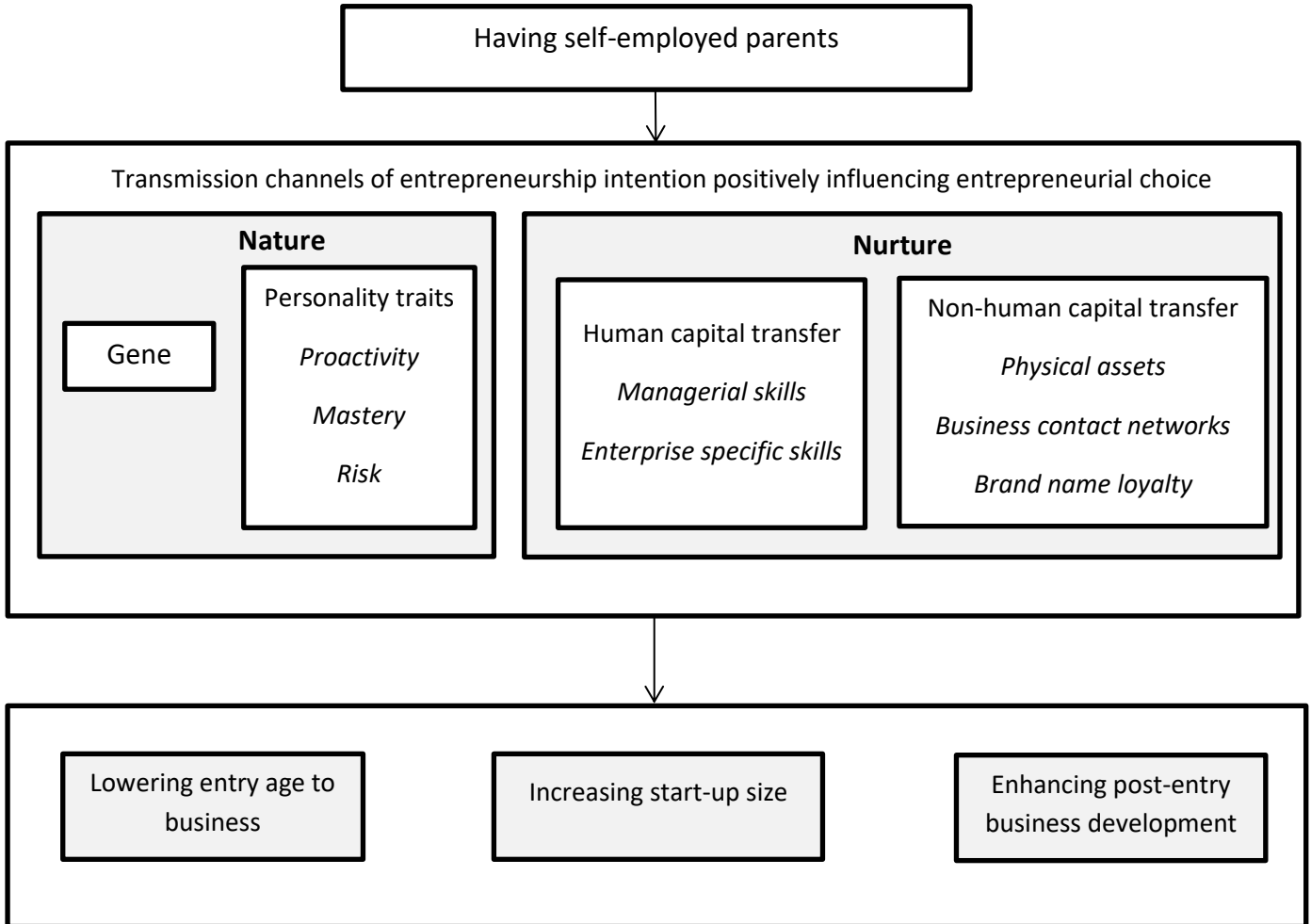
H2: Entrepreneurs with parental self-employment create bigger sized businesses at start-up.

Post-entry business development is an important aspect with respect to firm's success (Fischer & Reuber, 2003), because firms acquire sizable number of employees either by starting big or growing fast afterward. Firm growth is crucial for policy makers, as it is well linked to job creation and regional development (Acs & Armington, 2006; Storey, 1994). Entrepreneurs' characteristics are most likely to influence firm's growth (Gilbert, et al., 2006; Davidsson, 1991). Colombo & Grill (2005) intensively tested education and experience for growth of Italian technology-based firms. In general, entrepreneurs' characteristics such as educational background (Sapienza & Grimm, 1997), start-up experience (Box, et al., 1994; Baum, et al., 2001), working experience (Baum, et al., 2001; Box, et al., 1994; Cooper, et al., 1994) have direct effects on sales and employment growth of new ventures. Parental self-employment, however, are not exclusively researched as a key component of entrepreneurs' characteristics in determining firms' development. However, based on the arguments provided in section 2.1 to 2.3, we hypothesize:

H3: Businesses from entrepreneurs with parental self-employment have better post-entry business development

Figure 6: Transmission Channels of Entrepreneurship Intentions

The figure summarizes our conceptual framework outlined in section 4.2.1 to 4.2.3



4.2.4 A Quick Note on Intergenerational Transmission of Entrepreneurship in Developing vs Developed Countries

Mainstream studies on parental effects on entrepreneurship focus mainly on data from developed countries. Reproducible studies and data for intergenerational transmission from African countries are largely missing. There is a vast difference in institutional settings between developed and developing countries, especially the role of family and clan. The former's family structure favours nuclear family with small number of children, while the number of kids in developing countries is typically much higher. There are also stronger relationships with extended kinship, which affect the mechanism of role model influence through generations. There is also an expectation for stronger influence of parental role model in developing countries than in developed countries, where collectivism is regarded more important than individualism.

Aldrich & Cliff (2003)'s theory of family embeddedness perspective illustrates a broad and deep picture of how transforming structure of family throughout history have spawned entrepreneurial potential via opportunity recognition, venture creation decision and resource mobilization process. In this regard, African family structure and the role of clan also differs from the West's formation of nuclear family, especially they do not go through and experience the same Industrial Revolution, which has made nuclear family in the West grow smaller and lose many of their previous role relationships. This suggests the intergenerational transmissions of entrepreneurship within family are stronger in Africa than in the West, because the role and influence of parents and relatives, for instance grandparents, are much stronger.

Due to African societies' context of high inequality and low social mobility (Cogneau, et al., 2007), strong intergenerational transmission of occupation in particularly entrepreneurship emerges from the society structure which lacks sufficient formal institutions (e.g. education and training) for adolescents to choose their careers on.

Finally, children of self-employed parents who have early comparative advantage by learning tacit knowledge in entrepreneurship even without realizing it, decide to follow

their parents' footsteps voluntarily (Lentz & Laband, 1990). However, from opposite side of the coin, children's decision to step in entrepreneurship is also influenced by their parents, sometimes in a more persuasive way rather than free will, which maybe more often the case in patriarchal societies, prevalent in developing rather than in developed world.

4.3 Methodology

Data used in this chapter is described in section 2.4.

The focus in our analysis is on young firms. Therefore, we only consider firms that were started since the year 2000. The bulk share of firms in the sample is started in this period (86 percent). We did not consider business owners that indicated that they had prior business experience because we are not able to control for firm characteristics. Entrepreneurs whose current business is not their first start-up are excluded, thus there is no serial entrepreneurs considered. Employers who found their business when they are younger than 18-year-old or older than 60-year-old are also excluded from the analysis.

The main independent variable examined in this research is parental entrepreneurship, which is a binary variable that indicates whether the entrepreneur has at least a self-employed parent.

The variable entry age to business is measured by the question "what was your age when you opened your first business?". The data on entry age is double checked for credibility by comparing with data on current age, business duration, and previous business exposure.

There are different ways to measure size of the business. In our study, the variable start-up size is measured by the number of employees hired at the beginning of the business. Our measures for post-entry development are firm size measured by the number of employees in 2016. In the respective models, level effects are controlled for by the initial firm size and dummies for start-up years.

Cooper, et al. (1989) argue broad factors influencing the size of business, which generally are background of entrepreneurs, processes of starting and subsequent patterns of development. Overall, different models consider variant aspects of determinants of start-ups, but entrepreneurial background always centres as a key component of new venture performance. The authors discovered that entrepreneurs in the US who start larger firms tend to have more education and management experience, being male and have partners. From an investigation of 1079 firms in Portugal, Mata (1996) found that older and better educated entrepreneurs form larger companies. Colombo, et al. (2004) studied 391 Italian founders in high-tech sector and concluded that industry-specific knowledge and managerial and entrepreneurial experience are more important than general education and general, non-industry-specific working experience in helping entrepreneurs found bigger businesses.

Firms' growth can be measured in various ways, which can be grouped into growth of employment, sales and market share (Murphy, et al., 1996). Empirical evidence shows strong correlation among these three size-based measurements of growth (Baysinger, et al., 1981). In our research, firms' growth is measured by employment growth, which indicates an expansion in the scope of firm operations or an immediate increase in business (Hanks, et al., 1994).

Table 8: Summary of Continuous and Binary Variables

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
Country (Ghana = 0; Kenya = 1)	141	0.4822695	0.5014669	0	1
Age (in years)	141	35.57447	8.565908	23	60
Gender (Male = 0; Female =1)	141	0.2836879	0.4523943	0	1
Entry age to business (in years)	141	28.46099	7.048321	18	53

Current size of business	139	7.294964	7.664574	0	50
Start-up size of business	139	2.71223	3.15366	0	25
Education duration (in years)	140	15.70714	2.857519	6	23
Entrepreneurship education	140	0.5957447	0.4924969	0	1
Parental self-employment	141	0.4964539	0.5017699	0	1

A wide range of control variables are applied into the model. The first control variable is the gender of business owners. Various studies consider different opportunity in forming business for female entrepreneurs. In terms of barrier to entry, Kuada (2009) found out that female entrepreneurs in Ghana have more difficulties in accessing bank financing. However, they compensate this liability by cultivating social relationships and using the social capital derived from them as a resource leveraging mechanism.

Regarding education background of entrepreneurs, education measures the duration in years of schooling and is computed differently between Ghana and Kenya, because two countries have different schooling system. However, they are standardised based on the questions of how many years of formal education the entrepreneurs have taken, excludes gap years of years in labour markets, but includes nursery/kindergarten since nursery takes an important part in formal education in both countries. Previous studies show substitution effect between parental role and education level in entrepreneurship intention (Fritsch & Rusakova, 2012), substitute of formal for informal human capital obtain with self-employed parents (Colombier & Masclat, 2008). We exclude cases of entrepreneurs who do not have any formal education, and those who acquire their ventures other than self-establishment (for example, via inheriting or buying).

An additional binary control variable added in the analysis is business education, which asks whether the entrepreneur has taken any formal course related to entrepreneurship and business during their time at college. We control for this variable because there is evidence that this can affect entrepreneurial intentions (Owusu-Ansah & Poku, 2012).

Region dummies capture six areas according to the cluster sampling: Accra Central, Accra North, Accra West, Nairobi Central, Nairobi West and Nairobi East. We also control for the sector the business owners are active in.

Categorisation of sectors is done by two questions to respondents, first question to describe which products/businesses they provide and second question to select the sectors best fit to their types of products. Of which the second question is recorded as the main answer and the first question is to confirm the information. We grouped firms into six main sectors based on the nature of business' activities, namely retail, wholesale (sales of goods and products), production (of goods and products), casual services (dominantly rental and catering services), professional services (e.g. legal, financial, education services) and technical services (e.g. IT, logistics, repairing services). Some businesses' activities cover more than one sectors, thus the first main major sector that dominates the business is selected for the analysis of this paper.

Further control variables are religion dummies and ethnicity dummies. Religion dummies indicate whether the entrepreneurs are Christian, Muslim, or belong to other faith, with consideration of start-up conditions vary among different religious background. Ethnicity dummies consider the categorisation of majority ethnicities represented in the dataset, which are Ga, Fante, Ewe, Akan, and Asanti in Ghana; and Kikuyu, Lou, Kamba, Kisii, and Luhya in Kenya.

4.4 Results

4.4.1 Entrepreneurs' Entry Age to Business

Results from Table 9 show that there is a significant influence of parental role models on the outcome of entrepreneurs' entry age to business. In model (3), including the full set of controls, an average entrepreneur with self-employed parent would start their first business at an average of 2.5 years sooner than those without a self-employed parent.

The findings confirm the hypothesis H1 on the effect of parental entrepreneurship on entrepreneurs' ability to start-up sooner.

Table 9: Parental Entrepreneurship's Effect on Entrepreneurs' Entry Age to Business

DP: Entry age to business VARIABLES	(1)	(2)	(3)
Parental Entrepreneurship	-2.249*	-2.386**	-2.489**
	(1.175)	(1.187)	(1.137)
Gender			3.521**
			(1.646)
Education			-0.0411
			(0.269)
Entrepreneurship education			-0.0936
			(1.611)
Sector dummies	No	Yes	Yes
Region dummies	No	Yes	Yes
Religion dummies	No	Yes	Yes
Ethnicity dummies	No	Yes	Yes
Start-up year dummies	No	Yes	Yes
Constant	29.58***	38.85***	38.14***
	(0.873)	(4.433)	(6.220)
Observations	141	141	140
R-squared	0.026	0.382	0.416
Adjusted R-squared	0.019	0.151	0.171

Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). For the sake of brevity, the coefficients and standard errors of 6 sector dummies, 6 region dummies, 3 religion dummies, 9 ethnicity dummies and 16 start-up year dummies are not shown in number in the table

4.4.2 Business Size at Start-up and Post-entry Development

Table 10 shows that parental entrepreneurship does not have any effect on the start-up size of the business, even when control for entrepreneurs' entry age. Apart from entry

age, the same set of control variables used in Table 9 is applied. Thus, our second hypothesis cannot be confirmed. This is in line with previous research showing that access to financial resources is not the main important driver behind the intergenerational link in entrepreneurship (Dunn & Holtz-Eakin, 2000). It should be noted that entry age is not related to start-up size. Thus, it seems that parental self-employment does not imply that they start their firms larger.

Table 10: Parental Entrepreneurship's Effect on the Start-up Size of Business

DP: Start-up size VARIABLES	(1)	(2)	(3)
Parental entrepreneurship	-0.00414 (0.536)	0.146 (0.487)	-0.403 (0.541)
Entry age		0.0662 (0.0488)	0.0482 (0.0454)
Gender			0.637 (0.756)
Education			0.332* (0.172)
Entrepreneurship education			0.0268 (0.840)
Sector dummies	No	Yes	Yes
Region dummies	No	Yes	Yes
Religion dummies	No	Yes	Yes
Ethnicity dummies	No	Yes	Yes
Establishment year dummies	No	Yes	Yes
Constant	2.714*** (0.428)	0.758 (1.212)	-9.145** (4.468)
Observations	139	139	138
R-squared	0.000	0.022	0.404

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 11: Parental Entrepreneurship's Effect on the Current Size of Business

DP: Current size of business VARIABLES	(1)	(2)	(3)	(4)
Parental entrepreneurship	2.321* (1.293)	2.186** (0.925)	Yes	Yes
Entry age		0.0118 (0.0677)	-0.102 (0.0800)	0.0157 (0.0690)
Start-up size		1.504*** (0.206)	1.554*** (0.218)	1.322*** (0.231)
Parent x Entry age			0.251** (0.125)	
Parent x Start-up size				0.559 (0.441)
Gender		-0.639 (1.012)	-0.714 (0.984)	-0.768 (1.026)
Education		0.0755 (0.194)	0.0641 (0.187)	0.131 (0.196)
Entrepreneurship education		0.0644 (1.188)	0.0104 (1.171)	-0.262 (1.206)
Sector dummies	No	Yes	Yes	Yes
Region dummies	No	Yes	Yes	Yes
Religion dummies	No	Yes	Yes	Yes
Ethnicity dummies	No	Yes	Yes	Yes
Establishment year dummies	No	Yes	Yes	Yes
Constant	6.143*** (0.764)	0.380 (5.459)	4.009 (5.404)	0.812 (5.475)
Observations	139	138	138	138
R-squared	0.023	0.721	0.730	0.729
Adjusted R-squared	0.016	0.594	0.602	0.601

Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). The dummy variable for parental entrepreneurship cannot be reasonably interpreted in model 6 and 7 because of its interaction with entry age. The coefficient for the dummy measures the effect of parental entrepreneurship in the purely hypothetical case that the entry age is zero. To avoid any confusion, we do not show this peculiar coefficient.

Table 11 tests parental entrepreneurship's effect on the current size of the business which indicates post-entry business development. Result shows that parental entrepreneurship has a positive and significant effect on the current size of the business once we control for start-up size. Model (2) indicates that firms of business owners with self-employed parents have an average of 2.3 more employees than other business owners without self-employed parents. Thus, we can confirm our hypothesis 3 according to which parental self-employment is positively related to post-entry firm development.

The contrasting results for start-up size and post-entry business development might be explained by self-selection effects. Business owners with self-employed parents may not need to start larger for achieving a positive firm development since they have continuous entrepreneurial resource access due to the entrepreneurial background of their parents. This may help them to achieve the minimum efficient scale to operate in the markets and sustainable development without necessarily starting larger.

In addition to testing our hypotheses, we explore the interaction of parental entrepreneurship and entry age in the models on current size. The constitutive term for parental entrepreneurship cannot be reasonably interpreted (for details, see notes to Table 11). The constitutive term for entry age measures the effect for respondents without self-employed parents. Apparently, there is no relationship of entry age with business size at the time of the interview for business owners without self-employed parents. The interaction between entry age and parental self-employment is significant and positive, which means an increase in entry age is associated with an increase in current size when entrepreneurs have self-employed parents. The effect size is 0.25 employees per year. Model (4) further introduces an interaction of parental entrepreneurship with start-up size, which shows no significant result. The additional analysis of interactions shows that kids of entrepreneurs grow larger when they start their ventures later. This finding can be interpreted as a self-selection effect. If kids of entrepreneurs plan to grow a venture they enter the market later. If they do not have particular growth intentions they already start at younger ages because the entrepreneurial resource transfer of parents already suffices to establish themselves in

the market. If they plan to achieve growth they might postpone market entry because the mark-up in entrepreneurial resources due to the entrepreneurial background of parents may not yet suffice and needs to be enriched by additional labour market experience and resource accumulation.

4.5 Conclusions

The paper addresses several gaps in the literature on the intergenerational link in entrepreneurship. First, it is one of the few studies in the context of developing countries. Second, it analyses how parental self-employment is related to entry age and initial start-up size. There is a surprising lack of research on this issue even though the literature on parental entrepreneurship effects and the strand of research on the role of age for entrepreneurship suggest that there should be a negative relationship between parental self-employment and entry age. We also show in a developing country context that parental self-employment is positively related to post-entry development of firms.

The study has several implications for policy. If there is a link between parental self-employment and business performance in a developing country, appropriate policy for the development of small family businesses should be improved. Furthermore, studying the effect of parental entrepreneurship on entry age and start-up size of business informs policy makers about the importance of the intergenerational link of entrepreneurial choice beyond entrepreneurial choice. Results on entry age help target appropriate development schemes for young entrepreneurs and tailor relevant entrepreneurship programs which are related to age. Findings on size of business are important in connection with management strategies for sustainability of small businesses. They help entrepreneurs and policy makers to understand the mechanisms of how to create bigger-than-one-person business, a vital point in entrepreneurship development in developing countries.

Regarding the limitations of the study and the avenues for future research, the scale of the current study bounds the potential of examining further hypotheses. The same applies to the external validity of the results concluded in this paper. A broader survey with case studies not limited to Ghana and Kenya and a time scale not limited to a year would provide a more comprehensive panel dataset for a deeper understanding of the role of parental role models in entrepreneurship in developing countries. Another limitation of the paper is that it is not impossible to disentangle the transmission channels affecting entry age and business size. Thus, future research on the topic of intergenerational transmission of entrepreneurship should focus on these different channels.

5. Sub-Saharan Africa in a Globalised World: Toward a Knowledge-Based Model of Entrepreneurial Economy

5.1 Introduction

Under the world's ever globalised economy and waves of mega trade deals, not only governments, regions, but also firms and individuals are continuously interconnected. Sub Saharan Africa is not an outsider, but in fact a key player in shaping the world's future. The continent with the highest growing rate of population will be home of more than 2.5 billion citizens by the end of 2050, double to the its amount today (United Nations, 2017). Challenges and opportunities facing SSA today will have spill-over and multiply effects spreading the ever more globalised world tomorrow. We can foresee either more poverty, conflicts and illegal migrations caused by young and jobless generations, or a more prosperous and sustainably developed Africa rooted from skilled and innovative work forces.

With this high level of population growth, SSA is also long deemed by other developmental phenomena. To pursue a high level of living standards, there is a need for an approach of sustainable development, consisting of stable growth, equal distribution of wealth and environmental protection. Albeit achieving high growth rate in recent years, the majority of African nations are under the long-term threat of falling into middle income trap, or even low income trap (Felipe, et al., 2012; Luiz, 2016). To sustain the growth rate and avoid falling into such imminent trap, SSA must break away from the current global trend, by taking the lead and not becoming the follower. Primary resources are traditionally extracted from the continent, and with the rising labor cost from China and other emerging countries, SSA will soon become the alternative low-wage mass-production manufacturers. In term of ecological dumping, SSA is at a high risk of becoming the last haven for production of pollution-intensive goods, or dumping filed of the world under a race to the bottom of environmental standards (Konisky, 2007; Rudra, 2008; Tran,

2013). Beside the need for international cooperative action response to climate change (Freytag & Wangler, 2013), environmental problems will only be radically tackled when there is a huge cost imposed on production of pollution-intensive goods, where SSA lays the bricks for the last place for these industries to reallocate. Furthermore, under that foreseeable scenario, without a proper political and economic institutional reform, a high level of inequality of distribution of income and wealth in SSA will certainly persist.

According to the World Economic Forum (2017)'s Global Competitiveness Report and Global Entrepreneurship Monitor clarification, most of SSA countries are grouped as factor-driven economies, the lowest group in the scale of five levels of development: factor-driven, efficiency-driven, innovation-driven and two transition groups in between. Only a few countries have reached efficiency-driven level such as South Africa and Namibia, and none has the status of innovation-driven level. A factor-driven economy which relies solely on abundant, cheap and low-skilled labours seems not optimal for a long-term plan, as the foremost innovation-driven economy should be the desire for a country or a group of nations' perpetual development. To escape the trap of becoming low-wage, mass production manufactures and aim at leapfrogging to innovation-driven economies, there is a need for radical institutional reform. The 20th century witnesses the emergence of some of least developed and war torn countries in Asia. South Korea and Taiwan are two countries devastated after the Second World War and the Korean War, have grabbed the chance to become the leading manufacturer of semiconductors and electronic products worldwide. Israel has been dubbed the "start-up nation" from its high economic development rooted from networks of high-tech start-ups and large venture capital industry (Senor & Singer, 2009). China and Vietnam focused heavily on light manufacturing such as clothes, shoes and home appliances, which has tremendous impact on poverty reduction (Dinh, et al., 2013; Dinh, 2014). In the question of finding appropriate strategy for SSA to leapfrog, a number of advocacies have been proposed. Similar approach for mass production of light manufacturing products has been suggested for SSA, with case studies of Zambia and Tanzania (Dinh, et al., 2012; Dinh & Monga, 2013; Dinh, 2013). Draper, et al. (2016) examine the condition of Southern African countries in

application of Flying Geese Model (Akamatsu, 1962) and Gateway Model to attract and harness MNCs for local industry development.

The dilemma of developing mass low-wage production and the urgency of job creation point toward the model of “entrepreneurial economy”, or entrepreneurial society, observed by Audretsch (2007; 2009a; 2009b; 2014) and Thurik (1999; 2009; 2011), in their joint works (Audretsch & Thurik, 1997; 2000; 2001; 2004; 2010) as well as with others (Audretsch & Sanders, 2007; Thurik, et al., 2013). The model is also thoroughly analysed by other economists (Coase & Wang, 2011; Stam & Bosma, 2014; West & Bamford, 2005; Parker, 2001; 2008; Amarante, et al., 2011; Naudé, 2010; Abdesselam, et al., 2014). In this model, the traditional approach of the managed economy with input of mainly land, labour and capital is proposed to be replaced by the emphasized input of knowledge. Emerged from the force of globalisation, the structural transformation from the managed, routinized economy dominated by a handful number of large corporations to the more dynamic entrepreneurial economy in favour of SMEs has provided both low level of unemployment and high wage in OECD countries since the 1980s. The transformation was characterized by an industrial downsizing process and the rising number of smaller firms emphasizing knowledge as the most important factor of production.

Albeit the model of entrepreneurial economy has been set up to better understand of the role of entrepreneurship in advanced economy (Thurik, 2009), the analysis of the mixed managed-entrepreneurial economy model of emerging countries is under-researched (Naudé, 2010). Thurik (2011) proposes an approach of the entrepreneurial economy for emerging countries with examples of China, Indonesia, Brazil and Mexico; however, developing countries or fragile states in SSA are still off the radar. The transformation from the managed to entrepreneurial economy in the Western world is considered a natural process under the force of globalisation; however, it is still ambiguous whether the model of entrepreneurial economy fits the conditions of developing countries. In this paper, the feasibility of application of such model as an advocacy for entrepreneurship development in SSA is analysed.

Section two grabs the development of the entrepreneurial economy in recent decades, given the obsolete of the managed economy in developed countries. Section three contrasts the two models of the managed and entrepreneurial economy and discusses how SSA's entrepreneurship structure fits in under different dimensions of sources of growth, external environment, firms' function and government policy. Section four proposes applicable policy implication, and the last section concludes.

5.2 SSA Entrepreneurship Structure in the Global Economy

5.2.1 Globalisation and the Emergence of the Entrepreneurial Economy

Prior to the rise of globalisation at the end of the 20th century, the high level of transaction costs led to increasing efficiency of mass production (Coase, 1937; Williamson, 1975; Knight, 1921), with the main production factors are land, labour and capital (Cobb & Douglas, 1928; Solow, 1956). In the managed economy, large corporations had dominated economic activities, with Taylorism, Fordism and Keynesianism were central concepts (Schumpeter, 1942; Chandler, 1990; Caves, 1996; Teece, 1993). However, knowledge has recently been identified as the vital input in the endogenous growth model (Romer, 1986; Lucas, 1988; 1993; Krugman, 1993), and production has included the rapid increase in the knowledge intensity (Katz, 1999; Acemoglu, 2002). Knowledge intensity production leads to shrinkage of demand for the blue collars and exploding demand for the white collars, or the "rise of creative class" (Florida, 2004). Waves of industrial downsizing were observed (Berman, et al., 1998), new small business thrived (Brock & Evans, 1989) and entrepreneurship has emerged as the engine of economic and social development (Carree & Thurik, 2003). This trend is documented as the shift from the managed to the entrepreneurial economy (Audretsch & Thurik, 1997; 2000; 2001; 2004; 2010) and momentarily fueled by globalisation.

Globalisation has been the catalyst for the re-emergence of entrepreneurship in the Western world since the 1980s (Audretsch & Sanders, 2007), which is channelled via three exogenous factors. Firstly, globalisation opens the door for corporations in the West to access the pool of unskilled but much lower cost labours in developing countries. Labour costs in Western Europe and North America cannot rival China, Southeast Asia and Central and Eastern Europe under the rising international trade. In avoiding losing market shares, producers in high cost countries must either reduce wages, substitute equipment and technology for labours or move productions to low cost countries. Under the pressure of a supply shock of unskilled labour to the world economy, traditional large mass-production corporations lose their comparative advantage. The second factor is the global reduction of political risk at the end of the Cold War. Foreign Direct Investment from the West to China and Eastern Europe was prohibited under the era of political rivalry between the two blocs of capitalism and communism. The decrease in the level of political risk worldwide helped stimulate outsourcing and offshoring activities between the two former blocs. The third factor is the communication revolution, which substantially drops the marginal cost of information transformation across geographic space. The diffusion of Internet and Communication Technology (ICT) leads to the fall in unskilled labour demand (Autor, et al., 1998; Autor, et al., 2005), as well as the shift of firms' activities towards design, sales, marketing and automated production (Caroli & van Reenen, 2001).

These restructures have resulted in waves of industrial downsizing, observed by Berman, et al. (1998) as the dramatically decrease in demand for less skilled workers, but at the same time exploding demand for skilled labours throughout the OECD. In the 1980s, the number of firms per capita and trademarks also skyrocketed in the US (Greenwood & Uysal, 2005), and large firms were no longer the main job providers, while most of new jobs emanated from small firms (Birch, 1981). Knowledge-based economic activity has been rising at exponential level, as Kortum & Lerner (1998) point out that the number of patents has jumped unprecedentedly. It marks the new era when large corporations reduce their sizes, create space for smaller enterprises to enter the markets, termed as the transformation from the managed to entrepreneurial economy. In this

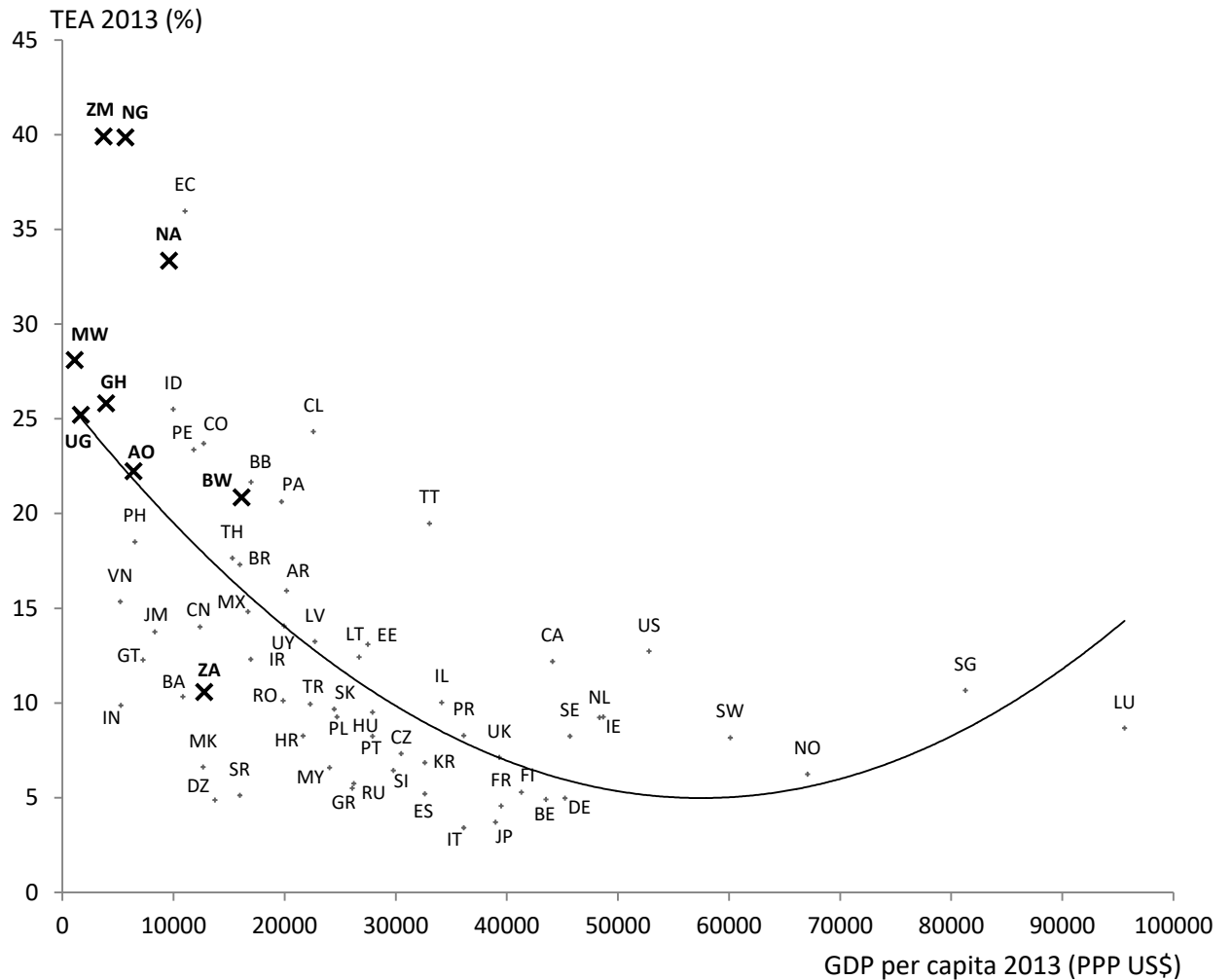
entrepreneurial society, individuals are encouraged to create new ideas and actively commercialize these ideas (Audretsch & Thurik, 2000). The rise of entrepreneurship has in turn sped up the process of globalisation, industrialisation in developing countries and de-industrialisation in developed countries, as well as the further exploration of ICT and entrepreneurial innovation (Audretsch & Sanders, 2007).

5.2.2 Plotting SSA on the Map of Global Entrepreneurship

Development

The regime switch from the managed to the entrepreneurial economy can be observed by time series analysis provided by Wennekers, et al. (2010), which shows the U-shaped relation between the number of firms and time, or inverse U-shaped relation for firm size and time. From 1800 to 1970, the self-employment rates in six industrialized countries (France, Sweden, the U.S., Germany, the Netherlands and the U.K.) continuously drop, but from 1972 to 2007 business ownership rates in labour force in the EU-15 have risen. In another study, cross-sectional analysis using Global Entrepreneurship Monitor data of 37 countries conducted by Wennekers, et al. (2005) shows a U-shaped relation between the Total Early-stage Entrepreneurial Activity (the rate nascent entrepreneurship) and the level of development, both in terms of income per capita and innovative capacity. However, data of the 37 countries provided by GEM in 2002 included South Africa as the only SSA country. The more recent data available from GEM in 2013 has expanded to more than 60 countries, with 9 countries in SSA are included.

Figure 7: The U-shaped Relation between Nascent Entrepreneurship (Total Early Stage Entrepreneurial Activity) and Per Capita Income



SSA is currently characterised by a high rate of entrepreneurship, albeit being dominated by factor-driven economies. Among the countries surveyed, SSA is the region possesses the highest rate of nascent entrepreneurship (termed by TEA – Total Early Stage Entrepreneurial Activity). More than half of countries with TEA larger than 20% of total population are SSA countries (South Africa is the only country out of this range), with Zimbabwe and Nigeria top the chart. Among those, Ghana, Malawi, Nigeria, Uganda and Zimbabwe are classified as factor-driven economies; Angola, Botswana are in transition from factor to efficiency-driven economies and only South Africa is considered an efficiency-driven economy. The majority of most developed countries have witnessed

industrial downsizing and the risen of entrepreneurship in recent decades. SSA's economic structure already embodies a low number of large enterprises and very high percentage of MSMEs, while at the same time many are consider fragile states with high level of uncertainty and heterogeneity. It is argued whether the high rate of entrepreneurship can be seen as a potential to leap frog to innovation-driven stage without experiencing the efficiency-driven stage achieved from the managed economy. To verify the theoretical approach, I first test again the U-shaped relation between the rate of entrepreneurship and the level of economic development with updated data that includes SSA countries.

Table 12: The Relation between Per Capita Income and the Rate of Nascent Entrepreneurship, Actual Business Ownership and Stage of Economic Development

	(1)	(2)	(3)	(4)	(5)
Dependent variables	TEA	TEA	Business ownership	Business ownership	Economic stage
Per capita income PPP	-0.000100 (6.65e-05)	-0.000550*** (0.000170)	-0.000177*** (6.35e-05)	-0.000708*** (0.000204)	0.000565*** (0.000103)
Per capita income PPP squared		5.11e-09*** (1.53e-09)		6.03e-09*** (1.94e-09)	
View on equality	-0.0418 (0.0799)	0.0164 (0.0696)	0.00321 (0.0922)	0.0719 (0.0921)	0.0675** (0.0276)
View on business career	0.135* (0.0747)	0.0686 (0.0767)	0.0798 (0.0965)	0.00118 (0.104)	0.00544 (0.0424)
View on entrepreneur status	-0.105 (0.0885)	-0.138 (0.0842)	0.167 (0.118)	0.129 (0.104)	-0.0805 (0.0501)
Media attention	0.273*** (0.0662)	0.229*** (0.0619)	0.310*** (0.0848)	0.258*** (0.0854)	0.0123 (0.0382)
Constant	0.675 (7.388)	12.69 (9.003)	-11.26 (9.846)	2.926 (10.14)	
Observations	61	61	61	61	61
R-squared	0.463	0.542	0.491	0.551	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In this analysis, the linear and quadratic functions were tested with different dependent variables provided by GEM database. In the first two models, the rate of nascent entrepreneurship (TEA) is measured by the percentage of people who are setting up or owner of new firms. The next two models use the alternative measurement of the rate of actual business ownership. The last model has economic stage categorized into five phases: factor, efficiency, innovation-driven and two transitional stages in between. The level of economic development is measured by per capita income in PPP, of which its data is provided by the World Bank.

This study differentiates from Wennekers (2005; 2010) in the sense that cultural aspects are introduced as control variables. Four indicators measured in the percentage of total population's view of equal standard of living for all, consideration of starting business as a good career choice, view of successful entrepreneurs as high status and national media attention for entrepreneurship are included. These perceptions are informal institutions that reflect the cultural aspects of entrepreneurship, which has an important role in studying the impact of entrepreneurship on economic development (North, 1991; Henrekson, 2007). Perception and view toward entrepreneurship serve as country-specific variables that explain the preference for self-employment (Freytag & Thurik, 2007).

The results show the U-shaped relation holds for the updated data with inputs from SSA countries. The linear relation in model (1) is rejected, while it is still significant in model (3). This means the rate of nascent entrepreneurship no longer correlates with per capita income in comparison with the rate of actual business ownership, which may speculate the acceleration of entrepreneurship activities in innovation-driven economies in the near future. Model (2) and (4) intensify the quadratic relation between per capita income and the rate of entrepreneurship, thus opens the discussion for potential leapfrogging of countries with high rate of entrepreneurship activities. This result aligns with conclusions from van Stel, et al. (2004), which shows the U-shaped better explains the models than

the linear and L-shaped options Model (5) confirms that innovation-driven countries are richer than factor-driven countries.

5.3 SSA Conditions and the two Models in Retrospect

In order to deeper understand the regime switch from the managed to entrepreneurial economy, as well as explore the feasibility of the entrepreneurial economy under SSA's conditions, the fragmentation of the economy under the two regimes is elaborated. Audretsch & Thurik (2001; 1997; 2004) classify fourteen dimensions that represent the trade-offs of the two models, grouped into sources of growth, external environment, firms' function and government policy. The following section examines each dimension viewed in comparison between the two models, in parallel with review of characteristics of SSA economy especially in terms of cultural and demographic aspects.

Table 13: Fourteen Dimensions of the Differences between the Models of the Managed and Entrepreneurial Economy

Category	Managed economy	Entrepreneurial economy
Sources of growth	Globalisation Continuity Jobs or high wages	Localisation Change Jobs and high wages
External environment	Stability Specialisation Homogeneity	Turbulence Diversity Heterogeneity
How firms function	Control Firm transaction Competition or cooperation Scale	Motivation Market exchange Competition and cooperation Flexibility
Government policy	Regulation Output targeting National locus Low-risk financing	Stimulation Input targeting Local locus High-risk financing

Source: Audretsch & Thurik (2001; 2004)

5.3.1 Sources of Growth

5.3.1.1 Localisation vs Globalisation

The distinction between localisation and globalisation as sources of growth comes from the question of how small firms in SSA can compete globally with large corporations originated from already developed economies. In the age of globalisation, standardisation of products and production which flourish in the managed economy destroy local characteristics and idiosyncrasies (Audretsch & Thurik, 2001). A newly formed local beverage firm will have little space to compete with CocaCola or Pepsi. While traditional inputs of land, labour and capital determine mass production in managed economy (Chandler, 1977; Romer, 1990), entrepreneurial economy emphasizes the input of knowledge as a more important factor of production than the traditional ones. Business owners will change the way to treat their employees as pure contribution of labour force, but a precious source of ideas and innovation. These ideas and knowledge come from the characteristics which are varied from region to region, culture to culture. In this sense, diverse culture serves as the source for innovation for new products from localized production networks embedded in innovative clusters, which will sustain jobs, income and independence for local citizens.

Given the current level of development in SSA, local knowledge and culture have not yet been transformed to become a comparative advantage to sustain production. Globalisation is argued to do more harm than good to SSA and developing world as a whole, but more likely to be in the case of economies following the pattern of the managed economy. Entrepreneurial economy model with the focus on knowledge based comparative advantage will not only take advantage of globalisation, but also keep good local environment to sustain culture and idiosyncrasies.

Witnessing the triumph of Kenyan mobile telephony industry in recent years, many would raise the question of how well technology and innovation, especially in ICT, has been helping developing countries in achieving good economic outcome. Kenya has also spread its success to neighbouring countries such as Tanzania, Botswana and Zimbabwe, with

rising mobile banking users. In many countries such as Congo and Zimbabwe, mobile money accounts are registered more than traditional bank accounts (The Economist, 2014). This also indicates a global phenomenon of technology diffusion and spillovers via the South-South transmission channels of innovations among SSA nations, instead of the traditional North-South technology transfer.

With exploding internet technology, a person in SSA can get the most from access to internet for skill upgrading. Appropriate policy implications should target the right infrastructure and human resource investment, with priority for internet access and skilled based training for optimizing use of local knowledge in forming new production and innovation. While information is nearly costless to transmit through the internet, geographical proximity plays an important role in retaining tacit knowledge within the locus of economic activity. As knowledge tends to be developed in the context of localized production networks embedded in innovative clusters, local proximity is crucial in the model of entrepreneurial economy (Audretsch & Thurik, 2004).

5.3.1.2 Continuity vs Change

Change and continuity characteristics are reflected from incentive structure compared between managed and entrepreneurial economy. Innovation in managed economy roots from R&D in large firms, which serves the purpose of profit seeking from greater output and sales (Cohen & Klepper, 1992). Therefore, these so called incremental innovations are limited by lock-in technological trajectory of the firm (Teece, et al., 1994; Henderson & Clark, 1990), in which centralized, hierarchical decision making gives little or no space for extending innovative activity beyond the boundaries. In contrast, entrepreneurial economy provides mechanism for more active role of economic agents to break out of technological lock-in by starting new firms. This mechanism is depicted as trial-and-error experience provided by the market (Jovanovic, 1982; Pakes & Ericson, 1998). The underlying motivation for starting new firm in entrepreneurial economy results not from incremental innovation, but rather from pursuing new but uncertain ideas, or radical innovation.

Given the relatively low concentration of large native firms in SSA, a pursuit of continuity innovations for managed economy model deem difficult, since SSA is late comer in the globalized world with already dominated MNCs from the West and East Asia. Instead of large investment in R&D, an alternative of promoting frugal innovation to pursuit new but uncertain ideas generates comparative advantages for small firms. In the entrepreneurial economy a large number of small firms provide greater diversity to search for different innovation approaches. This diversity generates more opportunities to break out of the boundaries imposed by lock-in technology trajectories, which is more important and efficient in case of high uncertainty (Audretsch & Thurik, 2001). Given the high degree of uncertainty and diversity in SSA, the model of managed economy is less effective to pursuit than the model of entrepreneurial economy. Frugal innovation also requires far less investment, thus SSA is more prone to change than continuity since small firms would benefit more from early stage of innovative activity consists of radical innovation.

5.3.1.3. Dilemma of Jobs vs High Wages

In the managed economy, there is a tradeoff between high employment level and high wages: unemployment could only be reduced at the cost of lower wages. However, since the late 1980s waves of corporate downsizing in Western world did not impose the rise of unemployment, but in fact the mass production jobs cut from large corporation were replaced by more jobs created from small, newly established firms. This marks the transition of managed to entrepreneurial economy, observed in the United States (Audretsch, 1995), the United Kingdom (Konings, 1995; Robson & Gallagher, 1994), Canada (Baldwin & Picot, 1995) and the OECD in general (Carree & Thurik, 1999). Econometric evidence from Audretsch, et al. (2002) shows that countries with economic structure shifted toward smaller firms enjoy higher growth rates, which means high level of employment and high wages are achievable in the entrepreneurial economy. Another evidence from Audretsch & Thurik (2000)'s shows that increasing number of entrepreneurs per labor force subsequently lowers the levels of unemployment while wage are instantaneously sustained, using data from 23 OECD countries in the period 1974-1994.

SSA is characterized by both high level of unemployment and low wages. By pursuing a mass production model with concentrated large firms, SSA would benefit in the short run but gradually will fall into low or middle income trap. Both employment and wages can only increase when the productivity of workers increases. In the current globalized world, small firms are the engine of employment creation. A structural change in SSA toward entrepreneurial economy would lead to both high wage and job provision in the longer term. The majorities of SSA countries belong to the lowest portion of development level, but also possess highest rate of self-employment. This in turns could be a starting point for policy implication for institutional reforms toward a knowledge-based, entrepreneurial economy. The problem is while the majority of newly found businesses in most developed countries are opportunity based; the dominant startups in SSA are necessity entrepreneurs. If SSA pursuit the old-fashioned path of industrialized, managed economy, SSA would soon fall into the middle or low middle income trap. An entrepreneurial economy could harness the high rate of small businesses as well as turn African idiosyncrasies of unique cultural aspect into comparative advantages.

5.3.2 External environment

5.3.2.1 Stability vs Turbulence

Stability in the managed economy is generated from large corporations' Taylorism and Fordism-style managerial mechanism of mass production, often comes with competition focused on price instead of product differentiation (Chandler, 1977). Stable industrial structure limits the opportunities for entrepreneurs to start a new firm. In recent decades, most of successful entrepreneurs excel in ICT or technology sectors instead of traditional industries, because these traditional industries are already saturated and stable, where "innovation itself is being reduced to routine" (Schumpeter, 1942). However, dynamic change is generated from diversity and selection (Nelson, 2009), which is in favor of an entrepreneurial economy. If a new trend or technology rises up, diversity of opinions toward the new ideas will result in different pursuit of commercialisation with outcome are formations of new firms. Market will select the best firms to thrive instead of internal

selection within hierarchical large corporations. This process of entrepreneurial economy is turbulent in nature, since high startup rate comes along with high level of both number of firms' entry and exit, in contrast to low startup rate and stable industry structure in managed economy.

Given the current level of development, SSA is more fitting for a dynamic, turbulent market structure than a stable one. SSA economy is characterized by very high proportion of small businesses, along with high rate of new startups as well as firms' failures. Although innovative industries have higher startup rates (Geroski, 1995) and also lower rate of survival (Audretsch, 1995), it would be ambiguous to link SSA's market structure to the capability of turning into an innovative economy. However, instead of following the footsteps of already developed countries in a long era of industrialisation and mass production factories, SSA could leap frog using its own environment characteristics of turbulent, dynamic market structure. While corporate downsizing is happening in OECD countries, SSA should use its already dynamic market structure comprises of high level of small businesses as comparative advantage to achieve sustainable economic growth.

Recent decades witness the emergence of occupations such as part-time workers, freelancers, contract-workers, consultants, regarded as entrepreneurial forces in labor market (Eberts & Stone, 1992). This also reflects the turbulence in jobs and commitments between firms and workers. Labor contracts have been switching from general, indefinite time period in the managed economy to more specific tasks, limited time period in the entrepreneurial economy. The share of part time workers has been rising in all developed countries (Paqué, 1998). The term "gig economy" for market of temporary employment and has recently been researched more throughout. Outsourcing IT consultants to India or call centers to Turkey are becoming common. In this regard, SSA firms can benefit from similar model of outsourcing, with focus on skill enhancement at individual level and harnessing of its own cultural specific characteristics.

5.3.2.2 Specialisation vs Diversity

Economy of scale is the driving force behind the traditional mass production in managed economy, in which specialisation is the key attribute. Increasing return to scale is resulted from greater but static efficiency and lower transaction costs achieved from specialisation. However, entrepreneurial economy is distinct from managed economy's approach in the sense that it values specialisation less than diversity of activities, which generates dynamic instead of static efficiency. Specialisation creates the environment where workers are engaged in identical activities, thus knowledge spill-over is greater within the specific task or firm or industry, while diversity means employees are engaged in diverse activities, hence knowledge disperses not only within a hierarchy but across the economy, and knowledge spill-over is rooted from individuals. This shares the same view with Jacobs (1969) and Lucas (1993) as diversity of knowledge sources is greatest in cities, where interaction between individuals is highest. Empirical evidence provided by Glaeser, et al. (1992) and Feldman & Audretsch (1999) show that diversity is advantageous for knowledge spill-over which results in better innovative activities and growth than specialisation. Given the state of entrepreneurial economy, greater opportunity for knowledge spill-over (as in diversity) must overcome the sacrificing of low transaction costs (achieved through specialisation) (Audretsch & Thurik, 2001).

It is difficult for current small businesses in SSA to build up and pursuit large scale industrialized factories to enjoy economy of scale and compete with MNCs, but instead an appropriate approach to utilize its diversity aspect is more accessible. Given the diversity background of SSA culture, exchange of ideas from individuals from different clan or tribe can be the driver for local innovation, which is now easier with the boom of ICT and internet access, as long as a platform for cooperation and fair competition is established. Cities in SSA are thriving, with ever increasing population and interaction among individuals with the low cost establishment of ICT. Therefore, diversity of activities in SSA would bring about dynamic efficiency from knowledge spill-over rooted from SMEs comprised of heterogeneous, interactive individuals. This diversity fits the nature of SSA

SMEs, who could not access to develop large scale R&D, but be able to better promote frugal innovations.

5.3.2.3 Homogeneity vs Heterogeneity

Accompanied by the trade-off between firms' specialisation vs diversity, at individual level the trade-off between homogeneity vs heterogeneity further distinguish the external environment between managed and entrepreneurial economy. Although the costs of communication and transactions are minimized in the population with identical individuals, the knowledge spill-over from homogenous economic agents promotes diffusion rather than innovation (Olson, 1982). New ideas are less likely to be generated if individuals, or employees in large firms, possess the same set of skills and do routinized works, because they tend to have access to the same source of information. In contrast, population with heterogeneous individuals who possess unique genetic and experience profile would result in different evaluation of a given set of information (Nooteboom, 1994). New ideas then are more likely to emerge from heterogenous than homogeneous population, of which population structure can be induced by policies related to immigration, mobility and education. (Audretsch & Thurik, 2001).

On one hand, SSA's heritage benefits largely regarding the cost of information transaction. Although SSA is comprised of various different tribes and clans, communication is effortless since common languages are used across regions. English is *lingua franca* in former British colonies, as well as French is national languages in Francophone Africa. International cooperation is easier in a globalized world with low cost of communication; hence the informal barrier for interaction is lessened. Together with the development of ICT, the cost of communication is further reduced, which makes the formation of new ideas and frugal innovation more smoothly. On the other hand, SSA individuals have high degree of heterogeneity in terms of cultural backgrounds. As diversity is produced from the variance of backgrounds, motives and goals of entrepreneurship (Nooteboom, 1994); SMEs in SSA could benefit from hiring employees with diverse ethnicity backgrounds. Various idiosyncrasies from different tribes and clans could make up the diversity needed

to innovate based on new ideas generated from interaction between heterogeneous individuals, as tendency to variation the chief cause of progress (Cohen & Malerba, 2001). In general, SSA benefits from both dimensions related to entrepreneurial economy, with heterogeneous individuals interact better with advantageous communication.

5.3.3 How firms function

5.3.3.1 Control vs Motivation

In managed economy, labour is considered homogeneous and easily replaceable, which undifferentiated from other factors of production e.g. capital or land. Management becomes “command and control of labour force”, with the ability to extract a full day’s worth of energy to a full day’s pay (Wheelwright, 1985). Specialisation turns workers into direction of skills upgrading in consistency and precision, instead of skills diversifying and thus negate individuals’ decision-making capability. Entrepreneurial economy approach brings about the opposite of management style, with its core of how business owners motivate employees to discover, generate and implement new ideas, hence the ones who can deal with uncertainty will be valued the most (Audretsch & Thurik, 2001). In this sense, the catalyst for younger generation of entrepreneurs who possess a set of skills and ability to pursuit creativity is trained and formed within each established business.

Given the nature of abundance of small businesses in SSA, it is more feasible for SSA’s firms to implement the new, liberal management style over traditional Taylorism and Fordism management style. Although it depends much on which production lines the business belongs to, the liberal management style benefits small ventures more than large organisations, because it emphasizes the nurturing of interpersonal relationship rather than supervising employees (Blake & Mouton, 1964), promotes transformational over transactional leadership (Bass, et al., 1996) and focuses on exploring new abilities instead of exploiting existing ones (Audretsch & Thurik, 2004).

5.3.3.2 Firm Transaction vs Market Exchange

Coase (1937) and Williamson (1975) point out that uncertainty and imperfect information increase the cost of intra firm transaction, which means managed economy – in pursuit of certainty and predictability of information - is in favour of firm transaction rather than market exchange (Audretsch & Thurik, 2001). In contrast, dynamic market exchange is sought more with the uncertainty characteristic in the model of entrepreneurial economy, since new economic knowledge is regarded as anything but uncertain (Knight, 1921; Arrow, 1962). This keeps firms at smaller size and also leads to different role for entry of new firm. Instead of optimizing from the inputs constraint of land, labour and capital within its hierarchy, firm enters the market to seek for connections with other firms or organisations to optimize the usage of new knowledge, technology or innovation. In entrepreneurial regime, start up entry plays more important role, since innovation activities of new entry are more favourable than established firm, while routinized regime is the one with reverse condition (Winter, 1984). One may also refer to two different approaches of firm transaction and market exchange in terms of rent seeking behaviour emerged from different bureaucracy structure (Holmstrom, 1989).

SSA is challenged by high level of uncertainty and imperfect information, rooted from weak institutions, which make it more costly for implementation of large scale factories focuses on efficiency in firm transaction. Therefore, a leap frog to utilize the uncertainty nature of SSA in promoting exchange via the market through an approach to entrepreneurial model is preferred. Since the mid-1970s the economic arena has been increasingly uncertain and unpredictable (Carlsson, 1989). Under the force of globalisation, SSA is a later comer but also possesses the advantages to grab the opportunity to innovate based on utilisation of knowledge and ideas.

5.3.3.3 Substitutes vs Complements of Competition and Cooperation

In the managed economy, competition and cooperation are substitutes. Firms compete in product markets, which mean cooperation between firms (as vertical integration) reduces the number of competitors and the degree of competition. Since knowledge spill-overs

are promoted in clusters of economic activity (Audretsch & Feldman, 1996), individuals and firms have large incentives to cooperate. However, the degree of competition for new ideas is high when there is great demand for monopolisation of information in large organisations. The economic stage with fewer monopolies and more SMEs would fit in development of model of entrepreneurial economy, which embraces and promotes both competition and cooperation.

SSA currently relies mostly on production of primary products, of which competition and cooperation are viewed as being substitutes. Model of entrepreneurial economy works better with knowledge intensive products generated from a large number of small companies in a monopolistic market. Therefore only a fraction of SSA economy which can employ the comparative advantages of African culture and idiosyncrasies would benefit from the model of entrepreneurial economy. In the age of globalisation, the trend of changing the structure of the output market toward more knowledge-based products is observed worldwide. SSA entrepreneurs who focus on knowledge intensive products could benefit from both competition and cooperation force to enlarge their business' capacity and capability to survive and innovate.

5.3.3.4 Scale vs Flexibility

Efficiency in the managed economy is achieved from the exploitation of economies of scale and scope. This efficiency relies on the reduction of average costs for production of homogeneous goods, which contributes to the domination of large conglomerates in heavy industries such as steel, automobiles and aluminum (Chandler, 1977). However, reduction of average costs can also be alternatively achieved through efficiency generated from flexibility in the entrepreneurial economy (Teece, 1993). Audretsch & Thurik (2001) identify four major forces of flexibility. Technological flexibility refers to new technology that facilitates flexible production, once implemented would drastically reduce the importance of economies of scale (Carlsson, 1989). Organisational flexibility, which consists of producing small numbers of particularly designed goods for special markets, has been replacing mass production during the last several decades of 20th century (Piore

& Sabel, 1986). Demand-side flexibility means the ability of production to absorb demand fluctuation (Mills, 1984), of which small firms are more labour-intensive, thus they can adjust their level of output at lower cost than large firms and react better as demand fluctuates (Brock & Evans, 1989). Qualitative flexibility refers to the ability to respond to qualitative changes in heterogeneous and inconstant market demand, of which entrepreneurs who are able to evaluate and appropriate knowledge about such niche markets serve as agent of change by injecting flexibility into the economy. In general, the development and evolution of new industries is promoted by the presence of a large number of small firms (Audretsch, 1995).

Evidence from Piore and Sabel (1986) shows that both developed and less developed countries can benefit from a system of industrial organisation centred around flexible production which actually outperform mass production. The labour-intensive SSA would take a long and difficult way to install a heavily capital invested production system hoping for utilisation of economies of scale and scope, but instead could focus on specialisation in flexibility in respond to the rapidly changing markets. Given the already high rate of SMEs in SSA and the help of ICT development, small firms in SSA can internationally connect and reflex flexibly on specific and heterogeneous consumer demand in the age of globalisation.

5.3.4 Government policy

5.3.4.1 Regulation vs Stimulation

Public policy in the managed economy traditionally implies the importance of regulation to restrict large conglomerations' abuse of market power, in the form of antitrust, regulation and public ownership. The government restricts the firms' freedom to contract, mostly by intervening the social partnership of big business, big government and big labour (Galbraith, 1956). However, waves of industrial downsizing have made governmental policies in developed world increasingly shifted from regulation to stimulation. Stimulation policy in the entrepreneurial economy is in the form of creating

an environment fostering success, viability and sustainability of SMEs, for examples promoting innovation and the creation of new firms.

SSA possesses large proportions of micro and small businesses, but is also still prone to the abuse of market power from large firms. In many cases, regulation is in used and favoured by interest groups due to weak institutions such as corruption. Therefore, a stimulation policy approach is a more inclusive solution toward the creation of an environment, as *Rahmenbedingungen*, to support small firms' equal access to the market. Globalisation and the rapid development of ICT and logistics in matching producers and consumers worldwide have brought advantages to small firms who can anticipate their international competitiveness. Stimulation policy should focus on helping SMEs build background in fostering their international competitiveness.

5.3.4.2 Targeting Outputs vs Inputs

The managed economy heightens the importance of certainty in production and distribution of goods in the market. Targeting these outputs has been traditionally given priority in Europe's industrial policy (Servan-Schreiber, 1968). Government's heavy sponsor programs for specific industries and particular firms were successful for Japan in the postwar period (Stiglitz, 1996). However, the increasing of knowledge-based activity has shifted the modern economy toward greater uncertainty, termed as "the Age of Uncertainty" by Krugman (1994). The cost efficiency of outputs targeting policy has diminished, as the demand for less skilled, routinized workers has been reduced throughout the OECD, and at the same time demand for high skilled workers has drastically increased (Berman, et al., 1998). Skilled workers serve as the most important inputs in entrepreneurial economy in boosting firms' growth, because they are more capable of dealing with uncertainty.

Servan-Schreiber (1968) advocated a policy of heavy investment in R&D as the sources for innovation and subsidisation from 50 to 100 large industrial firms in Europe to compete with American giant corporations in the 1970s. However, it is questionable whether SSA nowadays could have the capacity to invest strongly into a number of selected firms to

become competitive on the global market, which seems to be already dominated by longstanding MNCs in many heavy industry fields such as automobiles and steel. Instead of targeting outputs, SSA policy makers may aim at enhancing the quality of its knowledge workforce via building of an inclusive environment. Inclusive policy, such as free education, would bring about the majority upgrade in skilled labor market, thus stimulates a robust entrepreneurial atmosphere in the more uncertain, globalized world.

5.3.4.3 Locus of Policy: National vs Local

Locus of policy in the managed economy is at national or federal level, because one of policy makers' top priorities is the regulation of market power from large, oligopolistic firms. However, policies to control large firms are not effective if they are implemented on the local level, because the costs of organizing and influencing policies are lower for small group of economic agents benefiting from collective actions than large group of dispersed economic agents (Olson, 1982). The changing market structure toward entrepreneurial economy has shifted the locus of policy at national level to decentralized and regional. Spanning over 20 years from the 1970s many regulatory agencies at national level in the US were downsized or even closed (Audretsch, 1989). In leading technological countries, the most important industrial policies have been local instead of national, because regional strengths provide the major source of innovative clusters and knowledge has become the most competitive source of economic activity (Sternberg, 1996).

SSA's market structure consists of mostly micro and small businesses, which pose no oligopolistic threat to the national market. A locus of policy at local level is more accessible and beneficial for the development of SMEs in entrepreneurial economy. However, weak institutions may cause the emergence of special interest groups who benefit from unfair competition by the capture of policy and regulation. Therefore, national and federal regulatory bodies are still important in control of potential exploitation of market power in countries with weak institutions.

5.3.4.4 Financing: Low vs High-Risk Capital

In the managed economy, traditional industries rely on low-risk investment from large banks, while in the entrepreneurial economy financing high-risk ventures is more common. The dominance of new, innovative but high-risk small firms is associated with the popularity of venture capital and informal capital market (Gompers & Lerner, 2004), where individuals invest directly without formal intermediation (Mason & Harrison, 1997). Informal capital markets have been regarded as the leading sources for promotion of entrepreneurial start-ups and small business growth (Gaston, 1989).

Access to finance is usually the most difficult obstacle for the majority of SSA's SMEs (World Bank, 2018), due to credit rationing in markets with imperfect information (Stiglitz & Weiss, 1981). The development of microcredit institutions has helped empowering women and reducing poverty, which is aligned with promotion of SMEs via informal market financing. Informal risk capital is the next most available financing option after family resources for micro and small businesses (Hughes & Storey, 1994). Especially in SSA's condition of limited access to finance via formal financial intermediaries, informal risk capital in most cases is the only source of risk or venture-type capital. Crowd-funding has not been as popular in the past as nowadays. With the help of ICT, crowd-funding can be done via the internet, where good ideas and newly formed ventures can be accessed and invested internationally.

In Kenya, SACCO (SAVings and Credit Cooperative Organisation) has been a financial innovation as a creative form for access to credit. SACCO is a group of entrepreneurs who pool their shares; when a member requires immediate investment they can be allowed to use part the money from the entire group. Small SACCOs are more common in the rural areas with a common size of about ten members. In this way, SACCO serves as an alternative to microcredit institution, but its effectiveness is still ambiguous, apart from being a high-risk capital lending system. In large cities, bigger SACCO groups function almost like banks or financial intermediaries, with largest group contains up to 2000 members.

5.4 SSA Prospects and Policy Implications

Understanding the causes, consequences and differences between the managed and entrepreneurial model is fundamental for policy implication regarding entrepreneurship development, such as entrepreneurship education (Wennekers, et al., 2002). Given the aforementioned differences between the two models and SSA's conditions in the entrepreneurial economy approach, we propose a number of policy advocacies.

First, entrepreneurship education should be more widely invested and implemented. Even though SSA is dominated by high rate of business ownership, the survival rate for new ventures is low (Bowen, et al., 2009). Enhancement of the quality of SMEs should be given priority to the quantity, which can be achieved by better investment in entrepreneurship education. Even though entrepreneurship education courses do not increase the intention of participants (Oosterbeek, et al., 2010), they serve as the filter for future and current business owners to have more realistic view of founding and running a business, as well as better understand the prospects as well as obstacles of a career in entrepreneurship.

Free general education could also be an important part of policy reform aiming at enhancing the general workforce's skills. Rooted from the doctrine of the *Social Market Economy*, which is centred around the idea of equality of opportunity instead of equality of outcome, free education means children have the equal right to access to knowledge and skill provision as all others, but they succeed or not will mostly depend on their individual efforts instead of their background. It is regarded as one of the inclusive institutions that foster sustainable development and is endorsed by the UN in their Sustainable Development Goals. The provision of universal education is also related to the reduction of crime rate, which is one of the major obstacles for many SSA countries (World Bank, 2018). Furthermore, socially undesirable or low quality entrepreneurship even generates negative externalities via illegal profit gains (Baumol, 1996), which also highlights the importance of basic education on entrepreneurship development.

Second, since knowledge is the key in developing the entrepreneurial economy, knowledge and skills obtained abroad are good leverage of inland entrepreneurship

activities. The idea that SSA countries should adopt entrepreneurial economy approach is relevant to how countries should retain their well-educated citizens to stay inland, create incentives for them to use knowledge to form business instead of moving abroad (Thurik, 2011). In this respect, India, Israel and Taiwan are retaining its entrepreneurs, whilst Poland has massive exodus of skilled workforce. Highly skilled individuals can spread knowledge from advanced economy by returning from abroad to setup new business or invest venture capital in other start-ups (Saxenian, 2006). Brain drain is a common problem in many developing countries. SSA countries could retain its knowledge workforce via policies related to anti brain drain and stimulation of programs that attract its skilled individuals worldwide to return home.

Third, there is a need to foster innovation in SSA, specially aiming at promotion of SME's innovation and frugal innovation. Innovation is considered one of the main drivers for economic competitiveness and growth. In order to strengthen SSA's competitive advantage on the world market, the improvement of innovation policies is necessary (Draper, et al., 2012). However, building complex R&D institutions is sophisticated and requires large investment, while implementing an environment for innovation for private sectors is less costly and approachable. Good entrepreneurial environment are associated with supportive networks which provide the institutional structure to link individual entrepreneurs to organized sources of learning and resources (Thornton & Flynn, 2003).

SSA should focus on developing their National Innovation System, "a network of institutions in public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies" (OECD, 1997). It is important that major players of the system: policy makers, innovation supporters and innovation producers cooperate well to make the system function completely and have positive impact on the economy. There is a vast difference between innovation systems of industrialized countries and developing ones, deeply rooted in institutional settings. A common problem in developing countries is the lack of functional institutional framework that can effectively promote science and technology, in which the heart of technological capability development is the process of learning in all its various forms. Nevertheless, the contribution for the

development of innovation systems requires the participation of major actors in the Triple-Helix model: academia, industry and government. Moreover, technology does not exist in isolation (Adeoti, 2002). That means technological capability needs to be supported and nurtured by social capability, such as the level of education.

Fourth, SSA should make a good use of global advance in telecommunication and ICT. One of the success stories is the rise of mobile banking in SSA. Using panel data from 36 SSA countries over the period from 1995 to 2010, Cleave & Yiheyis (2014) conclude that the output growth has positive correlation to the level of mobile telephony penetration. Mobile telephony has promoted economic development in SSA in a number of ways, among others are searching costs reductions and improving markets, greater efficiency in business activities e.g. improving coordination among firms, job creation, increasing availability of information and facilitating the delivery of public goods and services especially in finance, agriculture, education and healthcare (Aker & Mbiti, 2010).

As the leading country in Africa in providing mobile telephony service, in 2013 Kenya has an average of 1018 mobile money accounts per 1000 adults, the highest rate in the world (IMF, 2014). Initiated in 2007, the leading mobile payment system M-PESA in Kenya has proven to be a successful scheme, and is regarded as probably the most renowned story of mobile banking success in a developing country. M-PESA is provided by the main mobile phone company Safaricom in conjunction with Vodafone. This low cost approach of modern technology has been effectively applied in financial services, with millions of M-PESA users able to make payments, send remittances and store funds for short periods via mobile banking. This service enables people without bank accounts to access at low risk and cost (Kimenyi & Ndung'u, 2009). In Ghana, by using mobile telephony, the micro and small enterprises have shown capacities for business innovations. The most effective use of mobile telephony so far is the facilitation of connections between suppliers and consumers in order to save the cost of transactions (Essegbey & Frempong, 2011).

Fifth, there is a need for better utilisation of technology transfer from foreign firms and knowledge spill-overs. Knowledge spill-overs are an important mechanism for endogenous

growth, in which knowledge is transmitted across firms and individuals. One of the most important sources of technology transfer to developing countries is via FDI, regarded as the North-South transmission channels of innovations. However, from Kenyans' success story for mobile banking and its spread to nearby SSA countries, the approach for South-South transmission channels and regional integration are prospectively potent.

Although there has been increasing FDI pouring into SSA, related studies about the technology and knowledge transfers through this channel are still limited. Managi & Bwalya (2010) tested and confirmed that there are positive horizontal (intra-industry) and vertical (inter-industry) technology and productivity spill-overs from foreign firms to local firms via FDI in Kenya, which functions better compared to other countries such as Tanzania or Zimbabwe. In which, foreign firms have incentive to transfer knowledge to local firms because this enables local firms to produce intermediate inputs more efficiently for foreign firms upstream at lower cost. Moreover, technology spreads rapidly between adjacent firms in regions with high concentration of foreign firms. Gachino (2013)'s surveys in Kenya also find that foreign firms generate more spill-overs than local firms, and technology spill-overs more in machine and engineering industries than food processing and beverages. By examining construction industries in Ghana, Osabutey, et al. (2013) indicate that the presence of foreign firms helps to facilitate technology and knowledge transfer, though at a low level because of the absence of government policies and incentives to encourage foreign-local collaboration. Therefore, there is a need for institutional changes to ensure better benefits from technology spill-overs.

5.5 Concluding remarks

In the managed economy, small firms are viewed negatively compared to large firms because of their suboptimal size (Audretsch & Thurik, 2001), when they are considered less efficient use of resource and benefit less from economy of scale. The success behind the entrepreneurial economy is how to keep firms at small and medium scale for fairer competition and negate obstacles from larger corporation to exploit their powers. While

the managed economy is characterized by the domination of giant corporations, the entrepreneurial economy features circles of newly created, innovative emerging small businesses. The former aims for discipline, stability and predicted incremental innovation; the latter is about more radical and less incremental innovation, which could be regarded as a culture where individuals often tinker with technology and in general it is more beneficial for the society. An example is the medicine industry, where sunk cost for R&D to produce a new treatment is extremely high, potentially developed medicine cannot reach the poor if no sufficient profit is expected from large pharmacy companies. Given the rapid innovation in ICT, the term “start-up” is more being used as founding of tech companies, as they reach out for users of applications as customers instead of tangible products.

The proposed knowledge-based entrepreneurial economy satisfies SSA’s need of both high levels of employment and high wage, with the core of market share dominated by not a handful number of large firms but numerous small, diverse and high-quality businesses. Therefore, the model of entrepreneurial economy serves to answer both the questions of how to increase the rate of entrepreneurship and how to improve the quality of business in SSA. In order to best integrate into the world economy with increasing globalisation, SSA countries should have long term vision to transfer their comparative advantage from factor-based to knowledge-based, with appropriate institutional frameworks to sustain high level of entrepreneurship. The localized, entrepreneurial economy with the utilisation frugal innovations would help SSA firms to compete with globalized, managed corporations from developed world. In the age of globalisation, the speedy development of ICT and rapid change of market structure arm entrepreneurs that aim to start big with “born global” firms (Autio, et al., 2000), which can achieve high international growth rate right from start. An example is the recent emergence of the “access economy” and “sharing economy” of Uber and Airbnb, which rapidly spread out in the world and change the way services are provided. “Agripreneurs” are changing the way the traditional food production is practiced, which may have an impact on the market structure in the future.

However, this study also has many assumptions, with regards to difference between start-ups in OECD countries and SSA. Barriers to entry regarding access to credit, level of infrastructures and corruption could hamper SSA's capability to implement an entrepreneurial economy approach. Informal competition and tax evasion are core problems in regulating entrepreneurship environment in order to bring a fair competition among SMEs, of which many of SSA countries are suffering of (World Bank, 2018). Intellectual property rights protection is low in many SSA countries, which degrades the motivation for innovation and commercialisation of new ideas.

Nevertheless, the approach of the entrepreneurial economy in SSA may serves as policy advocacy in limited aspects regarding implication of entrepreneurship policy. Some least developed countries in SSA have not even started industrialisation, which can be seen as a potential to avoid drawbacks from the mass-production features of the managed economy, especially in terms of environmental issues. In building an entrepreneurial economy, SSA can learn from the mistakes of the West. Thurik (2011) suggests a mix of managed-entrepreneurial economy approach for emerging economies, instead of a full transformation of the economy toward an entrepreneurial base. Selected policies could be applied to only target a handful number of upper level of high tech industry, such as proposal for a set of policies which foster the creation of commercialisation of new knowledge in the case of special economic zones (Draper, et al., 2016). Further research may require more data for the fragmentation of each of the fourteen dimensions, which could generate further empirical findings for SSA's conditions under the model of entrepreneurial economy, which may pave the way for more practical application of appropriate institutional changes in SSA.

6 Is a ‘Factory Southern Africa’ Feasible? Harnessing Flying Geese to the South African Gateway

6.1 Introduction

Enhanced by multilateral liberalisation as well as decreasing communication and transportation costs, deeper global economic integration has led to greater flexibility for firms. Production processes today are sliced or fragmented; and take place in global value chains (GVCs). This is important for developing countries in particular, since it means they can build competencies in particular aspects of the value chain without having to master the entire production cycle. This building of particular competencies can lead to rapid industrialisation and broader development, as experienced in, inter alia, East Asia and Mexico in recent decades. Consequently, in recent years GVCs have risen to the forefront of the global trade and investment policy debate.

GVCs are concentrated in what Richard Baldwin (2012) terms “Factory North America”, centred on the US; “Factory Europe”, centred primarily on Germany; and “Factory Asia”, centred on Japan. The existence of these regional concentrations of value chain activity highlights the fact that much of what are called “global” value chains are in fact regional. One notable exception is China, which in recent decades has been the world’s key player in international production fragmentation, serving as the central location for processing and assembly of manufactured goods destined for global markets. However, with rising Chinese labour costs production is relocating, partly back to the developed markets and notably the US (Sirkin, et al., 2011), or to developing countries like Vietnam, Cambodia and Mexico (Draper & Lawrence, 2013). It is this relocation process that offers, in theory, opportunities to other developing countries such as those in Southern Africa, particularly those comprising the Southern African Customs Union (SACU): Botswana, Lesotho, Namibia, Swaziland (BLNS) and South Africa.

Consequently, attention is turning to the possibility that Southern Africa may benefit from the geographic relocation of GVCs. The question, therefore, is whether a “Factory Southern Africa” is feasible, and if so what kind of policy mix would facilitate its development? We examine this question in light of international comparative experience, and with a particular focus on SACU countries. We use the term “Factory Southern Africa” to refer to the SACU countries throughout this report.

In the analysis, we highlight the importance of regional value chains (RVCs) as a complementary analytical category to GVCs. In essence the value chain concept is the same, regardless of whether the analytical focus is regional or global. Nonetheless, the distinction we would draw between the two is that RVCs are primarily operated within a particular region, by regional actors, for regional markets. By contrast GVCs are primarily operated by global companies or multinational corporations (MNCs), transcend regional boundaries even though they may be concentrated in particular regions, and are oriented towards extra-regional (global) markets. RVCs may constitute the first step towards establishing or tying into GVCs. Furthermore, we acknowledge that there are many different kinds of value chains, corresponding to different economic activities encompassing different economic sectors, from minerals extraction, to agriculture, manufacturing, and services. It is beyond the scope of this paper to delve into how SACU countries can orientate themselves within particular value chains, whether RVCs or GVCs. Our analysis is high level, and focused on the policy orientations appropriate to building participation in RVCs and GVCs, with application to SACU countries.

It is critical to locate the policy issues in international comparative experience. While there are numerous examples we could draw on, East Asia has been the standout success story in the evolution of GVCs so we focus on that region. At the heart of this story, at least initially, is the role played by Japanese MNCs in sparking the growth of, first, RVCs, and GVCs over time. This points to the importance of a leading economy in the region concerned; in this case Japan drove the establishment of “Factory Asia”. Similarly, the United States (US) drove the establishment of “Factory America”, while the origins of “Factory Europe” were more dispersed but are increasingly centred on Germany. In this

light, it is our contention that if “Factory Southern Africa” were to emerge, South Africa would be at its centre.

Accordingly, Section 6.2 focuses on the “flying geese” pattern, centred on the role of Japanese foreign direct investment (FDI) and trade in driving East Asian economic integration and growth. We ask whether a comparable process could conceivably unfold in Southern Africa, led by South Africa as the “lead goose”. We argue that while South Africa is already driving regional investment to a significant extent it does not possess the requisite capacities to propel the region into sustained growth and global integration. Furthermore, we note that the SACU region possesses very different comparative advantages *vis à vis* East Asia. Consequently, we argue that a different kind of integration process is required in SACU.

In Section 6.3 we elaborate on this, centring on attraction to the region of MNCs from outside the region, using South Africa as their Southern African “gateway”. This draws on the later elaboration of the flying geese pattern, in which Japanese MNCs were joined by their US, European, and East Asian counterparts to drive the development of GVCs, centred increasingly on China. Since there is no China in Southern Africa, the orientation of South African and global MNCs would necessarily be different, and probably more oriented to regional rather than global markets. We briefly explore some contours of those differences.

In Section 6.4 we then ask how the SACU region is currently positioned, from a policy perspective, in relation to the “flying geese/gateway” proposition. This depends substantially on different countries’ comparative advantages, and the prospects for GVC-oriented industries to take root. A key issue for the BLNS states is that South African firms dominate their economic landscapes, with MNCs occupying most of the left-over spaces. A central question, therefore, is how they can harness this dominance to their own advantage; an approach that requires niche-oriented thinking. Simply put, the BLNS governments need to actively identify the value chains their companies can realistically plug into, whether RVCs or GVCs, then consciously assist their companies to access them.

Therefore, concerted state action is necessary, to build the enabling institutional environment MNCs require before they will transfer higher order technologies, and to identify key lead firms for targeted investment promotion into the region. Furthermore, the flying geese and gateway propositions require a liberal policy orientation – to attract FDI by “lead firms” that coordinate GVCs or RVCs, the region has to make itself more attractive by reducing transaction costs across the board.

However, some SACU countries are pursuing a different policy vision, one more sceptical of FDI by MNCs. This policy approach is anchored in a view of RVCs that is akin to import substitution extended from the national terrain to the region. While we are sympathetic to the impulses behind this approach we argue that it would be to the region’s benefit to think about how to link RVCs to GVCs, rather than how to replace MNC activities in the region. This requires a facilitative approach, harnessing the gateway and actively promoting South Africa’s lead role; in other words, working cooperatively with both South African and foreign MNCs rather than seeking to curtail their activities.

6.2 The Flying Geese Pattern

Here we focus on lessons that may be learned from East Asia since the 1960s. The essence of the “flying geese pattern” is that East Asian countries were incorporated into a largely Japan-centred regional production network. The lead goose was Japan, with Japanese companies “flying” first into Northeast and Southeast Asia, a process subsequently imitated by the four dragon economies (Hong Kong, Singapore, South Korea, Taiwan), and then to China when the latter opened up to FDI in the 1990s. This RVC picture took on a global dimension when the activities of Western MNCs, from the US and European Union (EU), were incorporated. They have participated enthusiastically in the opening up of the Chinese economy to FDI, so that many have established GVCs centred on final assembly in China. In doing so they also source parts and components from the East Asia region, thus blurring the distinction between GVCs and RVCs, since their activities extend well beyond East Asia. So, China nowadays serves as the hub for production of parts produced in other countries in the region, to be assembled and exported as final products to world markets.

It is estimated that intra-regional trade accounts for more than half of China's total exports, and foreign investment into China's exports are largely from other Asian neighbours (Gaulier, et al., 2007). With inexorably rising labour costs for low value added operations in China, assembly and mass production are now being shifted to other countries such as Vietnam, India and Bangladesh; thus the geese are once more on the move.

As a consequence of these integration efforts, in the last few decades East Asia has been the region with the highest growth rates and development success in the world. The key to this success is the growing economic interdependence in the region through the formation of RVCs/GVCs, with intra-regional trade having been the fastest growing component of Asia Pacific's total trade. In the period 1986–2007 import of non-oil products within the region rose from 40% of total trade to more than 60% (Athukorala & Kohpaiboon., 2009). In addition, we observe soaring exports of intermediate products, while the share of final products' export remained under 45% from 1992 to 2007 (Athukorala, 2011). This indicates the growing importance of product fragmentation in this period, aligning with the formation of RVCs/GVCs.

Expanding intra-regional FDI flows, notably from richer countries such as Japan, South Korea and Taiwan to the ASEAN (Association of Southeast Asian Nations) countries and China, have played a key role in boosting trade and improving regional development. A complex industry that requires sophisticated chains can be fragmented into specialized production processes located in different countries, depending on their comparative advantages or endowments of labour, wages, skills, availability of capital and technology, and competitive advantages including levels of infrastructure, taxes and legislation in different industries, etc.

First, we unpack the dynamics central to the flying geese pattern. Then we analyse how applicable it is to SACU.

6.2.1 MNCs and FDI

The flying geese metaphor of structural transformation was first coined by Japanese economist Kaname Akamatsu (1962) and later developed by many other theorists as one of the most important explanations for the emergence of RVCs in East Asia, with its legacy to be the theoretical grounding for the Asia Pacific Economic Community (APEC) (Kojima, 2000). Foreign MNCs from the US and Europe historically took an important role in the Japanese economy to transform the country into Asia's leading powerhouse in the 20th century. Through licensing and original equipment manufacturing (OEM) arrangements, Japanese firms successfully absorbed technology from overseas, mainly European and US MNCs (Ozawa, 1974), in what is described as the first and second patterns of flying geese (or domestic patterns) for Japan's learning-based approach to industrialisation (Hayter & Edgington, 2004). After the Second World War and until recently Japan, as a source of advanced technological independence, was the leading goose in its third flying geese paradigm (or international pattern). Japanese FDI took the crucial role of developing its neighbours' economies and technology through the process of dynamic industrial shifting among countries in the region to form East Asia's RVCs (Chen, 1989). The most important impact of Japanese FDI was and is the dynamic change of factor endowments in East Asian host countries, which lift their industries to higher value chain production overtime through transfer of technology and knowledge from MNCs to their local partners. The MNCs' role is anchored in investment decisions made by profit-seeking entities, and trade is driven by import and export firms, not primarily by states (Memis, 2009).

Box 1: The Flying Geese Model in Retrospect

Investment from Japan to other Asian nations can be traced back to the 1960s, when the majority of initial Japanese FDI flew to Taiwan and later South Korea, two countries that had previous colonial links with and are geographically proximate to Japan. Sanyo was the first MNC to establish its business in Taiwan in 1963, initially producing electronics products for domestic demand and later exporting to the US and other markets

(Hobday, 1995b, p. 104). South Korea, under military dictatorship and the “Heavy-Chemical Industry Drive” policies centred on large domestic firms (chaebol), initially practiced import substitution to the point that FDI was not legally permitted until 1959. It only opened for FDI inflow from 1960 under the Foreign Capital Promotion and Inducement Act, and promoted foreign investment from Japanese firms after the normalisation of diplomatic relations with Japan in 1965 and the further reduction of FDI restrictions in 1966 (Chung, 2007, p. 173). Other important destinations for Japanese FDI included Singapore and Hong Kong (Edgington, 1993). Investment in this period concentrated on import substitution to serve local markets, driven by the lack of domestic production, reliance on imports of major appliances such as air conditioning, TVs etc., and import barriers. In the Malaysian case high tariffs on imported consumer goods such as TVs and refrigerators drove the inflow of FDI from Japan as early as the 1960s into these sectors (Lim & Pang, 1991).

Japanese experience of the major “high yen” (endaka) period in 1985 and 1993 and rising domestic labour costs combined with the desire to circumvent mounting US import barriers to accelerate the process. Thus Japanese MNCs relocated their manufacturing facilities to lower cost ASEAN countries such as Thailand, the Philippines and Indonesia, this time for the purpose of exporting to global markets, in what was regarded as “pro-trade oriented FDI” (Kojima, 2000). However, the Asian financial crisis in 1997 caused major shifts of Japanese MNCs’ operations to China and later Vietnam and India.

6.2.1.1 The lead goose and following geese

Within the flying geese framework, Japanese FDI moved into its proximate region and drove the elaboration of RVCs notably in the electronics and automotive sectors, accompanied subsequently by MNCs from other regions such as the US and Europe in a

mimicking process greatly boosted by China's subsequent emergence and market potential. So, it was not only Japanese firms taking the role of the lead goose in certain industries (e.g. electronics products), but also MNCs from other countries. This is a particularly relevant lesson for Southern Africa, since it is highly dependent on third country investors.

In Asian RVCs, Japan serves as the "growth pole" in initiating the dynamic development chain to create spill-overs to other countries, and China as a big player also takes the key part in formulating and duplicating RVCs into a massive "factory" as we are seeing today. In the SACU context South Africa, relatively, is analogous to Japan in terms of driving regional investment patterns and therefore RVCs. A key difference, however, is the absence of a China in the region to act as an attractor for GVCs, meaning that RVCs loom larger in SACU. Only Nigeria with its large and rapidly growing population and its dynamic domestic market is somewhat comparable to China in the early 1990s.

Furthermore, East Asia preserves significant comparative advantages for the development of its RVCs. Southeast Asia is geographically proximate to Japan, and now China, in terms of population density and easy, particularly sea-based, transportation. The structure of comparative advantage in the SACU region is quite different; a fact to which we return in 6.2.4.1. Nonetheless, the flying geese pattern is in essence based on the mechanism of "recycling comparative advantage" (Ozawa, 2009). Empirical studies to quantify the flying geese pattern are mostly based on the index of "revealed" comparative advantage (RCA), which ranks countries by degree of comparative advantage for each particular industry (Ballance, et al., 1987). Results show that Japan not only loses its comparative advantage in traditional sectors over time but also in high-tech industries, whereas the newly industrialized economies (NIEs – Hong Kong, Singapore, South Korea and Taiwan) have gained competitiveness in both sectors. Members of ASEAN are losing comparative advantage in traditional products but gaining in high-tech industries. This process of "industrial shifting" is central to the flying geese pattern.

6.2.1.2 Driving forces of industrial shifting

The main driving forces of industrial shifting are dynamic comparative advantages (in labour-intensive, low cost manufacturing assembly operations) and competitive advantages (in logistics, business environment and policy suitability). Cheaper labour costs in less developed countries and the ability to engage greater local markets with lower transaction costs, i.e. transportation and tariffs, pushed efficiency and profit-seeking Japanese MNCs to rearrange their lower value added activities to their neighbours. From the host countries' point of view, the need for welfare enhancement from not only production for domestic demand and exports but also job provision and corporate tax collection, or "FDI-led growth", has pushed their governments toward trade and FDI policy liberalisation. Moreover, the presence of foreign MNCs' products raised domestic firms' competition capability and quality of goods produced. In the longer term, late-comer countries should benefit from technology and knowledge transfer from foreign MNCs to climb up the value chains of production.

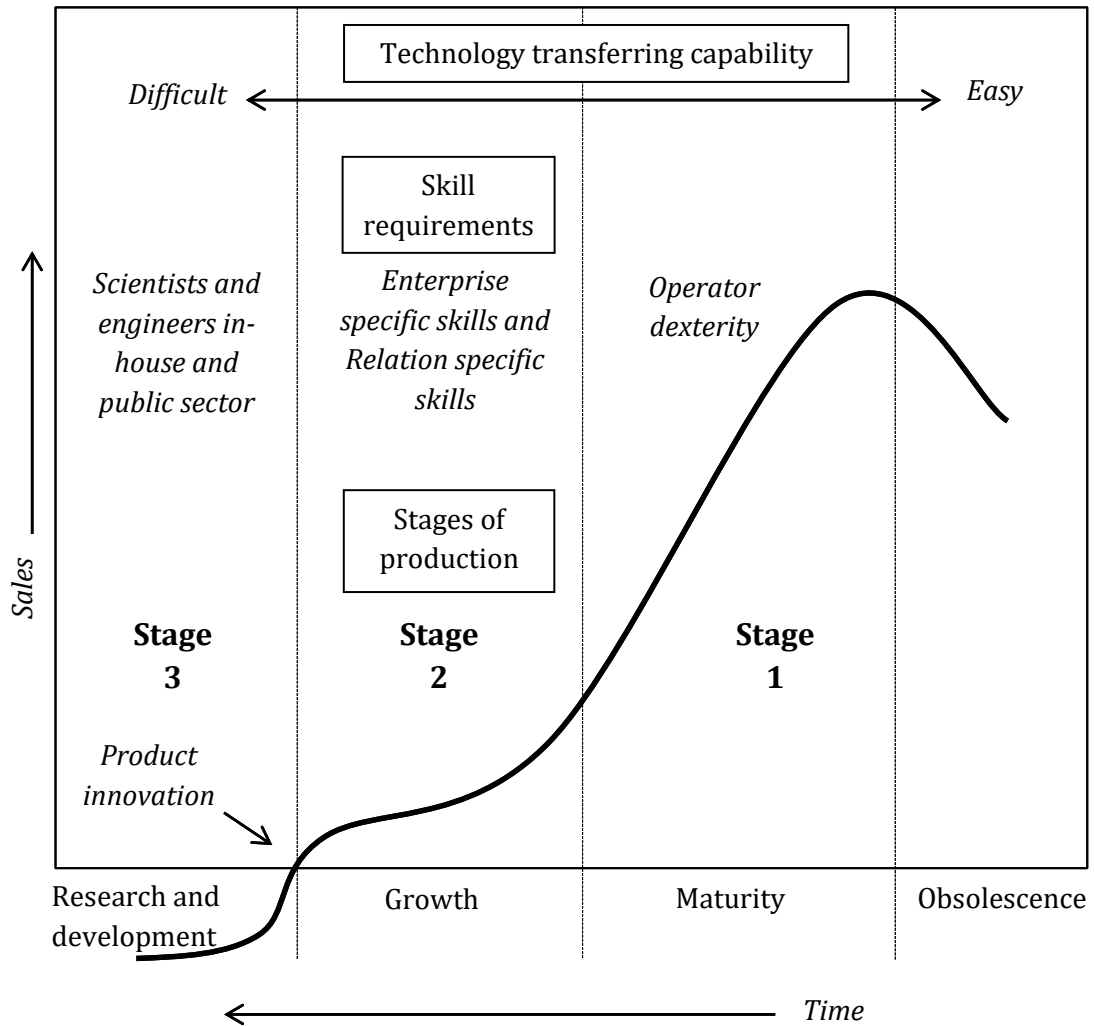
6.2.1.3 Reverse production cycle

In the short run, host countries can generally benefit from the establishment of MNCs' factories, which not only create jobs for local inhabitants but also generate wealth and public revenues. In the longer run, transfer of technology and know-how from foreign MNCs pushes the economy up – RVCs as well as GVCs – from producing primary, labour-intensive products to mature, capital-intensive products. This process of technology transferring can be explained via the "reverse product cycle" model (Hobday, 1995a), as depicted in Figure 8. It indicates a late-comer country's ability to acquire technology for production by adopting a product's production cycle, from simple skilled mass production and assembly operations (stage 1), to advanced, adaptive procedures that improve productivity and efficiency (stage 2), and finally core research and development (R&D) to build new products (stage 3).

At stage 1 or the "mature" stage, the competitive advantage of low labour cost in developing countries was the main driving force for Japanese (and later Taiwanese and

South Korean) MNCs to establish their factories for assembly operations. China is currently the largest product assembling destination due to its abundance of low-skilled labour, but the potential is shifting to Vietnam, India and Bangladesh.

Figure 8: The Reverse Production Cycle



Source: Hayter & Edgington (2004)

Stage 2 requires workers with “enterprise specific skills” (ESS) and “relation specific skills” (RSS) for faster growth and innovation (Koike & Inoki, 1990). ESSs are developed from workers with expertise and experience through dealing with both routine problems and being adaptive to new circumstances, which enhance productivity (Patchell & Hayter, 1995). RSSs foster innovation by the stable exchanges of technological knowledge and

strong connections of core firms and their suppliers, which is at the heart of Japanese corporate systems' competitive advantages (Patchell, 1993). This stage demands skilled labour to manufacture products rather than pure assembly operations.

Research and development makes stage 3 the most advanced but also the most difficult step to achieve. Mastery of it allows host countries to be independent from MNCs to initiate new products and become leading geese in particular value chains. From the host countries' side, this requires highly educated personnel, the availability of technology and working conditions/environment for R&D to take off. Furthermore, this stage creates conflicts between MNCs and host countries in technology transfer since R&D is the core competitive advantage of profit-seeking MNCs (Hayter & Edgington, 2004). MNCs will no longer be needed when a country can domestically produce completed goods for local markets as well as export, thus stage 3 ends the "reverse production cycle".

6.2.1.4 The technology transfer challenge

The stage 3 challenges highlight the fact that while foreign investment is a key channel for technology transfer through domestic spill-overs, it is also by contrast a means of technology protection for MNCs when investing into competitor markets. Kiyoshi Kojima (Kojima, 1973) classified FDI into two types, "pro trade orientated" (complements) and "anti-trade orientated" (substitutes). In his view, the former represents post war Japanese investment, as Japan sought from abroad natural resources for its reconstructing industries and labour-intensive manufacturing platforms to export to third markets, hence creating trade and expanding comparative advantage in the host countries through technology transfer. He regards US investment, on the other hand, as emblematic of the latter, and being focused particularly on technology-based, capital-intensive production aiming at local host markets. In his view the production is too sophisticated for host countries to adapt, plus US firms are inclined to create entirely owned branches and import most of their raw materials and components. At the same time, US investment reduces host countries' potential comparative advantage gains by aiming only at production for domestic use, not for exporting purposes unlike in the Japanese FDI case

(first export back to Japan and later to international markets). This pattern corresponds to the “monopolistic theory of FDI” (Ozawa, 2013) where MNCs offer little technology and knowledge transfer to host countries. The different types of operations by US and Japanese MNCs were based on different objectives of these firms at that time and even up until now.

In this light, it is important to appreciate that in the 1980s and 1990s a vigorous intellectual debate was waged over the precise causes of East Asian industrialisation, and the role played by the flying geese pattern. This debate can be observed in comparable intensity and directions today. In general critics argued that the explanation for the flying geese pattern privileges the role of FDI by MNCs, but neglects or underemphasizes the role of host countries’ policy, indigenous capital, and control over the formation of domestic industries (Edgington & Hayter, 2000). Scholars argued that strong, developmental states pursuing interventionist industrial strategies characterized by targeting of industries and firms, plus selective trade protection and curtailment of FDI, were responsible for driving industrial development, first in Japan then the four “tiger” economies: South Korea, Taiwan, Hong Kong and Singapore (Amsden, 1989). Furthermore, these critics argue that the ability of late-comers to catch up with technology and move up the value chain depends on MNCs’ willingness to transfer the technology and knowledge through stages of product development.

Similarly, the “internalisation” literature in international business theory (Caves, 1971) argues that MNCs seek to control their technology through FDI. In this light, the technology gap can narrow but the closer to the technology frontier the company/country concerned comes, the more difficult it is to eliminate (Hobday, 1995b). This scepticism is the basis for modern advocates of technology transfer policies, such as those pursued in Brazil, designed to force technology transfer from MNCs (Gereffi & Sturgeon, 2013).

On the other side of the debate various proponents argued that while some of the interventionist and protectionist policies advocated by critics were pursued in the 1950s and 1960s, by the 1970s and 1980s those states had turned to trade liberalisation and

opening up to FDI, which then drove their rapid economic growth and industrialisation (World Bank, 1993; World Bank, 1997). Furthermore, as GVCs linked to global markets bedded down in the region so these liberal policies became more important, in order to attract the “golden geese” or MNCs, constituting the flying geese pattern (World Economic Forum, 2012). Advocates argue that this policy mix has delivered rapid development success in developing countries that have implemented it.

Clearly East Asia exhibits very different experiences and approaches. After four decades of development along the reverse production cycle, South Korean *chaebol* attained the status of world class producers of electronics devices such as TVs, camcorders and CD players, while Taiwanese small and medium enterprises (SMEs) were successful with PCs, fax machines and calculators (Box 2) (Hobday, 1995a). Subsequently the late-comers South Korea and Taiwan, with their rising wages, could outsource low value added operations to less developed countries with comparative advantages in labour costs i.e. China and ASEAN.

Box 2: Technology Transfer in Korea and Taiwan

Using licensing, joint venture and OEM arrangements, local firms in Korea retained control of production and were able to upgrade their technology to catch up with higher value chain stages. These Japanese strategies to acquire technology and intensive training from the US in previous decades were adopted by late-comers in subsequent years (Kim, 1997). In the late 1970s, the South Korean government imposed policies to limit FDI per se into the country and shifted from general export promotion to a sectoral development strategy. Key policy instruments included cutting tax benefits for foreign firms and tightening selective, targeted industries to be invested in e.g. chemicals, basic metals, fabricated metal products and equipment (Chung, 2007, p. 274). Together with setting higher priority on joint ventures, these policies made licensing agreements become the only way for MNCs to access the local market. Thus South Korea successfully

absorbed foreign technology, mostly from Japan since Japanese MNCs dominated licensing agreements in this period. These policies prepared the ground for the “turning point” transition from the second to the third stage in the reverse production cycle, where product innovations were initiated.

Another way to obtain productivity is via OEM arrangements, in which Korean OEMs produced large scale, mass production, low cost standardized goods to serve customers in Japan and the US. Under the pressure of providing highest quality at the lowest prices, OEMs served as the training school for Korean industries to match international standards. Therefore, domestic OEMs not only acquired technology, staff training in quality, and engineering support from OEM buyers from Japan, but also enjoyed economies of scale and improving productivity under the pressure of providing highest quality at lowest prices (Hobday, 1995b). The government enhanced technology transfers also by means of education policy.

Taiwan experienced to some extent the same development path as South Korea, although the Taiwanese government did not intervene in the FDI flow like South Korea's. However, Taiwanese firms also eventually graduated from dependence on Japanese FDI by joining OEM agreements with US retail firms and Japanese trading companies, or sogo shosha, which work very closely with their keiretsu (business groups) partners (Hayter & Edgington, 2004). By combining investment on vocational training, overseas education and research projects from both the government and domestic firms, these two countries have set up large institutes for R&D to adopt foreign technologies.

The ASEAN story is different again. Although the region has still attracted a large amount of investment from Japanese MNCs owing to lower labour costs and big markets (Ernst, 2000), major ASEAN countries, notably the Philippines, Indonesia, Thailand and Malaysia, are at the lower tiers of RVCs, struggling to develop past the first stage of assembly

operations. Mostly this is owing to lack of good institutional settings, notably low skilled, poorly educated workforces, weak government policies for industrial development, and domestic partners showing little interest in unlocking the secrets of foreign technology via reverse engineering (Hayter & Edgington, 2004). In addition, the technology and skills learning procedure has only taken place within Japanese MNCs rather than broadly across the entire country (Rasiah, 2003).

This supports the view put forward by Hatch and Yamamura (1996) in their very influential book detailing how Japanese MNCs keep technology secrets within the firm by parcelling out discrete bits of production to different ASEAN countries so that no country would be able to imitate the whole cycle.

China, as the latest host of East Asian geese, opened up its economy rather late compared to major Asian partners and subsequently has played a decisive role in the formation of East Asia's RVCs owing to its size and geo-political position. Beginning at the end of the 1970s with China's selective liberalisation of its massive market, and associated workforce mobility, it received further boosts from the Japanese high yen period and the outbreak of the Asian financial crisis in 1997, both of which caused mass production and assembly operations to shift to China, as the flying geese pattern predicted. By contrast, China's failed 1950s attempt to leap frog into industrial development via the "Great Leap Forward" showed the difficulty for an economy to skip industrial development processes without the improvement of its institutional setting, of which the enhancement of human resources takes centre stage (Kwan, 2002).

This discussion surely does not have a final solution, but it teaches the importance of policies and governments. International lead firms or "lead geese" are dependent on an investment climate that is compatible with medium or long-term investment decisions. In other words, the institutional quality and governance structure of the host countries plays a role. Corruption, conflicts, poorly defined property rights and weak rule of law all have negative effects on MNCs' choice of location to invest. It seems that Southern Africa in the past has suffered from deficiencies in this field, which certainly contributes to the

explanation why the region did not experience a flying geese period. The flying geese pattern implicitly takes the institutional and policy requirements as given. In the following, we sketch out some criteria for its successful implementation in SACU.

6.2.2 Criteria for Successful Application within SACU

In our view the flying geese model is an ex-post analysis rather than intended strategy since industrial shifting was caused primarily by the private sector, in which MNCs took the crucial role. Nevertheless, to successfully use this approach and influence industrial shifting within RVCs in Southern Africa, in particular in SACU, requires a number of preconditions which can be identified by looking at East Asian experience. We identify four in our indicative (by no means exhaustive) list:

1. From the host countries' point of view, "FDI-led growth" pushed East Asian governments toward trade and policy liberalisation to open up the economy for FDI inflows, thus paving the way for better integration to GVC/RVCs, and being a functioning goose within the flying geese model.
2. The main driving forces of upgrading and industrial shifting are dynamic comparative advantages (in labour-intensive, low cost manufacturing assembly operations) and competitive advantages (in logistics, business environment, and policy suitability). Further analysis is provided in section 6.2.3.1.
3. Elaborating on 2, these dynamic comparative advantages are best developed with a skilled labour force. Labour skills levels decide where the country is allocated in value chains. The government's impetus to adapt foreign technology, skills and knowledge transfer, determine the country's ability to move up value chains. In this regard, human resources need to be improved via primary and skilled-base education. Furthermore, investment in research and technology are particularly important the closer the country gets to the knowledge frontier.

4. The role of the “lead goose” in the region is clearly important, but is not enough. Thus it is important to not only attract firms from the region itself but also from other regions. Further analysis is delivered in parts 6.2.3.2, 6.2.3.3 and section 6.3.

Other criteria for countries to participate in GVC/RVCs could be developed, for example those based on Draper, et al. (2014), and shown in Table 14:

1. Technological readiness for the absorption and transfer of technology, measured by a number of indices in the World Economic Forum (WEF)’s Global Competitiveness Index (GCI) (World Economic Forum, 2014).
2. Market access, comprising indicators from Global Enabling Trade Index, and including domestic and foreign market access plus efficiency and transparency of border administration. Domestic market access focuses mainly on tariffs and the share of duty-free imports. Foreign market access includes tariffs faced in destination markets and the margin of preference in destination markets (Hanouz, et al., 2014).
3. Logistics performance, based on the World Bank’s Logistics Performance Index (Arvis, et al., 2014).
4. Institutional frameworks, as measured by the institutions sub index of the GCI, which takes account of a very wide range of public and private institutions.
5. Quality of infrastructure index, taken from the GCI.
6. Work force development, encompassing the health and primary education, higher education and training, and labour market efficiency sub-indices from the GCI.
7. Business sophistication, drawn from the GCI.
8. Innovation capacity, which is especially important for stage 3 in the reverse production cycle, and can be approximated by the Innovation index from the GCI.

From the abovementioned criteria, a number of the determinants for application of the flying geese model to SACU will be discussed in detail in the next section, focused mainly on the comparison between SACU members and East Asian countries.

Table 14: Selective Indicators for GVC/RVCs Integration

Index	South Africa	Bots wana	Lesotho	Namibi a	Swazi land	China	Viet nam	Bangla desh
Ease of doing business (ranking) ¹	41	56	136	98	123	96	99	130
Global Competitiveness Index ²	4.35	4.15	3.73	3.96	3.55	4.89	4.23	3.72
Enabling Trade Index ³	4.2	3.7	3.5	3.9	-	4.3	4.0	3.4
Logistics Performance Index (1-5) ⁴	3.43	2.49	2.37	2.66	-	3.53	3.15	2.56
Technological readiness ²	3.9	3.6	2.4	3.4	2.7	3.5	3.1	2.7
Firm-level technology absorption ²	5.4	4.3	3.5	4.9	3.9	4.7	3.9	4.1
FDI and technology transfer ²	4.8	4.2	3.5	4.7	3.8	4.5	4.2	3.9
Domestic market access ³	5.0	5.4	4.1	5.4	-	4.2	4.8	3.4
Foreign market access ³	2.2	1.9	3.7	2.5	-	1.9	3.6	4.2
Efficiency & transparency of border administration ³	4.8	3.5	3.6	3.8	-	4.9	4.0	3.2
Infrastructure ²	4.3	3.2	2.8	4.2	3.3	4.7	3.7	2.4
Institutions ²	4.5	4.5	3.9	4.2	3.9	4.2	3.5	3.0
Health and primary education ²	4.0	4.1	4.0	4.6	3.7	6.1	5.9	5.3
Higher education and training ²	4.0	3.6	3.2	3.2	3.2	4.4	3.7	2.9
Labour market efficiency ²	3.8	4.6	4.2	4.3	3.9	4.6	4.4	3.7
Business sophistication ²	4.5	3.5	3.4	3.7	3.6	4.4	3.6	3.5
Innovation ²	3.6	3.0	2.9	3.1	2.9	3.9	3.1	2.6

Note: Indices other than Ease of Doing Business Index and Logistics Performance Index are ranged from 1 (lowest) to 7 (highest).

Source: 1: World Bank (2014b); 2 World Economic Forum (2014); 3 Hanouz, et al. (2014); 4 Arvis, et al. (2014)

6.2.3 How does the SACU region measure up?

We defer the discussion of policy orientations towards FDI and trade liberalisation to section 6.4, since section 6.3 reinforces the case for liberal approaches. Here we concentrate on comparative and competitive advantages, including the structure of the labour force, and South Africa’s potential to play the role of the “lead goose”.

6.2.3.1 Comparative and competitive advantages and the production cycle

Table 14 draws together key comparative indicators as referred to in Section 6.2.2. Interestingly, on most indicators there is not much to choose between SACU countries and the selected Asian peer group. Nonetheless, Table 14 shows that, in the longer term, leading industries in SACU need to improve their human capital quality and capacity with similar pace to what East Asia did with its education system. As said above, the enhancement of human resources is the key institutional prerequisite for value chain upgrading. As shown in detail below, South Africa’s performance in education is weak.

The evident lack of big differences on the range of indicators highlighted in 6.2.2 highlights the crucial role of demographics in differentiating the countries. Simply put, Southeast Asia and China have a comparative advantage in population size that Southern Africa will probably never enjoy. This is clearly demonstrated in Table 15.

Table 15: Demographic Trends – Asia and Africa

Regions	Population (millions)			Population growth rate (%)	
	2010	2020	2030	2010-2015	2025-2030
AFRICA	1.031.084	1.312.142	1.634.366	2,463	2,147
Sub-Saharan Africa	831.464	1.077.571	1.368.192	2,648	2,342
Eastern Africa	342.595	451.015	575.796	2,834	2,379
Ethiopia	87.095	111.521	137.670	2,551	2,005
Kenya	40.909	52.906	66.306	2,669	2,204
Middle Africa	124.978	163.510	209.350	2,735	2,410
DR Congo	62.191	81.252	103.743	2,719	2,377
Southern Africa	58.803	63.484	67.420	0,847	0,575
Botswana	1.969	2.150	2.348	0,865	0,892
Lesotho	2.009	2.226	2.419	1,077	0,793
Namibia	2.179	2.609	3.042	1,869	1,449
South Africa	51.452	55.131	58.096	0,777	0,498
Swaziland	1.193	1.368	1.516	1,491	0,976
Western Africa	305.088	399.562	515.626	2,734	2,516
Ghana	24.263	29.746	35.264	2,126	1,627
Nigeria	159.708	210.159	273.120	2,780	2,596
ASIA	4.165.440	4.581.523	4.886.846	1,027	0,573
China	1.359.821	1.432.868	1.453.297	0,605	0,059
Southern Asia	1.681.407	1.899.587	2.085.479	1,292	0,857
Bangladesh	151.125	169.566	185.064	1,193	0,791
India	1.205.625	1.353.305	1.476.378	1,235	0,796
Pakistan	173.149	203.351	231.744	1,661	1,211
South-Eastern Asia	597.097	666.110	722.790	1,169	0,751
Indonesia	240.676	269.413	293.482	1,212	0,797
Philippines	93.444	110.404	127.797	1,713	1,390
Viet Nam	89.047	97.057	101.830	0,952	0,401

Note: Population and population growth rate estimations are projected with medium fertility rate

Source: UN DESA (2012)

Having said that, overall African demographics are moving, potentially, towards a favourable dividend. Mubila (Mubila, 2012) from the AfDB estimates the continent's total population would peak at 1.6 billion in 2030. However, that is largely an East and West African phenomenon, potentially making those African regions more suited to labour-intensive, assembly-based manufacturing down the line. At the moment, South Africa has a substantial population of approximately 51 million but, by Southeast Asian standards, let

alone Chinese standards, it is of average size. Furthermore, the BLNS countries have small populations, averaging around two million people each. In comparison, Southeast Asian countries have large populations, totalling approximately 600 million.

So the labour pool in SACU is sharply limited relative to that on offer in East, or Southeast Asia, and Southern Africa has the lowest population growth rate within Sub-Saharan Africa, with a 2% fertility rate in 2012 compared to much higher rates of about 2.5% in West, East and Central Africa (Mubila, 2012); not surprisingly it also has much lower overall population growth rates than East and West Africa (see Table 15). However, lower fertility rates bring an advantageous facet for Southern Africa: the region is also projected to have the highest ratio of working age over non-working age population in the continent by 2050. It is predicted that by then per non-working person (e.g. children or seniors) there will be 2.3 times more people capable of being in the labour force. The ratio in Southern Africa is much higher than its Central (1.9), Western and Eastern (1.6) peers (Mubila, 2012). This also reflects the emerging middle class in Southern Africa as the main factor for rising consumers and potential booming markets. However, consumption within the SACU region will never come close to East and Southeast Asian levels given the vast population differentials. Furthermore, the high unemployment rate is a key hindrance. In addition, quantitative surveys of SMEs in low manufacturing sectors from Dinh et al. (2012) shows African workers are relatively less productive than workers in East Asia, although in some sectors productivity is comparable to average firms in China or Vietnam e.g. polo shirts or leather loafers. Therefore, while it is true that, as former World Bank chief economist Justin Yifu Lin predicted China's rising wage gap could push as many as 85 million factory jobs out of China in the coming years (Wonacott, 2014); neighbouring Asian countries are and will be the first to benefit from this. However, besides China, rural wages are rising across Asia too (Wiggins & Keats, 2014). Thus, there is potential for African countries to take some share of manufacturing relocations. Yet even this potential is currently limited by relatively higher logistics costs, with a few exceptions such as the Addis Ababa region in Ethiopia (Wiggins & Keats, 2014), and in the SACU case wage costs are in any event substantially higher as we discuss in Section 6.4.1.3.

The core of the flying geese pattern lies in manufacturing and industrial sectors. However, the share of manufacturing in SACU's GDP is still limited compared to its East Asian peers, from the largest economy in the region South Africa (11.56%) to its neighbours: Botswana (5.68%), Lesotho (12.99%), Namibia (13.05%), while developing East Asia records much higher rates: China (31.83%), Thailand (32.94%), Indonesia (23.70%) and Malaysia (23.97%). The only country within SACU that has a high manufacturing rate is Swaziland at 43.83% (Table 15).

These factors render a labour-intensive manufacturing development path difficult to initiate; we elaborate further on this in Section 6.4.1.3 with respect to comparative unit labour costs. Therefore, it seems that even stage 1 of the reverse production cycle model is challenging for Southern Africa given the demographic and human resources disadvantages the region faces relative to East Asia in particular. Consequently, for the SACU region at its current developmental trajectory, stage 2 seems the utmost the region can achieve.

Stage 3 of product innovation requires intensive investment in research and development, which is difficult to achieve if relying solely on foreign investment. Outside of South Africa, the potential for such investment is limited.

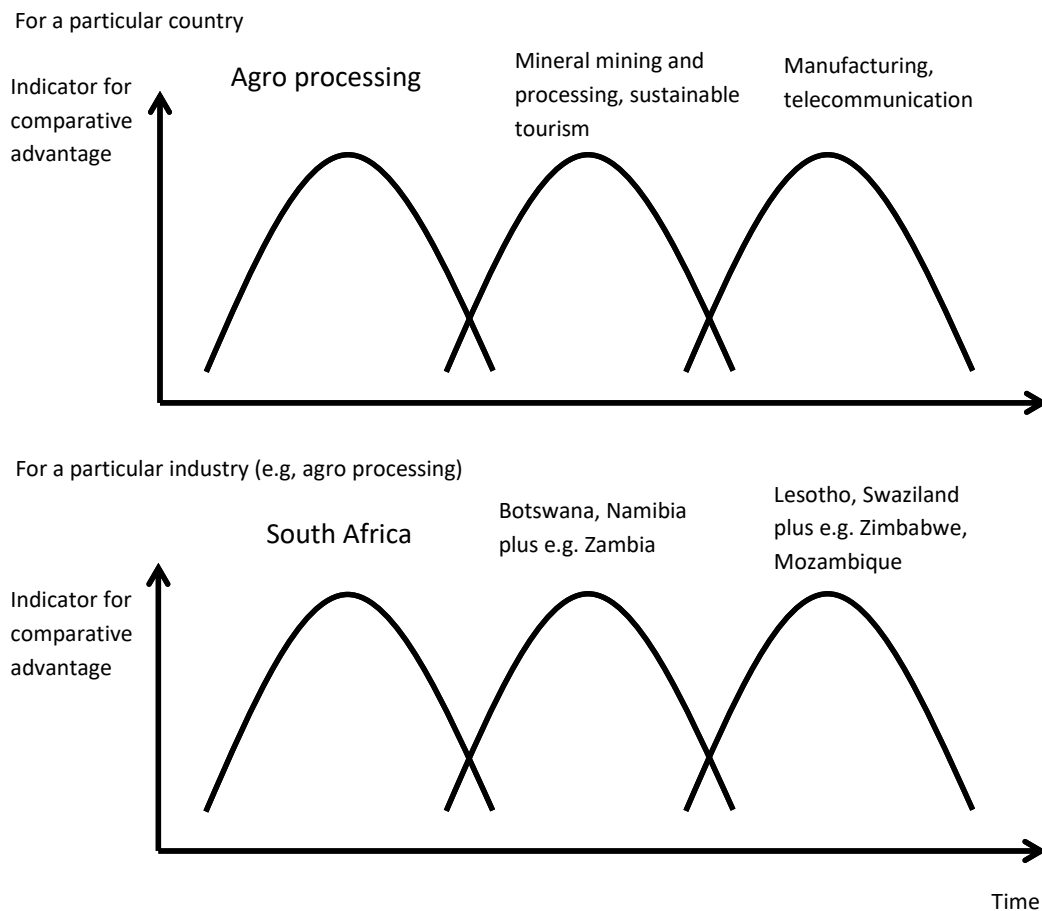
Finally, it has to be acknowledged that the problems with respect to education, but also other shortcomings such as health problems and infrastructure deficits in the region depend on the quality of institutions. Although they may not directly affect the return on investment on FDI, indirectly they render many potential projects unsuccessful. So, the first and foremost task of SACU governments is to improve, inter alia, the quality of administration, the enforcement of property rights and the broader rule of law – all essential prerequisites for a market economy.

6.2.3.2 Can South Africa be the lead goose?

South Africa is undoubtedly, and by a large measure, the leading economy in Southern Africa and the one in the region with the most potential to drive a flying geese pattern of

industrialisation. It is rightly considered the growth pole of the region owing to its relative economic weight and sophisticated corporate capabilities, as reflected in its regional FDI and trade footprints. Its companies are significant investors in the BLNS economies, and beyond in Southern Africa, in a range of sectors reflecting South African relative comparative and competitive advantages (Naidu & Lutchman, 2004), from natural resources extraction, through basic industries and utilities, to manufacturing and services (Draper, et al., 2010). South Africa is also the largest foreign investor in Lesotho, Botswana and Swaziland. Only South African companies have the potential to drive RVCs in these sectors; other countries in Southern Africa such as Angola, Botswana or Zambia have infrastructure and capacity primarily for extracting natural resources (Ogunleye, 2011).

Figure 9: An Example of Flying Geese Pattern in Southern Africa



Source: Adapted from Kwan (1996)

Clearly post-Apartheid South Africa is not comparable to 1960s Japan on a number of levels, beginning with economic capacity and reach, traversing through very different labour forces and population sizes, into fundamentally different domestic political economies and associated constraints. South Africa cannot emulate Japan in terms of scale of FDI, size and sophistication of home firms. The Japanese outward FDI footprint is comprehensive, huge and powerful, as befits the third largest economy in the world. South Africa lacks the necessary economic, political, and technological capacities to copy it. It also has a limited (in global economic terms) presence.

Finally, the demographic structure in East Asia supports the flying geese pattern: Japan's population is aging and costly to maintain, which encourages relocation of low value added, labour intensive operations to lower income, labour abundant neighbouring countries. However, South Africa may not suit the role of Japan in the region since the former's population is young, and the country has been dealing with a stubborn structural unemployment rate of approximately 25% (World Bank, 2014d) for two decades while the youth unemployment rate stands at approximately 45%, one of the highest in the world (Zimmermann, et al., 2013). Consequently, capital is urgently needed in South Africa itself.

Therefore, relying on larger MNCs from outside the region is a necessary alternative.

6.2.3.3 China and/or the West as the lead goose?

One feasible scenario for the flying geese pattern to work in Southern Africa is from Chinese, US or European investment into the region. This is particularly relevant in cases where South African companies are not able to act as lead geese. International lead firms within GVCs could, as we elaborate in Section 6.3, use South Africa as gateway and act as lead goose in the value chain.

In this regard, Western companies are of importance in a number of sectors (see section 6.3.3). However, though some Western MNCs are still active in Africa, in general they are losing relative impact in the region. Over three decades, Western Europe's share in all international trade with Africa decreased from 51 to 28 percent (Luyten, 2013).

Nevertheless, the declining European share in international trade does not necessarily indicate that the influence of Western companies is decreasing, since the role that companies play in value chains is more important; in other words, European companies may simply be sourcing more from their host bases in the region or indeed from Asia instead of sourcing from Europe. One example is the automobile components industry in the Eastern Cape and Gauteng regions of South Africa, which on the surface has been well integrated into GVCs through automobile OEMs. However, the potential for SACU to form RVCs in SACU in this particular industry is ambiguous, since component exports are largely limited to one African country, Zimbabwe, the remainder being destined for the West (Barnes & Kaplinsky, 2000).⁶

By contrast, although recently they have been heavily investing in Africa, Chinese companies so far do not act as lead firms within GVCs. Nevertheless, China, in its quest for natural resources via FDI and development aid, has been picked by the World Bank as the most promising investor to help build Africa's manufacturing base (Ozawa & Bellak, 2011). However, Africa's development benefits from Chinese investment are questionable, for example in terms of environmental and labour standards, the need for improving institutional settings such as promotion of human rights and combating corruption. Furthermore, Chinese infrastructure investments often are also claimed to be poorly built (Scholvin & Strüver, 2013). Nonetheless, based on their experience with labour-intensive, massive production of footwear, textiles and electronics, Chinese firms could establish factories in Southern Africa, a process which seems to be underway as China-led special economic zones (SEZs) have been established in a number of African countries, including Southern Africa (Davies, et al., 2014), although not South Africa. But as we argued above, labour costs in Southern Africa do not compare favourably with Chinese neighbours such

⁶ From the BLNS's standpoint, this is notable as in the period covered in Barnes and Kaplinsky's study they barely participated in the regional automotive value chain. It is possible that SACU's population structure plays the crucial role in forming the RVCs. South Africa's overwhelming population of 55 million is able to supply far more components than its neighbours, with populations of 2 million each. This compares unfavourably to East Asia's population structure where Japan's size is comparable to its partner "geese". Thus, it is notable that Zimbabwe with its population of 13 million, rather than the BLNS, is able to take part in automotive chains with South Africa.

as India, Vietnam, Pakistan, Bangladesh and newly liberalized Myanmar. Those countries also are located closer to China, in terms of population and availability of regional supply chain.

Relying on China, therefore, may neither deliver the quality nor the quantity of investment needed. Therefore, a combination of investors from different home countries is required. Rather than a single, dominant South African flock, a multitude of smaller flocks is necessary.

6.2.3.4 Is the Flying Geese Model Applicable?

Despite the caveats mentioned so far, we are slightly optimistic. Regarding the overall success of East Asia's RVCs development, in our view if the "flying geese" model could be successfully applied to SACU, the implications would be substantially positive. The region would become a centre of export-oriented industrialisation, generating a virtuous circle of investment with attendant spill over into domestic economies. But as we have noted above Southern Africa does not have a Japan-equivalent economy ready to drive rapid development in this way.

While it clearly has some capacity to drive regional development, not least through its own MNCs investing into the region, far more FDI than South Africa can supply is required. But why would MNCs from outside the SACU region want to engage in FDI there? To answer this question, we turn now to the "gateway model".

6.3 Attracting Flying Geese: The Gateway Model

At the BRICS Summit in New Delhi in March 2012, President Jacob Zuma referred to South Africa as the "gateway into the [African] continent". It spearheaded Africa's economic integration and "provide[d] guidance on African economic development opportunities" for overseas companies, Zuma said (Guardian Mail, 2012). Hence, the gateway affords MNCs from outside the region enhanced access to regional markets. Since African

markets, including some in Southern Africa, are growing rapidly in relation to other parts of the world, outside Asia, this is an attractive proposition.

6.3.1 What is a gateway?

Gateways are hinges between the regional and the global level. They open their hinterland to external influences – goods, services, people and ideas – and possess a nodal function. Regional clustering occurs around them. The American geographer Saul Cohen (1982), who coined the term “gateway”, argues that gateways must be analysed by their success in achieving “nodality”. Links to extra-regional partners are crucial for nodality; so is regional connectivity. In other words, the notion of South Africa being a gateway complements the flying geese model because it plugs RVCs into GVCs, or at least has the potential to do so. Key components of a gateway are hence transport infrastructure and advanced producer services, such as banking and consultancy, which enables MNCs to coordinate their businesses.

Krugman (1991) argues that location, i.e. proximity, matters for international trade and that regional economic processes tend to favour polarisation, for example between a gateway and its periphery, because of economies of scale and associated agglomeration. The World Development Report 2009 confirms this hypothesis: location and “economic distance”, meaning distance measured in cost and time of transport, matter. Trade intensity and proximity correlate (World Bank, 2009) – at least for most of South Africa’s neighbours. Distance as an obstacle to trade may be reinforced by “division”, i.e. tariff and non-tariff barriers. Regarding the special role of gateways, the World Bank (2009) introduces the term “leading area” and calls for clustering around strong markets such as South Africa. Leading areas are marked by “density”, meaning the concentration of economic activities. Density accounts for agglomeration advantages and economies of scale. Hence, it exerts a self-enforcing effect on economic dynamics.

Gateways matter so much to peripheral places because they enable the latter to connect to global markets via GVCs. Furthermore, through trade and FDI spill-overs peripheral places will be incorporated into RVCs, even if initially at the lower end of the scale. FDI in

the lower stages leads to knowledge spill-overs via demonstration effects, vertical linkages, staff turnover, and competitive pressures, allowing firms integrated into MNCs value chains the possibility to upgrade. Similarly, imports of relatively advanced machinery and intermediate goods via MNC networks promote knowledge transfers over time (World Bank, 2011a). In addition, competition via imports and FDI promotes productivity increases. Since knowledge is the key to participation in value chains, and productivity is key to long term growth and development, these effects are crucial to long term success.

6.3.2 Some Implications of the Gateway Proposition for Policy

Translating density, distance and division into policy advice, politicians in the gateway (in our case South Africa) and in the target countries (BLNS) should facilitate economic density by reducing distance and division. This way, key industries will concentrate in some places. Dealing with distance and division is a multi-scalar task: On the urban scale, people who want to do business in a gateway/gateway city should not be prevented from doing so by obstacles such as crime and inadequate public services. On the national scale, there is a need for legislation that eases cross-border business, for example visa regulations. In addition, remedies of institutional weaknesses such as corruption, lack of property rights and the like may harness the gateway function. Mostly on the regional scale, tariff and non-tariff barriers to flows of goods and services must be reduced because they hamper the interaction between the gateway and its periphery. Hence, free trade areas encompassing goods and services ought to be a key policy goal; should adequate transport infrastructure (airports, ports, railway lines and roads) as well as efficient border stops/customs controls. On the international scale, the gateway should be connected well to the cores of the global economy, most importantly by direct flights and shipping lanes.

This advice boils down to factor mobility. If factors of production are mobile, they will concentrate, generate economies of scale and (at a later point of time) account for economic impulses that are beneficial to the periphery. There is one restriction to this statement though: Migration of unskilled labour should occur for economic motivations

and not in search of public services. The same condition applies to the spatial concentration of economic activities. For this reason, institutions – in the broadest sense – ideally have to be “spatially blind”, meaning that they apply equally to an entire state or regional community. If politicians increase the attractiveness of a specific place by providing incentives to capital and labour that are not available elsewhere, the developmental outcomes will be of doubtful sustainability or even outright counterproductive.

Having said this, it may well be advisable to set up SEZs when it is politically not feasible to liberalise certain markets because of vested interests. If the SEZ takes off, political pressure may evolve in other regions or the whole country to reform the respective policy. Another reason for special treatment of regions or sectors may lie in the lack of knowledge about the correct scope and scale of regulations. In this case, the SEZs can be treated as elements of trial and error.

Thus, policy competition within the same country or region can be created. It must, however, be made sure that this yardstick competition leads to a final adoption of the most adequate regulation for all. In other words, the application of different regulations must be planned as a temporary phenomenon.

Another challenge to policies that boost a gateway is that many of them must be coordinated amongst all regional states, including not only national but also provincial and municipal governments. Economic activities concentrate in a gateway and trigger growth impulses for the periphery. Yet, there is a time lag between the concentration of economic activities in the gateway, which partly happens at the expense of the economic development of the periphery.

Moreover, if lagging and leading places are brought together in value chains, those that take a subordinate role in the value chain will experience fewer benefits, initially, than those that take a superior role. This is evidently a political challenge, in particular for the periphery that benefits later and less than the gateway.

Offsetting these political and economic challenges is the fact that over time agglomeration forces will compel dispersion of economic activity into the peripheral region, once the cost structure in the leading area rises beyond an optimal level. This is analogous to the flying geese pattern, which originated in rising Japanese domestic costs and propelled Japanese MNCs into their region. There is evidence of such forces being in play in Southern Africa, as we briefly indicate below.

So, notwithstanding the challenges, South Africa's gateway role is essential for its neighbourhood. Southern Africa has a tremendous opportunity to transform its resource wealth and the present resource boom into economic development. In order to integrate the resources, which are located in the Southern African periphery, into GVCs, the region needs a gateway that provides and manages transport infrastructure and can coordinate the management of value chains, as we show in the following sub-sections. The realisation of value addition within the region instead of merely exporting unprocessed goods depends largely on South Africa's globally competitive and technologically sophisticated enterprises; foreign MNCs; and regional policy approaches (more on this in Section 6.4).

6.3.3 South Africa as the Southern African Gateway

South Africa fulfils the gateway notion in two ways: transport infrastructure and the business environment. These are widely identified in the literature as crucial for participation in global value chains (see inter alia the AfDB, OECD, & UNDP (2014)). In sub-sections 6.3.3.1 to 6.3.3.3, we show that:

- Southern Africa, especially the members of SACU, depends on South African harbours to connect to world markets, particularly Durban and Richards Bay. By African standards, the broader Southern African region is connected very well to South Africa by railway lines and road corridors. The North–South Corridor is crucial for the overseas trade of landlocked countries (Botswana, Lesotho, Malawi, Swaziland, Zambia and Zimbabwe). South Africa's strength in physical infrastructure is reinforced by a sophisticated business environment for the logistics sector. Regarding air

transport, even the entire sub-Saharan region is tied to South Africa's major airport, O. R. Tambo in Johannesburg, which interlinks regional and global flights.

- South Africa's two global cities, Cape Town and Johannesburg, are the key locations for overseas companies that establish regional headquarters to coordinate their sub-Saharan African business. The reason for this is excellent corporate services available in Cape Town and Johannesburg. Durban is the principal logistics gateway for container shipping, centred on its port, but largely fails to attract headquarters investments.
- South Africa also plays a critical role as a regional services hub, supporting a range of productive activities throughout the region. For example, the Johannesburg Stock Exchange (JSE) is a conduit for financial flows from the rest of the world to the entire African continent. Private banks and telecommunication companies provide excellent African networks. The Development Bank of Southern Africa (DBSA) and the Industrial Development Corporation (IDC) are by far the most liquid regional providers of credits for economic projects.

Nevertheless, there are some pitfalls ahead: South Africa, which is located at the southern edge of the African continent and at great distance to the cores of the global economy, is not the only possible gateway to Southern Africa. South Africa implements a range of tariff and non-tariff barriers. Domestically, there is a severe lack of skilled labour. Visa and work permits for foreigners are not easy to obtain. In addition to this, the South African government does not appear to have a coherent gateway strategy. Some of its policies and the general political climate in South Africa work against the country's gateway status. We address these problems in Section 6.3.4.

6.3.3.1 South Africa as a Transport Hub

During the colonial era, there were numerous small gateways in Southern Africa. The British, German and Portuguese conquests started at harbours, usually bays that offered protection from ocean currents and storms or at least places that allowed unloading of

goods. In the late 19th and early 20th centuries, the colonial powers built railway lines to the ports in order to export crops and mining products from the hinterland. These railway lines also reinforced their territorial control. Accessing the interior of Southern Africa soon became much easier, although the Great Escarpment, a region that features tremendous changes in elevation, sharply separates the narrow coastal strip from plateaux at an altitude of about 1,000 metres. However, the transport infrastructures built by the colonial powers were not meant to integrate the different parts of their colonies. They rather fragmented them, individually linking several corridors to Europe via their respective gateways. For example, railway lines and road corridors from the colonial era connect harbours in Angola (Lobito, Luanda and Namibe), the two Congos (Matadi and Pointe Noire), Mozambique (Beira, Maputo and Nacala), Namibia (Lüderitz and Walvis Bay) and Tanzania (Dar es Salaam, Mtwara) to the nearby hinterland. Only the Coast2Coast Corridor from Maputo to Johannesburg to Walvis Bay and the North–South Corridor from Durban via Johannesburg, Harare and Lusaka to Lubumbashi bind the regional countries together, and in both cases reinforce South Africa’s gateway role. Furthermore, the quality of regional infrastructure is poor.

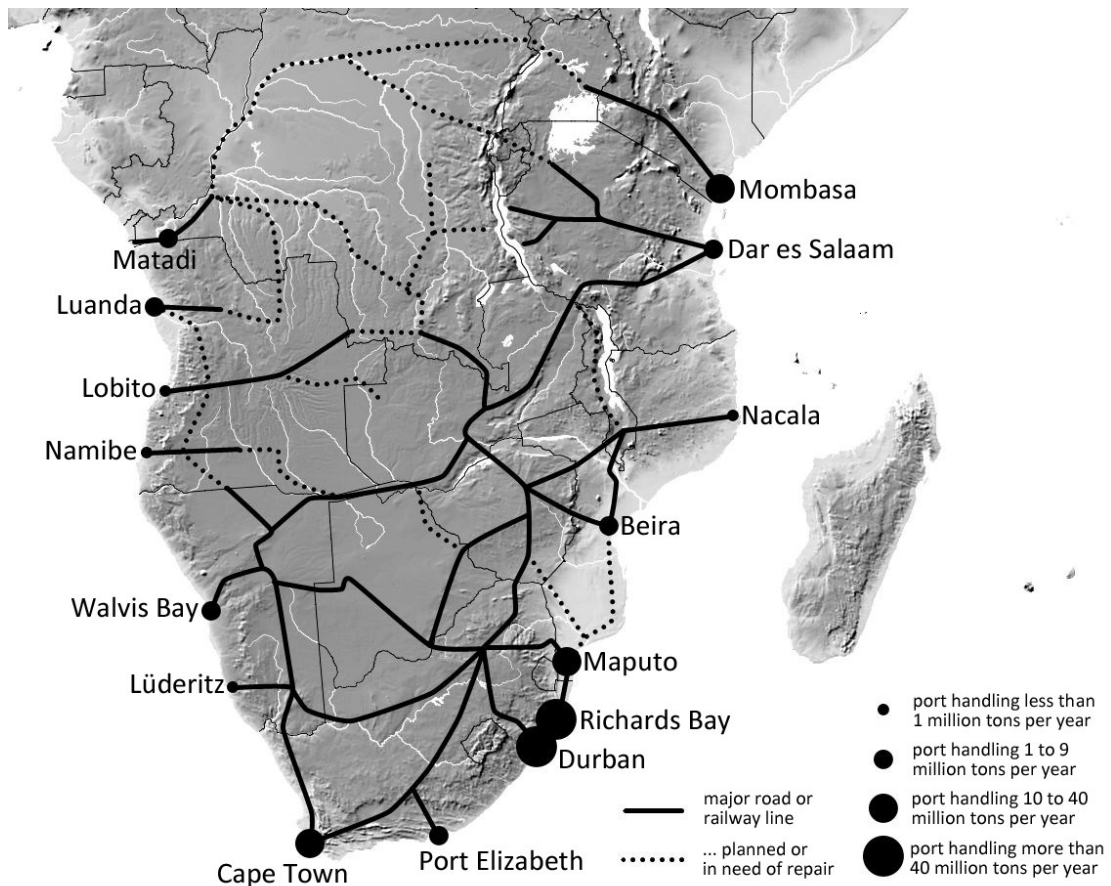
Roads tend to be filled with potholes. Sometimes they are untarred, for example about half the way from Mozambique’s port of Nacala to Blantyre in Malawi. Railway tracks date back to the colonial era. In central Mozambique, trains that transport coal from Tete Province to Nacala go as slowly as 20 kilometres per hour on average (Scholvin & Plagemann, 2014). In the worst cases, tracks are overgrown by vegetation, for instance between Kolwezi in the DR Congo and the Angolan border (Senior officials of the DBSA, 2011). All this highlights the crucial role of South African infrastructure (Box 3).

Box 3: The Crucial Role of South Africa’s Ports

Within this regional transport network, South Africa’s ports play a critical role. First, they are relatively well interconnected by the two just-mentioned corridors. A study by the World Bank indicates that 59% of the roads between Lubumbashi and Durban, which are completely tarred, are in good

condition, meaning that there is no immediate need for maintenance work. As a comparison, the same study rates 72% of the roads from Harare to Beira as in fair condition, with the remaining 28% not rated (Ranganathan & Foster, 2011). Moreover, because of much higher port capacities, which account for economies of scale, advanced equipment/technologies and more efficient management available there, the bulk of the overseas trade of South Africa's direct neighbours, Malawi and Zambia passes through Cape Town, Durban, Port Elizabeth and Richards Bay. Figure 10 shows major harbours in East and Southern Africa as well as their connections to the interior of the region. It also indicates the volume of goods handled at each harbour, demonstrating South Africa's dominance.

Figure 10: Map of Harbours and Transport Corridors in East and Southern Africa



Source: Authors' own draft.

The advantages of South Africa's ports that result from equipment/technology and management are exemplified by container dwell time, which is four days on average in Durban. Cape Town, Port Elizabeth and Namibia's port of Walvis Bay reach slightly higher values with six to eight days. The corresponding figures for Beira, Luanda and Maputo are 20, 22 and 12 days respectively (AICD, 2011). The port of Dar es Salaam, which constitutes the main alternative gateway for the Congolese–Zambian Copperbelt, is congested and hence suffers from enormous delays. A World Bank study that concentrates on the foreign trade of the landlocked regional countries shows that delays at Dar es Salaam make Durban the faster option for Zambia's exports and imports. Dar es Salaam has, however, an advantage in terms of costs for rail transport – not necessarily time – because of being physically closer to Zambia. The advantages of Durban are even clearer in comparison to Beira, which is the seemingly natural gateway for Zimbabwe and played this role prior to the Mozambican civil war (Ranganathan & Foster, 2011). Hence, South African ports do particularly well for transshipments, linking the harbours of the regional countries to extra-regional trading partners. South Africa's ports serve as hubs insofar as large container vessels from overseas are sent there, mostly carrying goods destined for the South African market. A few goods are then reloaded onto smaller vessels that go to ports nearby in order to service small local markets. Furthermore, port congestion boosts South Africa's role in transshipments: South Africa's transport company Transnet is entering into port-pairing arrangements, most notably with Luanda. These set in where the smaller non-South African ports do not have the capacity to handle incoming cargo, meaning they redirect such cargo to South Africa either via mooted regional feeder lines or land transport (Senior official of the DPE, 2012). Adding another example, United Africa Feeder Line (UAFL), a regional shipping company, links the Mozambican

ports of Beira, Maputo, Pemba and Nacala to Durban, offering MNCs, in particular those from the mining sector, an alternative to road transport.

Related to this, the high level of economic development in South Africa has brought about an environment that facilitates business activities, including transport. The World Bank's Logistics Performance Index (LPI), as shown in Table 14, reveals that South Africa offers better conditions for transport than other regional countries.

By global comparison South Africa belongs to the first tier of countries, on the same level as New Zealand, South Korea and Turkey. Its neighbouring countries belong to the third and fourth tiers, which are almost exclusive to the world's least-developed countries.

It is unlikely that South Africa's dominance for the transport of goods in large quantities will cease in the near future. A major reason for this is that the development of corridors that bypass South Africa, especially regarding transport by rail, is hardly economically feasible because of the low quantity of transported goods. China's massive investment in transport infrastructure does not appear to constitute a challenge yet because of insufficient quality: Angolans speak of "disposable roads" built by Chinese construction firms as they wash away after one rainy season (Scholvin & Strüver, 2013).

Even where overseas companies seek to export tremendous amounts of goods, as coal miners do in central Mozambique, alternative gateways will probably remain limited to the sub-national scale and niches: a coal terminal handles bulk goods and does not help much for containers. Presently, alternative gateways within the region face the obstacle of insufficient port infrastructure. Corridors to the hinterland require intense rehabilitation. The Tanzania–Zambia Railway (TAZARA), the main project to bypass South Africa during the apartheid era, is hampered by the unfavourable geography of the East African Rift Valley: in addition to high elevations, mudslides frequently block the track. Tanzania Railways Ltd operates at 50 per cent of its capacity and TAZARA is indebted (Hirschler & Hofmeier, 2010). South Africa's rail company Transnet contrariwise maintains the highest level of productivity of any railway in SSA, and is in the early stages of a massive capacity expansion.

South Africa’s outstanding connectivity in terms of maritime transport is revealed by the Liner Shipping Connectivity Index (LSCI) which measures, using various variables, how well the ports of a country are connected internationally on a scale of 0 to 100. As Table 16 shows, South Africa’s ports are much better interlinked than those of any other country in East and Southern Africa.

Table 16: Manufacturing as Share of GDP

SACU		East Asia & Pacific	
Botswana	5.68	China*	31.83
Namibia	13.05	Philippines**	20.55
South Africa	11.56	Thailand	32.94
Swaziland*	43.83	Indonesia	23.70
Lesotho**	12.99	Malaysia	23.97

*Data in 2013; * Data in 2011; ** Data in 2012*

Source: World Bank (2014d)

Yet, there is more to transport infrastructure than railway lines, roads and harbours, especially when thinking about gateways. An overseas company that seeks to invest somewhere in South Africa’s periphery or has to manage an investment project there, needs to send in its managers from time to time. New business contacts usually require face-to-face interaction. Hence, the question of how individuals from the cores of the global economy can reach the periphery matters.

Data compiled by Draper and Scholvin (2012) on flight connections from O.R. Tambo, which is South Africa’s main international airport, reveals that this air hub (Box 4) not only interlinks South Africa globally (see Figure 11). O.R. Tambo also provides excellent regional flight connections (see Figure 12).

Box 4: O.R. Tambo as Central Hub

While practically every economically relevant city in the SACU region can be reached directly from Johannesburg several times a day, and even smaller towns — in particular in Mozambique — are well connected to Johannesburg, flight connections become thinner beyond Southern Africa.

Nonetheless, O. R. Tambo offers direct flights to major cities in sub-Saharan Africa at least once per day. Airports there provide links to towns nearby. North of the Sahara, only Cairo can be reached directly. Beyond Africa, the old and new cores of the global economy are well connected to Johannesburg, with a clear dominance of flights from Europe.

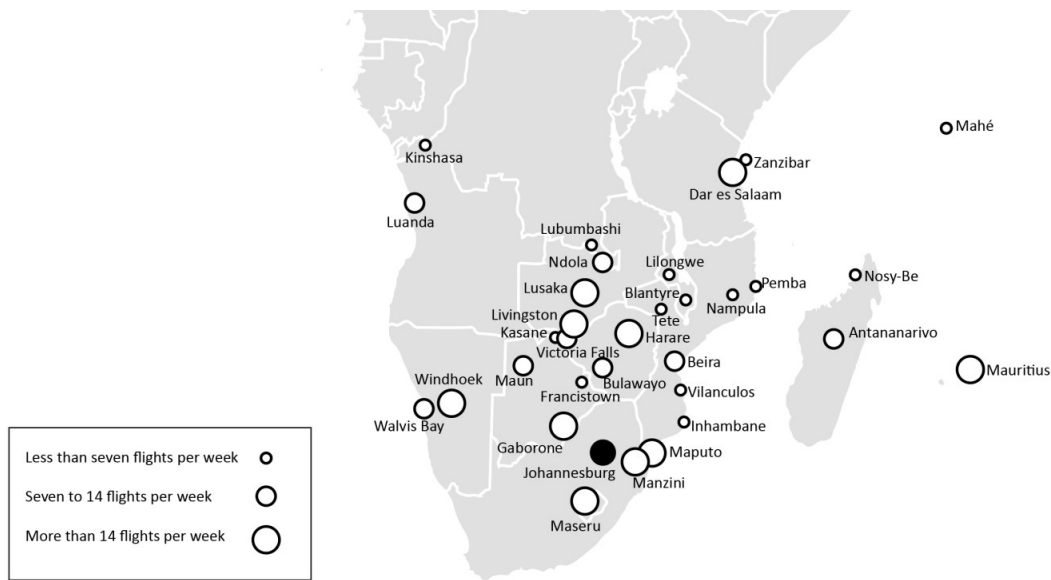
Figure 11: Map of Global Flight Connections Starting at O.R. Tambo



Source: Draper & Scholvin (2012) p. 22

South Africa's excellent flight connections also matter for moving goods; albeit less bulky ones than those usually transported by rail and road – gold, platinum or even vegetables as opposed to coal. Dettmer, Freytag and Draper (2014) show that South Africa exports a much larger share of products with high air cargo relevance to Mozambique, Zambia and Zimbabwe than to industrialised countries. Hence, air cargo transport appears to be a valuable option to overcome trade barriers associated with land transport, including corruption at border stations (more on this in section 3.5). This reinforces South Africa's gateway role insofar as airports in neighbouring countries are even less connected with non-African places than ports.

Figure 12: Map of Regional Flight Connections Starting at O.R. Tambo



Source: Draper & Scholvin (2012), p. 21

As these considerations suggest, linking with South Africa eases overseas trade for Southern African, and particularly SACU, countries. While Namibia has its own access to the sea via the port of Walvis Bay, Botswana, Lesotho, and Swaziland are landlocked. This adds significantly to their trade costs, but those costs would be much higher if they had to rely on the infrastructure and organisational capacities of other countries in the region. For example, fully exploiting Botswana’s coal resources is currently limited by the fact that the landlocked country does not possess a sufficient rail link from its coalfields to a nearby port. Linking Botswana’s coalfields to those of South Africa, which are already connected by rail to Richards Bay, would significantly increase development opportunities for Botswana (Scholvin, 2014).

6.3.3.2 South Africa’s Global Cities

Even if overseas companies decide to use transport infrastructure in South Africa’s neighbourhood, seemingly bypassing the gateway such as the Brazilian mining giant Vale in central Mozambique, South Africa will remain crucial for them. The business environment that Cape Town and Johannesburg provide are the reason for this – Vale

does not coordinate its Mozambican business from an office in Beira or Maputo. Its executives work in Gauteng, South Africa. In other words, being linked to the South African gateway is beneficial for the regional countries insofar as South Africa makes them accessible for transnational companies.

There are various components of what appears to be a regional headquarters function. Johannesburg and surrounding Gauteng is the largest urban economy in sub-Saharan Africa. It is the centre of sophisticated services networks, which underpin a range of economic activities increasingly centred on regional markets.

Network services, comprising communications, finance and transport; arguably constitute the backbone of Johannesburg's competitive proposition. They are readily available at relatively reasonable cost compared with other sub-Saharan countries. Energy supply is secure, at least by African standards. These location advantages also apply to Cape Town; albeit it plays a secondary role compared to Johannesburg and has to specialise in niche sectors such as oil and gas.

Over time, this sophisticated economic structure of Cape Town and Johannesburg has been supplemented by agglomerations of other services that enable the complex business processes required to run modern economies and associated MNC networks. Those related services encompass a wide range of activities, from professional services such as legal and accounting, through consulting, the education services provided by South Africa's relatively sophisticated business schools and well-endowed universities, the widespread availability of various news and analytical services through numerous and growing channels, to the vibrant free press that underpins these. Such knowledge services are critical to head office functions, enabling knowledge accumulation at the centre in order to better manage subordinate activities in satellite countries (Draper & Scholvin, 2012).

These factors must at least partly explain why office space provision has grown rapidly in Johannesburg, with a range of foreign companies setting up offices there since the end of apartheid. It is difficult to establish empirically the extent to which those foreign

operations represent regional headquarters coordinating a network of regional activities, as opposed to operations based in South Africa and targeting the local market. Nonetheless, Parnreiter et al. (2013) calculate that non-South African companies comprise 39 per cent of the headquarters of 181 large companies located in the metropolitan area of Johannesburg. In Midrand, they are even dominant with a share of 53 per cent.

Moreover, soft factors reinforce South Africa's attractiveness to foreigners. The country offers a Western style and standard of living, or what one commercial diplomat called the "golf course effect", whereas other sub-Saharan destinations such as Angola or Nigeria are regarded as "hardship posts". Some interviewees from Cape Town even suggested that overseas managers "fight in the boardroom" for the opportunity to supervise a project there because of the city and its surroundings being a highly attractive tourist destination with a Mediterranean climate. They also pointed out that the attractiveness of Cape Town has a strong monetary expression: well-paid managers from overseas are willing to go to the office of their company in Cape Town, working for the salary they used to earn in their home country. In order to get managers to other places in Africa, multinational companies have to offer them considerably higher salaries (Managers of a maritime supply company, 2014).

Cape Town and Johannesburg should not only be seen as entry points for companies and managers from overseas. The sophisticated business environment and excellent producer services they offer are essential for companies from the regional periphery seeking to plug into global value chains. What is more, the region's highly skilled labour force is, at least partly, formed in Cape Town and Johannesburg, as the large number of SACU and SADC (Southern African Development Community) students at South African universities demonstrates. Related to this, businesspeople and politicians from the region seek consultancy advice in South Africa, simply because cities like Lusaka and Windhoek do not possess a strong knowledge economy. If economic development in Southern Africa is to be based on skilled entrepreneurs who have access to advanced producer services that allow them to grow their businesses and globally interlink them, the South African gateway will be a *condicio sine qua non*.

6.3.3.3 South Africa as a Services Hub

Although South Africa possesses the strongest manufacturing sector in Africa, its gateway role rests more on producer services such as consultancy and finance. One should not underestimate the relevance of producer services as they make the manufacturing sector more competitive. OECD/WTO data shows that the value created directly and indirectly by services as intermediate inputs represents more than 30% of the total value added in manufactured goods. Countries that have open and competitive services markets tend to be more competitive in manufacturing (AfDB, OECD, & UNDP, 2014). Producer services also tend to be marked by a high local/regional component: research on Latin America indicates that around four-fifths of the service component of manufacturing exports consists of domestic value added (OECD, ECLAC, & CAF, 2013).

The recent acquisitions of Massmart Holdings by Walmart, of Absa Bank by Barclays Bank PLC and Vodacom by Vodafone in the retail, financial services, and telecommunication sectors respectively, indicate that South African MNCs have built African networks that are of strategic interest to global MNCs. By purchasing South African enterprises and their regional networks, companies from overseas use South Africa as a gateway.

Given the relatively large size and sophistication of South Africa's financial sector and the liquidity of its financial markets, especially the JSE, intuitively the proposition that South Africa channels financial transactions from overseas to Africa makes sense. Relative to its African peers the JSE is the giant, with an average day's trade being more than the annual trade of Mauritius and Nigeria put together. The single listing of Telkom SA at USD 11 billion roughly equals the total capitalisation of the Nairobi Stock Exchange. Total assets of deposit-taking banks and of financial intermediaries in South Africa are significantly larger than the combined value of assets in the other SACU members. In terms of institutional investment, South Africa is similarly predominant with about 80% of the total pension assets of sub-Saharan Africa (Irving & Manroth, 2009).

By contrast, South Africa's fellow SACU members are marked by relatively shallow financial sectors with low ratios of deposits to gross domestic product, embryonic capital

markets with limited competition and a deficiency of long-term finance. Their regulatory frameworks and market support institutions are in most cases still under development.

Financial skills are limited. The assessment of credit access for enterprises in the World Bank (2014b)'s Doing Business Report, as shown in Table 17 demonstrates these differences in SACU. It also indicates that South Africa does quite well on access to credit by global comparison.

Table 17: LSCI and LPI for East and Southern Africa

Country	LSCI	LPI
Angola	13.8	2.54
DR Congo	4.0	2.08
Kenya	11.4	2.81
Mozambique	10.2	2.23
Namibia	15.5	2.66
South Africa	43.0	3.43
Tanzania	11.1	2.33

Sources: World Bank (2014a) viii.; Draper & Scholvin (2012); World Bank (2014c).

Foreign investors can theoretically use South African financial markets for at least two purposes from the gateway perspective: to invest in South African companies, in other words portfolio investment, in order to access an African growth story by leveraging South African corporate networks; or to raise finance in South Africa directly for their own African operations. As far as the JSE is concerned the first proposition dominates and in that sense South Africa, the JSE specifically, is an African gateway, but the sources of funds are primarily portfolio in nature. Senior officials of the JSE (2012) do not see the second proposition as having much traction with respect to MNCs moving into the region. MNCs tend to have their own sources of finance, and South African exchange control regulations

make the exercise difficult. The JSE is also exploring how best to link African commodity markets to South African and potentially global buyers (Draper & Scholvin, 2012).

What is more, South Africa has a number of long term development finance institutions – in particular the IDC, which finances industrial development projects largely in South Africa but also continent-wide, and the DBSA, which funds infrastructure projects in the SADC area. These two institutions co-finance with both the private and public sector, including FDI. They provide advice and skills transfer to African partners in areas such as due diligence, risk management and governance. They also contribute to the development of the financial sector through risk reduction mechanisms such as guarantees, provision of credit lines to, and co-financing with, other financial institutions.

All this means that being tied to the South African financial sector enables SACU countries to generate investment capital. The relevance of these links is exemplified by large-scale energy projects. Not only does South Africa's power utility Eskom often guarantee to purchase a certain amount of electricity from yet-to-be built power stations in neighbouring countries, which makes their construction possible in spite of tiny domestic markets, but loans for these projects are usually provided by the aforementioned financial institutions or at least channelled through them (Maupin, 2015).

In terms of lending and investment, the IDC and the DBSA are by far the largest regional development finance institutions, with capacity to co-finance larger scale industry and infrastructure investment. The IDC (2013) is currently sustaining an average financing level of approximately ZAR 13 billion, largely for minerals, energy and industrial projects. The DBSA (2014) is operating at a current level of ZAR 8.0 to 9.0 billion per annum, of which 40 to 50% is for projects outside South Africa. According to available annual reports, the DBSA's exposure in Botswana, Lesotho, Namibia and Swaziland amounts to approximately 20% of its loan portfolio outside South Africa; a significant proportion. We could not establish similar figures for the IDC.

6.3.4 How Could SACU Countries Benefit from The South African Gateway?

The BLNS countries already benefit from South Africa's gateway status through the access afforded to superior transport infrastructure and services; global cities that offer conduits to and from the developed world and beyond; and access to sophisticated producer services that support their own economic development processes. If South Africa, particularly its global cities, reinforces its gateway role, intensified FDI into South Africa and associated investment flows into the region, will result. In other words, a functioning South African gateway can be expected to deepen investment in the region and, provided that certain tariff and non-tariff barriers are eased (see Section 6.4), also the regional division of labour - intensive manufacturing. Along with FDI comes knowledge transfers, or at least the potential for knowledge transfers since the nature and extent of such transfers depends, crucially, on the absorptive capacities of the host state. Those capacities are generally weak in the BLNS countries, with skills shortages in particular occupying the dubious position of primary bottleneck (World Bank, 2011a, pp. 117-118). Assuming those absorptive capacities can be enhanced, then the BLNS countries could be well-placed to leverage off the South African gateway by plugging into RVCs and GVCs, in agriculture, manufacturing, and services, and over time upgrading within them. That should create a virtuous growth spiral which contributes substantially to addressing the major development challenges the region faces, in particular high unemployment levels amongst youths.

6.3.5 Emerging Challenges to the South African Gateway Strategy

Despite the highly favourable conditions analysed above, South Africa's gateway role is hampered in several ways. First, some MNCs have decided to run their African business from their global headquarters considering the relatively small size of African or SACU markets. They connect directly with the periphery and do not use a gateway; at least not as a location for a regional headquarters. This appears to be the case for some European enterprises which benefit from the historically developed African networks available in

London and Paris, in particular. Enterprises from the Far East and North America contrariwise depend more on an office located in Africa; also because of being in a different time zone, which considerably reduces the overlap of business hours.

Second, some offshore locations have arisen as rivals to South Africa. Dubai offers an excellent business environment, including a globally interlinked airport with direct flights to many African destinations and a financial hub with its own set of attractions all subject to English law. Mauritius, which sees itself as the hinge between Africa and Asia, benefits from its extensive double tax agreement treaty network and favourable corporate tax treatment. South Africa, by contrast, imposes relatively high restrictions on inward investment. For example, Cross-border acquisitions of local entities financed wholly or in part by the exchange of shares in the foreign company, or mergers that create domestic shareholdings in a new merged foreign entity, fall under exchange control approval processes. Related to these controls on the externalisation of South African assets, the re-domiciling of South African companies is subject to approval from the minister of finance.

Third, South Africa faces considerable geographical obstacles: Being located at the southern edge of the African continent, South Africa does not lie between African countries and extra-regional trading partners – which would boost its role as a gateway – but rather outside of these main geographic currents. Even as a node for RVCs South Africa’s location is unfavourable because it lacks centrality, or is distant from the cores of the global economy and most African countries (World Bank, 2009). For the BLNS countries in SACU such considerations clearly matter less, given their physical proximity to South Africa.

Fourth, borders in Africa, which fall into the World Development Report’s category of “division”, massively hamper trade between the SACU region and Southern Africa. For example, while Botswana and Namibia possess one-stop border posts that take 20 minutes for lorries, transport from Windhoek to Lubango in southern Angola can take up to 15 days because of border controls, involving corruption, and insufficient roads in Angola (Advisor of the Namibian Agricultural Trade Forum, 2010). Similarly, a recent

World Bank report indicates that delays at Beitbridge on the border of South Africa and Zimbabwe were on average 34 hours for traffic northwards and eleven hours for traffic southwards, while at Chirundu on Zimbabwe's border with Zambia, lorries waited another 39 hours if they went north and eleven hours if southbound. Goods transported along the entire North–South Corridor spent about one third of their total transport time waiting at borders (Curtis, 2009). Taken together, delays at Beitbridge and Chirundu equalled a 25% surcharge on transport costs (Teravaninthorn & Raballand, 2008). While matters have improved recently, significant progress has not materialised mostly owing to bureaucratic obstacles and problems in applying technologically sophisticated procedures at borders (OECD & WTO, 2012).

Beyond transport, tariff and other non-tariff barriers are serious obstacles for the South African gateway too. Even within SACU, quality standards are applied arbitrarily, constituting a tool of market protectionism. The BLNS countries in SACU regularly invoke the 2002 agreement's "infant industry" clause to erect internal trade barriers to other SACU states (but principally South Africa's) exports. Furthermore, the BLNS countries impose a wide variety of import bans on agricultural and agro-processed goods from South Africa. For its part South African customs officials reportedly regularly interdict goods moving across the BLNS countries borders into South Africa (World Bank, 2011b). Beyond SACU, two member countries of SADC are effectively not part of the free trade area that this organisation officially forms (Senior officials of the DTI, 2013). These officials regard the Tripartite-Free Trade Area (TFTA), which may be formed by the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the SADC, as a means to deal with ongoing trade facilitation challenges and thus boost economic growth through a larger regional market and regional commodity chains.

Fifth, South Africa has to address considerable domestic challenges in order to maintain or even expand its gateway role. The first is the lack of skilled labour. The recent "National Skills Development Strategy" stresses the inadequate skill levels and poor work readiness of people leaving secondary and tertiary education. It points to the inadequate link between institutional and workplace learning.

Synergies between universities, Further Education and Training (FET) colleges⁷ and government training centres are poor. The country’s progression towards intermediate and higher skills required for growth sectors in a knowledge economy is considered insufficient (Department of Higher Education and Training of South Africa, 2012). It is, therefore, not surprising that South Africa suffers from vacancies in the professional and technical fields as well as in accounting and other business-related professions (Table 18). In spite of this, South Africa’s immigration and work permit acquisition procedures remain challenging for foreigners, and a source of constant complaint from foreign companies. Regulations apparently fail to list skills eligible for the newly instituted critical skills work visa. It therefore appears that overseas missions are presently unable to process “legal” visa applications until they have more clarity.

Table 18: Access to Credit Ranking of the SACU members

Country	Access to Credit World Rank	
	2013	2014
South Africa	24	28
Namibia	52	55
Lesotho	154	159
Botswana	71	73
Swaziland	52	55

Source: World Bank (2014b)

The second domestic problem is a combination of a non-existent gateway strategy and conflicting policies. South Africa does not appear to possess a coherent strategy that would boost its gateway role. For example, the National Treasury has apparently been working on a strategy to promote Johannesburg as the financial gateway to Africa for at least ten years, apparently without sustained results (Senior official of the DBSA, 2012). South Africa’s huge infrastructure build programme is targeted primarily at the domestic coal, iron and manganese railway lines and associated port infrastructure, whereas it appears no one at the Department of Transport or at Transnet is currently thinking

⁷ FET refers to education and training provided from Grades 10 to 12, including career-oriented education and training offered in technical colleges, community colleges and private colleges.

systematically about the gateway vision. Rather, the domestic infrastructure programme is primarily about poverty reduction (Senior official of the DBSA, 2012).

What is more, an explicit gateway strategy could throw up some surprises in terms of existing government approaches to the role of transport state-owned enterprises. For example, South African Airways appears to exercise a hold over the Department of Transport's allocation of flight licences, which it allegedly uses to minimise competition (Senior official of Wesgro, 2014). A gateway strategy might, however, require an expressly liberal approach in order to maximise passenger and cargo movements through O.R. Tambo and other airports. In other words, because of vested interests and a different vision for economic policy, Cape Town seemingly faces enormous difficulties to increase its global connectivity by air.

Conflicting policies go much further and have a serious, negative impact on South Africa's political climate. The just-elected African National Congress (ANC) government is under great pressure to enact socially transformative economic policies, especially regarding ownership of agricultural land and mines. Such policies could be incompatible with South Africa's role as a gateway because they come along with the possibility of nationalisation in other economic sectors or at least strong governmental interference.

For example, the draft "Protection and Promotion of Investment Bill", which would remove national treatment for MNCs wishing to invest into South Africa and make it subject to a prior screening test, also pushes in this direction and is the subject of much discussion in diplomatic circles and their associated business interests. The bill also seeks to redefine expropriation in order to subject it much more firmly to "public interest" considerations.

Notwithstanding these various challenges to the gateway strategy, we still think it is an eminently suitable approach for South Africa and its SACU neighbours; one that accords with obvious economic and geographic realities. Crucially for our argument, it also fits, broadly, with the flying geese pattern. So where do both fit within the regional policy debate, and in relation to other options? We turn to this next.

6.4 South Africa, SACU, and the RVC/GVC Policy Debate

We argued above that attracting flying MNC geese requires a liberal trade and investment policy orientation, and that this is consistent with a gateway strategy since conduits for value chains need to minimise bottlenecks. However, South Africa, and some of its SACU neighbours, seem to be pursuing a different strategy, in which GVCs appear to be regarded as somewhat threatening to domestic and regional industrial capacity. South Africa's policy is particularly important given its gateway role. Its priority seems to be to coordinate regional economic policies and set up RVCs in the industrial sector (Draper & Scholvin, 2012). This could be construed as wishing to extend import substitution into the region. Furthermore, the Department of Trade and Industry's (DTI) approach to regional economic integration, labelled "developmental regionalism", is not primarily about tariff barriers. It rather concentrates on economic policy coordination in order to set up RVCs (preferably in the industrial sector). This perspective is strongly influenced by the DTI's thinking on industrial strategy at the domestic level which draws heavily on the "developmental states" explanation for East Asian success (see Section 6.2.1.4), rather than the "flying geese" approach. In the developmental state approach, both domestically but also at the regional level, manufacturing is emphasised but services are minimised. This minimises the comparative advantages that the gateway model confers on South Africa, and on the region.

In this light, we next identify two "visions" for regional integration emerging from intra-SACU debates and our elaboration of the "flying geese" pattern and "gateway" model. The first is anchored in import substitution at the regional, but also national, level, and seeks to build on comparative advantage in resource extraction to promote upgrading through beneficiation. This can be thought of as a coercive or perhaps "developmental" policy approach, since it seeks to compel upgrading through the use of (primarily) negative incentives. The import replacement strategy works with restrictions in order to strengthen RVCs. The output of RVCs is then supposed to be sold both within the region and globally. We offer a short critique of this approach with application to SACU, and the BLNS. The

second approach links RVCs to GVCs via MNCs. It can be considered a facilitative approach that works with and not against MNCs, by offering incentives/support to MNCs so that they plug partners from SACU into their GVCs. Hence these MNCs tie RVCs into GVCs. Thus, the liberal strategy seeks to respond to MNC concerns rather than to compel outcomes; an approach we believe offers better prospects for success.

6.4.1 A Developmental Approach? Import Replacement and

Beneficiation

Central to the import replacement approach is the claim that MNCs capture most of the gains from GVCs, and flowing from this more value addition in higher stages of production needs to take place in the region/country concerned. In this perspective, the primary policy objective is either to oblige MNCs to invest in value chain upgrading in the country or region, or to minimise competition from them so as to favour domestic firms' upgrading strategies. A mix of these objectives is also conceivable.

In SACU the RVC dimension could be characterised by South African companies, since they have the corporate capabilities, sourcing inputs from their neighbours for fabrication and export initially into regional markets; or relocating the less skill-intensive parts of their value chains into SACU neighbours. Given the prominence of global MNCs in the South African marketplace, and in many cases their regional orientation linking increasingly to the "Africa rising" proposition, it is to be expected that MNCs in certain industries would play similar roles to South African companies in SACU. By virtue of being MNCs many have global sourcing and production strategies and therefore would approach the regional proposition differently to their South African counterparts. Either way, the BLNS countries would need to plug into these South Africa-centric or MNC-centric value chains by providing resources or, where possible, niche components. For example, such an approach could be attempted in the clothing and textiles sector, with South Africa providing capital-intensive textiles to labour-intensive clothing factories in Lesotho, using cotton grown in Swaziland. Another theoretical example could be for Namibia and Botswana to build tannery capacity, leveraging off their respective substantial cattle herds, to provide hides

for the South African automotive leather industry, in turn supplying leather seats to the MNC original equipment manufacturers (OEMs) present in South Africa. Possibilities such as these are being actively explored in a study for a SACU member states' task team on a potential SACU industrial policy currently underway.⁸

6.4.1.1 Import replacement and beneficiation

The import replacement perspective manifests in “temporary” import protection in order to give domestic and regional companies the space to acquire the requisite capacities to expand and grow their competitiveness. Typical policy instruments include, inter alia: import tariffs or selective use of trade defence instruments such as anti-dumping duties or safeguards; preferential government procurement particularly through use of local content provisions; and ownership restrictions designed to favour domestic ownership. These arrangements could also be extended to the regional level, generally under the rubric of regional economic communities (RECs). The extent to which they apply across borders within RECs depends on the degree of institutional integration of the RECs and the RECs' overall orientation towards outside investors and imports.

Since SACU is a customs union, not a common market, the primary collective policy instrument applicable to the member states is the import tariff.⁹ In the import substitution model the tariff should be configured to protect final product production, and could allow for sourcing required components to import. In the first instance this would require agreement amongst the member states on which value chains to prioritise and how the value chain would be “parcelled out” amongst the members, so to speak, and corresponding import tariffs reviewed.

As the overall objective is to increase exports, careful thought would have to be given to which segments of the value chain to protect in order to build domestic/regional

⁸ Unfortunately the study is still being concluded, and is confidential, and therefore the results cannot be reported on here.

⁹ Interestingly MNCs looking to access the SACU market apparently do not pay much attention to tariffs. Rather tax regimes and associated profit repatriation are at the top of their checklists, with tariffs generally featuring last of all. Comment received from Duane Newman, former partner at Deloitte South Africa.

capacities, in relation to the overarching competitiveness of the end product exported from the region.

Beneficiation prioritises adding value to resources, or, through promotion of resource retention. Since resources are at the origin of manufacturing value chains, this is an upgrading strategy. The strategy also applies to the agricultural processing sector, for example in the beef/leather value chain. The policy objective is to oblige those MNCs that rely on imported resource inputs to invest in forward integration in the country/region that is the origin of the resource in question. Strictly speaking this concerns orientation to GVCs, but in some cases consideration might be given to sourcing regional inputs as an extension of the broader beneficiation strategy. So, iron ore beneficiation into steel, for example in South Africa, might involve regional sourcing of inputs, for example coal from Botswana, to support the strategy.

There are several policy instruments that can be used. First, export restrictions, either through taxes or quantitative measures (quotas or bans). The essential idea is to impose punitive penalties on exports of the resource in question in order to disincentivize exports and retain the resource for domestic processing.¹⁰ Second, a more extreme, nationalist variant would require that only domestically owned companies undertake beneficiation, thus bringing investment policy (restrictions) into the equation. So, the government might declare a particular resource to be “strategic”¹¹ and place inward FDI into that resource on a negative list whereby national treatment for the foreign investor is not automatically accorded. This would typically require establishment of an inward investment screening agency, so that potential foreign investors would have to apply to invest in that resource. Then assuming permission was granted, it would be done on condition that further

¹⁰ This policy has been implemented in the scrap aluminium industry. International Trade Administration Commission (2014) “Export Control Guidelines Pertaining to the Exportation of Ferrous and Non-ferrous Waste and Scrap Metal”, B2/71/1/1, available at <http://www.itac.org.za/docs/GUIDELINES%20EXPORTATION%20OF%20FERROUS%20AND%20NON%20FERROUS%20WASTE%20AND%20SCRAP.pdf>; accessed 22nd September, 2014.

¹¹ This is foreseen in the Minerals and Petroleum Resources Development Act (2008) Amendment Bill that was passed by South Africa’s National Assembly prior to the 2014 general elections. Government of South Africa (2013) “Mineral and Petroleum Resources Development Amendment Bill”, Government Gazette No. 36523, May.

processing takes place according to agreed value-added percentages, for example. This is probably an important impulse behind the DTI's draft Promotion and Protection of Investment Bill.¹²

6.4.1.2 Which export markets?

In arriving at decisions on which value chains, and segments of those value chains to target, consideration would also have to be given to the destination market. In some ways the SADC market can be considered an extension of the SACU market since SACU enjoys preferential access into most SADC markets by virtue of the SADC FTA. Hence the import substitution model, via a trade diversion mechanism¹³, arguably extends into SADC. As renegotiation of the SADC FTA does not look feasible for the foreseeable future, this would essentially have to take the SADC FTA tariff schedule as given. One substantial exception is Angola, which does not participate in the SADC FTA yet but as the region's second largest economy offers some prospects to exporters. A similar logic would apply to the TFTA involving SADC, COMESA and the EAC, except that the TFTA is currently under negotiation and may take some years to conclude given the number of countries involved. Within the TFTA the key target market for SACU exporters would be the EAC members, especially Kenya which is the largest economy – and Tanzania already participates in the SADC FTA. Consequently there is a small prospect of more carefully targeting particular value chain components, depending on whether SACU were able to cohere a common plan in time. However, the markets concerned are relatively small. Overall, it could theoretically make sense to target these markets as an extension of the import substitution model since regional competition levels are relatively low, but the size of the export gains on offer is not compelling, at least in the short to medium term.

A different proposition is to leverage external markets as envisaged in the Economic Partnership Agreement (EPA) with the EU, or the African Growth and Opportunities Act (AGOA) extended by the US; or markets in Asia such as India and China. Since the markets

¹² Department of Trade and Industry (2013) "Promotion and Protection of Investment Bill 2013", Government Gazette, Notice 1087 of 2013, 1st November.

¹³ Since SACU exporters enjoy preferential access into SADC markets, relative to non-SADC exporters, the preference effectively deflects trade to SACU producers.

are large they offer the prospect of export-oriented industrialisation as advocated by Gereffi and Sturgeon (2013), *inter alia*. However, in the case of the EU and US while the trade diversion logic pertains by virtue of the preferential access afforded by these two developed economies to SACU producers, these are arguably the most competitive and advanced markets on the planet. Furthermore, since producers developed countries are at the cutting edge of most value chains, whereas Asian competition hinges on comparative and competitive advantages not available to the SACU region (as discussed in Section 6.2.3.1 and Section 6.4.1.3 below); competing successfully in those markets is a very challenging proposition. So it is unlikely that a SACU policy approach based on import substitution in key components of RVCs, which necessarily entails increasing costs and therefore undercutting competitiveness, would be fruitful if targeted at these markets. This highlights the importance of the RVC/GVC interface, to which we return in Section 6.4.3. Next we briefly apply the policy logics inherent to this approach, as elucidated here, to SACU.

6.4.1.3 Application to South Africa and the BLNS

For these approaches to work the companies at the centre of them need to be competitive relative to their global peers. This is partly a function of comparative advantage, and partly a microeconomic issue.

Regarding comparative advantages South Africa's arguably does not reside in manufacturing, relative to low cost East Asian producers or high cost but technology-intensive developed world producers. Rather, overall South African manufacturing appears to be squeezed between the two with no obvious exit route in either direction. This general picture is subject to some exceptions, since the country does have a base of technologically-sophisticated manufacturing firms in certain industrial pockets such as manufacture of capital equipment. However, and broadening this argument to the SACU region, wage structures are relatively higher than in East Asia; the labour pool is not particularly large nor as productive; skills shortages are severe and structurally embedded. Table 19 shows the relative unit labour cost of SACU countries compared to East Asian

peers in 2005 (Clarke, 2011). For exporting sectors, in 2005 SACU countries, but particularly South Africa, generally had much higher unit labour costs. Except for Lesotho (\$441), the rest of SACU could not rival Asian competitors in terms of labour cost, for example China (\$1,466), Indonesia (\$965), Vietnam (1,108). Hirano (2014) also claims that consumer price levels in Africa are substantially higher than in Asia, especially in cereal and meat prices, due to lower productivity of agriculture which pushes labour costs higher than GDP per capita, for example in the case of South Africa.

Table 19: Annual Labour Costs for Importers and Exporters

Labour costs	Non-Exporters	Exporters
Botswana	\$2,503	\$3,069
South Africa	\$7,290	\$12,161
Namibia	\$3,593	\$6,621
Lesotho	\$1,077	\$441
Swaziland	\$2,590	\$1,986
China	\$1,148	\$1,466
Indonesia	\$520	\$965
Vietnam	\$1,097	\$1,108
Thailand	\$1,405	\$1,951

Source: Clarke (2011) using Data from World Bank Enterprise Surveys; Data is in 2005

Indeed South Africa and the region’s comparative advantage in the production of goods arguably lie in resource-related production, and agriculture in certain cases especially in the wetter Eastern regions. In the case of resources South Africa, Botswana, and Namibia are particularly well-endowed with a range of commodities ranging from coal to diamonds to uranium. An export-oriented agricultural sector would also create jobs in large quantities – something urgently needed in all SACU countries. Furthermore, as we argued

above South Africa has built strong comparative advantages in certain “gateway” services industries. Given this picture, it is not obvious why manufacturing should be accorded primacy in an RVC strategy for SACU, especially if that strategy imposes higher costs on the constituent economies. In this light it is important to bear in mind that trade liberalisation is a crucial driver of productivity gains (Freytag, 2011); whereas productivity gains are the *sine qua non* of long term economic progress.

Regarding microeconomic factors, problems seem to be equally apparent. For example in the automotive sector, long held up as the great success story of import-substitution industrial policy in South Africa, outside of the SACU market the region freely imports second hand automobiles meaning there is little demand for relatively expensive South African built new cars. Furthermore, those cars are built by OEMs – that is MNCs - not South African companies.

Those OEMs all operate GVCs and will look to leverage their global networks wherever feasible since South Africa does not possess a comprehensive production base incorporating all tiers of parts production and components supply.¹⁴ This is a function of the relatively small South African market. By contrast Brazil, which implements a similar policy approach to South Africa, has a huge domestic production system and market. But Brazil’s exports are overwhelmingly Brazilian or “made in Brazil”, whereas MNC competitors’ are “made in the world” (Ferraz, 2014). The consequent productivity gaps in both the Brazilian and South African cases may have to be plugged through increasingly higher levels of effective protection, which would undermine efficiencies and cost competitiveness. For BLNS countries looking to plug into the automotive value chain these dynamics sound a strong cautionary note.

Another microeconomic factor undermines the import substitution/RVC approach. Key industrial inputs into South African manufacturing, such as steel and chemicals, are characterized by monopoly pricing based on import parity prices. In fact the problem of

¹⁴ The CEO of Ford South Africa remarked recently that the company’s margin on South African built cars averages R2,500; very thin indeed. Frontier Advisory Forum: “The Future of Manufacturing in South Africa”, Johannesburg, August 6th, 2014.

price-leadership based on oligopoly prices, and associated collusion, is apparently significant in South African manufacturing (Govender & Holland, 2013). Furthermore, in labour-intensive areas of production South Africa's strong trade unions and relatively high cost structures greatly inhibit production for regional markets. This dynamic nonetheless affords the BLNS countries, particularly Lesotho with its tradition of labour-intensive export-oriented manufacturing in clothing, an opportunity to take advantage of industrial shifting from South Africa. Lesotho is already succeeding to some extent in this endeavour, by consciously courting South African clothing manufacturers to relocate across the border.¹⁵ Clearly Lesotho's strategy does not rely on South African compliance or assistance, and may in fact be succeeding despite official South African policy. Nonetheless, coordination of RVCs with final assembly in South Africa, while it may alleviate some constraints on the input side, will run up against the same competitiveness issues in South Africa.

Overall, the main challenge with this model concerns its potential drawbacks regarding the promotion of globally competitive industries. As is well known, import substitution can, and frequently does, undermine long term competitiveness, not least because it generates powerful interest groups invested in the policy regime, which resist subsequent reform. Strong (in the institutional sense) East Asian states may have been able to manage policy transitions away from this trap, but it is not clear that countries in the Southern African region possess the requisite capacities to do so. If they cannot, then the region risks becoming trapped in a siege economy cycle, suffering from declining competitiveness, growth, and development. Furthermore, Sub-Saharan African markets are small, albeit growing reasonably quickly. This means import substitution opportunities will be relatively quickly exhausted. And at the same time the "Africa growth" story is attracting greater levels of investment into the region from outside it.

¹⁵ This insight is taken from the SACU industrial policy study referred to earlier, and authors' conversation with the former head of the Lesotho National Development Corporation on June 15th, 2014, in Johannesburg.

Hence competition is likely to intensify, meaning the regional market cannot be relied on. So the region has to face up to the need to compete globally, sooner rather than later.

The approach has additional institutional and political problems. At the regional level the key policy issue is to identify a workable division of industrial effort amongst the countries concerned, and to afford countries in the region sufficient relative protection or compensation to make the effort worthwhile. This is where matters become complex very rapidly. Since each sovereign government wishes to promote maximum economic advantage for its citizens, and generally this means favouring manufacturing development, it is as likely to see its neighbours as a threat as an opportunity. Within this, South Africa's BLNS partners are very unlikely to be satisfied with merely serving as spokes in South African dominated value chains, no matter how practical or theoretically sound this approach might be. In addition, not all SACU states share the vision of regional import substitution industrialisation since they recognise that they pay part of the cost. Therefore, it is likely that perceptions of relative gains and losses arising from this approach to RVC development will bedevil intra-SACU negotiations, potentially drawing them out and making it difficult to reach mutually rewarding compromises.

Consequently, rather than a coercive approach a facilitative approach would minimise intra-regional politicking, and therefore enjoy greater chances of success.

6.4.2 A Facilitative Approach: RVC/GVC Interlinking

The general idea of development through value chains is that subordinated players in a value chain first provide hardly processed goods and standardised services strictly specified by their superior partners. Being part of the value chain, they successively acquire knowhow and become able to operate with less guidance. They process the goods that they provide to GVCs and work more and more independently, meaning that their producer services become more complex. This is not only beneficial to players that realise an according upgrading. It also allows their superior partners to outsource more tasks, concentrate on their core business and hence work more efficiently. The Africa Economic

Outlook (AfDB, OECD, & UNDP, 2014) accordingly argues that integrating further into value chains can increase human development in Africa.

In this light, the RVC model should be linked to the GVC model. In Southern Africa, RVCs could be driven by MNCs investing into the region in order to produce sub-components or final products for regional and/or global markets. This RVC/GVC model, in essence a flying geese model, also links to the gateway model. Thus, South Africa serves as the gateway for MNCs to invest into Southern Africa, in the process supporting those investments but also enabling its own companies to participate in RVCs oriented towards GVCs and regional markets.

An important dynamic in this approach is inward investment promotion, namely attraction of lead MNCs to establish in the country/region. So, the central policy objective is to facilitate investment by MNCs, primarily, but extending to South African companies, into sourcing from regional markets in particular niches that plug into GVCs.

Since production is ultimately for GVCs oriented towards global markets, a different policy orientation than the essentially coercive import substitution model would be required. Its foundation would be akin to the country/region recognising that it is in a “beauty contest” with other regions to make the country/region more attractive to MNCs that are weighing many options. Key external markets would move into the frame, notably the US and EU whose companies are at the origin of most GVCs, towards which end leveraging trade arrangements such as AGOA and the EPAs could be advantageous, not least because the MNCs would ensure that components sourced from the region meet the standards for those markets.

Practically, there are two broad policy dynamics entailed in this approach. First, promotion of a competitive proposition in order to afford MNCs a favourable location in which to base their facilities. And second, clear targeting of lead MNCs for sustained inward investment promotion. South Africa and its SACU neighbours are quite challenged on the competitiveness front, particularly in manufacturing, as we noted in section 6.4.2.

This necessitates a niche strategy¹⁶, working from areas of comparative advantage such as agro-processing – for example of specialty leathers derived from beef herds; certain manufacturing niches such as low cost clothing for the South African market, and services such as tourism. All of this has to be buttressed by a strong focus on building competitive network services infrastructure – telecommunications, energy, transportation - to support the economy as a whole in the first instance, and the targeted niches in particular, and allow MNCs to link with local partners. The investment promotion dynamic builds on those policy imperatives, but also requires a targeting process as outlined for the import substitution variant. The country/region still needs to have a strategic perspective on which value chains to promote and why; which segments of those value chains are amenable to competitive regional sourcing; and which lead MNCs driving those value chains might be amenable to “wooing” – and why. In other words the state would still play a strong, developmental, role, but in a facilitative sense rather than a coercive one.

Without a strong competitiveness proposition at both macro and micro levels the promotional effort will struggle. But assuming that proposition is in place then, as with all countries/regions, an attractive company specific investment proposition still needs to be formulated. This could consist of, inter alia, a mixture of financial and tax incentives, suitable land, access to industrial facilities, SEZs, and all the other locational factors that MNCs consider when choosing their investment site. Such instruments must, of course, be designed to facilitate inward FDI and not to import it at all costs, potentially leading to a race to the bottom.

Strong investment promotion agencies must reside at the apex of this organisational effort. They should be empowered to drive the process in government. Not only would they require technical capacity to understand the GVCs and MNCs being targeted, but they would also require strong political support within government to overcome the

¹⁶ The examples are taken from a consulting study currently being considered by a SACU task team investigating regional industrial policy options. As it is confidential at the time of writing it cannot be referenced.

inevitable political and bureaucratic hurdles that will arise in the process of negotiating with lead MNCs.

And assuming that FDI attraction is a central feature of economic policy, such agencies would need to be central players in the policy formulation process, since they would contain critical tacit and explicit knowledge of how foreign investors think; how they perceive the country; and the issues that constrain establishment of productive facilities through FDI.

Since two countries in the SACU region, South Africa and Namibia, are moving towards legislating more restrictive approaches to inward FDI, it is worth raising an important exception to the facilitative approach outlined here. Clearly not all investment is good, and not all MNCs operate according to high ethical constraints. Furthermore, some MNCs are closely associated with the national security establishments in their countries of origin. Therefore, states may need to implement safeguards to protect against these potential hazards. But this should be predicated on the assumption that FDI is generally good. In other words coercive FDI-related legislation should operate under as much transparency as possible, and according to clear institutional parameters and operational guidelines.

All of this is relatively easy to envisage at the national level. Translating it into the regional context is much more challenging. Flowing from the competitiveness proposition, it is clear that MNCs favour minimal transactions costs, in their broadest sense. That entails relative freedom to move goods, services, capital, and people across national borders within SACU and the broader Southern African region in order to maximise intra-firm efficiencies while minimising costs. This would facilitate sourcing from within the REC, in principle. And it points to a common market approach to building the REC. Theoretically this approach could extend to joint targeting of lead firms, but in practice that is likely to prove a bridge too far in most regions. Furthermore, as we argued earlier, there are many NTBs inhibiting intra-SACU trade, and a few tariff barriers too. In addition, some policy makers are deeply sceptical towards the deeper integration that a common market

approach would require, fearing loss of sovereignty in particular. Consequently it is not easy to see how this approach could actually be adopted.

6.5 Summary and Conclusions

Southern Africa, in particular the group of countries comprising SACU, is currently not well-integrated into the global division of labour or, more precisely, into GVCs. Partly for this reason the region suffers from unemployment and development problems. Several options for SACU to integrate better into GVCs are discussed in this think piece.

We first assessed the probability that SACU can copy the Asian flying geese pattern, which was initiated by Japanese MNCs that invested in several East and Southeast Asian countries and became the lead geese; to be joined later by MNCs from other countries and regions. This investment was accompanied by technological transfer and spillovers, leading to a catching-up process termed the reverse production cycle. However, we argued that the conditions for the flying geese pattern to be transferred to SACU are not given, and that South Africa, while an indispensable actor in the SACU economic space, cannot play Japan's role given the vastly different economic potentials.

Therefore, we argued that more is required, specifically that the region needs to build on South Africa's role as the gateway for trade and investment into, and with, the region. South Africa's gateway role was explored in several dimensions, encompassing transport infrastructure (airports, harbours, railway lines and roads); as services hub; and the role of its two major cities – Cape Town and Johannesburg – as the most attractive places in sub-Saharan Africa in which to locate regional headquarters. This means that MNCs from outside the region would use South Africa as a base from which to build their value chains into the region, thereby playing the role of lead geese. Thus, the flying geese and the gateway models become compliments. Within this the BLNS countries need to actively seek out value chain niches with a view to assisting their companies to “plug into” them.

We then provided a general review of the policy environment in the SACU region vis a vis MNC attraction. We noted that the dominant emphasis seems to be on building RVCs as an extension of import substitution, rather than a focus on integration into MNC GVCs. We argued that RVCs can well have a value, but are best seen as complements to GVCs. SACU countries may benefit from technological spill-overs arising from MNCs building regional networks in the short run, and qualify for integration into GVCs in the longer run. This requires an investment friendly climate and trade openness, and concerted state action to produce both of these prerequisites but also to target key MNCs for investment attraction.

7 Conclusion of the Dissertation

7.1 Summary of findings

To conclude, the four chapters from chapter three to chapter six of this dissertation reveal parts of institutional roles on entrepreneurship development in SSA. The findings from chapter three on entrepreneurial learning show informal institutions have more effect than formal institutions on entrepreneurs' performance in terms of entrepreneurial learning, especially in case of Ghana. The results pave the way for policy makers in approaching more appropriate education and training programs aiming at enhancing entrepreneurs' skills and learning capability.

The results of chapter four on parental entrepreneurship show entrepreneurs having self-employed parents tend to start their business at an earlier age and create more jobs at the later stage. The findings add up value to existing literature on intergenerational transmission of entrepreneurship, as well as help understand better how policy can aim at developing sustainable businesses with regards to both quantity and quality. Findings on size of business shed light on the mechanism of how to create bigger-than-one-person business, a vital point in development strategy for SMEs in SSA. Results on entry age help target appropriate development schemes for young entrepreneurs and tailor relevant entrepreneurship programs which are related to age.

The fifth chapter is about the model of entrepreneurial economy. Emerged from the force of globalisation, the structural transformation from managed, routinized economy dominated by a handful number of large corporations to more dynamic entrepreneurial economy in favour of SMEs around the 1970s has provided both low level of unemployment and high wage in Western countries. The transformation was characterized by an industrial downsizing process and the rising number of smaller firms emphasizing knowledge as the most important factor of production, instead of the traditional mass production based on land, labour and capital. The findings of this chapter

advocate policies to pursuit the model of entrepreneurial economy as an applicable strategy to SSA.

In chapter six, the two paradigms of flying geese model and gateway model are applied into feasible approaches for Southern Africa region. The findings suggest a more appropriate gateway model should be applied instead of flying geese model similar to development of East Asian countries in the 1970s.

7.2 General Policy Implications

Given the findings of this dissertation, a number of policy implications can be drawn. Overall, there is a need for institutional change, in terms of both formal and informal institutions. Policies must be inclusive at individual and firm levels, which endorse equality in access of opportunity. Inclusive policies ensure that individuals are given the same rights to access to entrepreneurship and SMEs are beneficial instead of large corporations.

At individual level, pioneering innovative generations of entrepreneurs are rooted from inclusive policies related to changing in formal institutions targeting individuals or citizens as a whole, such as implication of free education and enhancement of dual education system for better allocation of the workforce, or universal healthcare provision to lessen the risks of pandemics, which is truer in the case of SSA. At firm's level, policies aiming at lowering formal and informal barriers to entry for SMEs should be focused, therefore stimulate their potentials in creating jobs firstly for low and middle-income people, to lift the standards of living and accelerate spill-over effects in poverty levitation. Majority of SMEs need better assists than the minority of large corporations.

In terms of foreign investment, there should be also a change in critical views about entrepreneurship in SSA as a part of informal institution change. Investment into SSA should be regarded as an opportunity rather than risky venture. According to the Federal Ministry of Economic Cooperation and Development of Germany (BMZ), the current investment into Africa consists of only 10 percent non-government programs, the rest are 90 percent government related programs; hence there should be a shift in investment

projects to create more dialogs and practical networking activities for entrepreneurs. Foreign investment via MNCs can boost the entrepreneurship development in SSA in numerous ways. Leapfrogging technology transfer in a wide range of sectors such as IT and telecommunication, sharing of know-how via vocational and educational programs, application of standard of working and distributions of roles can be implemented. It is also crucial to direct the flow of investment into SSA to the benefits of citizens in total population, not only making a minority of people get richer through such programs.

Moreover, there are still very few national and international organisations in SSA existed to protect SMEs, as well as not many banks provide long term credits to SMEs. Hence there is a need for the development and initiation of entrepreneurship representative bodies such as chambers of commerce in SSA, as they are the main organisations that reflect private ownership to protect and promote the interests of local business community. The formation of the chamber of commerce and its proper functions help develop business environment from the own owners of local businesses, regulate themselves under fair competitive and democratic manner and act as a lobby to get laws favourable to businesses passed. Hence appropriate policies and initiatives to support the formation of such organisations need to be advocated.

Given the inefficiency in economic development compared to other regions, giving money to developing countries in SSA may not be efficient solutions, as countries like Ghana and Kenya themselves do not need more aids, but require more comprehensive training and education. This goes in line with the idea of the NGO Don Bosco Mondo to implement a dual education and training system, whereas vocational education, especially SMEs skill-based training, could show better prospective result than pure university education in terms of cost efficiency and practical immediate solutions, since small businesses in SSA are dominated by owners with low levels of education (Bowen, et al., 2009).

Besides, a more sustainable way in terms of environment protection in relation with entrepreneurship development should be focused. Environmental issues are prominent in SSA, which undoubtedly affect long-term development of the region. For example, water

scarcity and unregulated disposal of garbage are two of the main visible environmental problems in Accra. For a broader picture, perseverance of nature and deceleration of climate change process are keys for future sustainable development, and it could be done via appropriate approaches in entrepreneurship policies, to contribute effectively in grounding a culture of green economy.

To conclude, changing of not only formal rules but also informal norms e.g. perspectives toward SMEs and entrepreneurship are required, which could be adapted and cooperated at national level between Germany and SSA countries. In recent years, such scheme has been initiated: The AGI, with more than 700 active member companies in Ghana, has been cooperating with the Federation of German Industries (BDI) for partnership for policy advocacy in the country, transferring good policy practices through upgrading AGI staff resources, enhancing the AGI's capacity to use instruments of research-based advocacy and introducing additional income-generating services targeting SMEs. Similar cooperation and collaboration between German and African organisations are valuable and effectual initiatives to foster stronger relation for business and development.

7.3 Suggestions for Future Research

The contribution of this dissertation largely bases on the focus on SSA's SMEs development within the framework of entrepreneurship and institutional research. The contribution in terms of data via the survey in Ghana and Kenya is necessary since data availability in SSA is scarce.

However, the limitation of the scale of the study bounds the potential of examining further hypotheses, as well as ratifying the external validity of the results concluded in this dissertation. A broader survey with case studies not limited to Ghana and Kenya and time scale not limited to a year would provide a more comprehensive panel dataset for deeper understanding of SSA's entrepreneurship and institutional factors. Alternatively, a proposal of adding more institutional variables and grouping them into formal and

informal institutions in existing surveys from the World Bank Enterprise Survey and Global Entrepreneurship Monitor could also extend the potential future research.

Appendix

Appendix 1: Forms of entrepreneurial training in Ghana and Kenya

Training in managing/ starting a business	Ghana		Kenya		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Formal education	31	56%	25	50%	56	53%
Past employers	7	12%	6	12%	13	12%
Government agency	4	7%	3	6%	7	6%
Non-government a.	4	7%	6	12%	10	9%
Private agency	9	16%	10	20%	19	18%
Total	55		50		105	

Training in field/sector of business	Ghana		Kenya		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Formal education	7	22%	18	31%	25	28%
Past employers	4	12%	9	15%	13	14%
Government agency	2	6%	9	15%	11	12%
Non-government a.	2	6%	7	12%	9	10%
Private agency	16	52%	16	27%	32	36%
Total	31		59		90	

Appendix 2: Sectors of businesses surveyed

Sector	Ghana		Kenya		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Retail	79	54.11	39	32.5	118	44.36
Wholesale	10	6.85	15	12.5	25	9.4
Production	6	4.11	6	5	12	4.51
Casual service	25	17.12	17	14.17	42	15.79
Professional service	15	10.27	23	19.17	38	14.29
Technical service	11	7.53	20	16.67	31	11.65
Total	146		120		266	

Appendix 3: Criteria for flying geese model

Criteria	Description
Geographical elements/logistics	<ul style="list-style-type: none"> • Ease of transportation: East Asia possesses major advantage in naval transportation via East China and South East China seas, which is less costly and favoured toward mass transportation. Laos and Mongolia are two of the landlocked countries in the region, which have not integrated much in the RVCs. SACU face this key problem: Lesotho, Swaziland, Botswana do not have access to the sea. • Population density: Higher population density helps the ease of transportation. East Asia has high population density along the coastal line while Southern Africa has scattered population across the region.
Productive capacity	<ul style="list-style-type: none"> • Human capital: Low value added labour intensive operations require low labour cost and demography of young and large population. To remain competitive, labour's skills need to be improved via primary and skilled-base education. SACU as a whole has a relatively small population, whereas South Africa's education system has many problems that inhibit large-scale production of skilled labour. • Research and Development: Innovation and technology development is required to adapt foreign technology and move up the value chains along the reverse production cycle. The establishment of national research centers aims at this purpose. Fiscal constraints in relation to high poverty levels inhibit substantial resource investment in this area in the SACU region.
The role of the growth pole	<ul style="list-style-type: none"> • Scale of the FDI: South Africa's FDI cannot be compared to Japan in terms of scale and effectiveness. • Large wage differentiation between Japan and the rest of Asia pushed industries to fly to lower labour cost countries. • Demographic structure as the drive of offshoring: aging population in Japan is costly to maintain. Japanese unemployment rate stays at 4%, compared to South Africa's 25%, which inhibits relocation of labour-intensive industry to its SACU partners.
Business environment	<ul style="list-style-type: none"> • Macro-economic stability: East Asia has achieved stable macroeconomic environment, low inflation rates and high share of trade in GDP. Exchange rates stability also plays a crucial role in nurturing intra-regional trade. South Africa's macroeconomy is relatively stable, but its exchange rate is volatile and determines those of its SACU partners. • Public governance: indicators such as rule of law, corruption, government effectiveness, protection of property rights are crucial for foreign investors. • Regional stability: Conflicts and threat of terrorism affect choice

	of locations from MNCs. The SACU region is relatively sound in this respect.
Trade and investment policy	<ul style="list-style-type: none"> • Market access: Potentials to engage in specific markets drive MNCs to invest. • Import tariffs: High tariffs on imported components required for production are taxes on exported finished products. • Border transit administration: Time in days and number of necessary documents required for goods to cross border. In this regard, some East Asian ports like Singapore or Hong Kong outperform South Africa's significantly. • Industry-specific policies: Specific industries of upper value chains are targeted to get FDI inflow to adapt the technology. • Public-private partnership: Cooperation among the government and private sector e.g. between education and research institutions and investors from different industries.
Infrastructure	<ul style="list-style-type: none"> • The quality of infrastructure, especially in transportation, impacts on MNCs' decision to invest. In this regard, poorly constructed roads and railways in some sub-regions of Southern Africa delay the pace of industrialization. • ICT and telecommunication infrastructures play key roles in organization process and cross-border service exports. SACU lags East Asia significantly in this respect. • Energy and water supply: required for industrialization. They are still key bottlenecks in many African countries, notably the SACU region.

Source: Based on Bamber et al. (2014)

Appendix 4: Doing Business Ranking of the SACU members

Country	Access to Credit World Rank	
	2013	2014
South Africa	24	28
Namibia	52	55
Lesotho	154	159
Botswana	71	73
Swaziland	52	55

Source: World Bank (2014b)

Appendix 5: Industrial vacancies by occupational group 2003

Employment Category	Vacancy %
Senior officers and managers	10.0
Professionals	38.3
Technicians and associate professionals	22.4
Clerks	20.4
Service workers and shop and market sales workers	4.5
Skilled agricultural and fishery workers	0.0
Craft and related trades workers	3.0
Plant and machinery operators and assemblers	1.5
Elementary occupations	0.0

Source: Department of Labour [of South Africa] (2003), 28

Appendix 6: Top 10 products in each of the SACU countries with the highest RCA

Hs- 6 digit code: international classification of export product level

South Africa

Rank	Hs- 6 digit code	Product Description	RCA Index
1	200 960	Grape juice (including grape must) unfermented and unspirited whether/not sugar/sweet	3 844 533
2	681 250	Asbestos, clothing accessories, footwear and headgear	1 107 292
3	902 119	Orthopedic or fracture appliances, nes	345 816
4	900 620	Cameras of a kind used for recording doc on microfilm or other microforms	319 549.7
5	580 390	Gauze or other textile material	147 768.2
6	732 183	Household or camping appliances, i/s for heating and buildings, nes for solid fuel	71 987.22
7	741 600	Springs, copper	65 257.85
8	551 439	Woven fabrics of other synthetic staple fibre< 85% mixed with cotton > 170g/m ² yarn dyed	52 433.92
9	080 530	Lemons and limes, fresh or dried	43 399.9
10	852 039	Magnetic tape recorders incorporating sound reproducing apparatus, nes	38 851.18

Botswana

Rank	Hs- 6 digit code	Product Description	RCA Index
1	251 319	Pumice stone, worked	697 316.2
2	290 890	Derivatives of phenols or phenol alcohol	56 632.86
3	900 930	Thermo-copying apparatus	34 783.26
4	852 452	Recorded magnetic tape	22 895.31
5	851 929	Recorded player with loud speaker, nes	14 382.95
6	441 029	Oriented strand board & waferboard of wood excl. of 441 021	12 328.24
7	740 120	Cement copper	13 316.83
8	441 021	Oriented strand board & waferboard of wood unworked/ not further worked	12 328.24
9	630 621	Tents of cotton	11 379.92
10	681 250	Asbestos clothing accessories foot and headgear	7 448.313

Namibia

Rank	Hs- 6 digit code	Product Description	RCA Index
1	410 310	Goat or kid hides and skins, raw, nes	13 567 004
2	741 490	Copper wire cloth, grill, netting, expanded metal, nes	231 032.5
3	950 100	Rideable wheeled toys, dolls carriage	129 445
4	900 620	Cameras for recording microfilm etc	20 089.8
5	200 590	Vegnes, mixes, prepared/ preserved not frozen vinegar	15 785
6	481 960	Office box files, letter trays etc of paper	8 794
7	880 190	Ballons, devigible, non-powered aircraft nes	5 022
8	900 930	Thermo-copying apparatus	3 587
9	800 600	Tin pipes or tubes and pipe fittings	1 944
10	071 331	Urd, mung, black or green gram beans dried shelled	1847

Swaziland

Rank	Hs- 6 digit code	Product Description	RCA Index
1	910 112	Wrist watch, precious metal, battery, opto/ electric	935
2	741 700	Copper cooking, heating apparatus, non electric part	575.9
3	846 930	Typewriters, non electric	342.5
4	470 411	Chem. Wood pulp, sulphite, noniferous unbleached	119.7
5	630 641	Premautic mattresses of cotton	106.3
6	842 389	Weighing machinery nes	83
7	681 190	Articles nes, asbestos or cellulose fibre cement	45.6
8	080 540	Grapefruit, fresh or dried	45.5
9	200 830	Citrus fruits, otherwise prepared or preserved	42.5
10	330 210	Mixed odoriferivus substances- food and drink industries	34.8

Lesotho

Rank	Hs- 6 digit code	Product Description	RCA Index
1	510 119	Greasy wool (cotton than shorn) not carded or combed	43.7
2	610 590	Mens, boys shirts, of material nes, knit	24
3	610 520	Men's, boys shirts of manmade fibres, knit	21
4	710 231	Diamonds (jewellery) unworked or simply sawn, cleaved	20.7
5	610 463	Women, girls trousers, shorts, synthetic fibres, knit	17
6	610 343	Mens, boys trousers, shorts of synthetic fibres, knit	16
7	610 462	Womens, girls trousers and shorts, of cotton, knit	14
8	620 342	Mens, boys trousers & shorts, of cotton, not knit	12
9	610 510	Mens, boys shirts of cotton, knit	10.7
10	610 892	Women/girl bathrobe dressing gown, knit manmade fibre	10.5

Source: Mzumara et al. (2013)

Appendix 7: Average wages in manufacturing sector (USD)

	Year	Average wages	Per capita GDP
South Africa	2008	12,680	5,566
Senegal	2002	4,832	511
Kenya	2010	3,322	794
Uganda	2000	2,189	252
Ghana	2003	1,832	364
Tanzania	2010	1,841	526
Ethiopia	2009	890	351
China	2010	5,551	4,515
Thailand	2006	2,233	3,116
Indonesia	2009	1,848	2,273
Czech Republic	2007	12,046	16,966

Source: UNIDO statistics

Questionnaire

The following template is the questionnaire for the field survey in Kenya. The template for Ghana is similar with minor changes of country name and currency.

Interviewer: _____	Questionnaire number: _____	Method: _____	Date: _____	Duration: _____
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S U R V E Y

Business Development in Kenya

Dear honoured business owner,

The questionnaire "Business Development in Kenya" is developed by Jena Africa Study Group to study about business in Kenya. Your answers will help contribute to the academic research of Kenya's entrepreneurship.

The information obtained will **only be used for this academic study** and held in the strictest confidentiality. Your personal information and opinion will not appear in any context if unauthorised.

If some questions are too difficult or you do not remember the exact number, please provide the closest estimation (e.g. 40+, from 30-40...)

_Symbol indicates that you may choose only **ONE** option.

_Symbol indicates that you may choose **MULTIPLE** options.

Thank you very much for your cooperation!

Basic information

Business/ company name *:

Name of business owner *:

Address *: Area:

(* Information about names & address may be left blank, but please fill in other info)

Tel: Email:

Age of business owner: Gender: male/ female

Marital status: Number of children:

Ethnicity: Religion:

Languages (most to least fluent):

Business background

1. This is your main occupation or side occupation (that means you have other paid-job, which is:

2. Does your spouse also own & run this business as his/her main job?
(Yes/ No). If No, his/her main paid-job is:

3. Did you establish or inherit or buy this business?
(If *Established*) How many other co-founders (0 if establish alone)

4. The co-founders are: (or You inherited/bought this business from)
 Spouse; Father; Mother; Grandfather; Grandmother
 Brothers; Sisters; Male cousins; Female cousins
 Sons; Daughters; Nieces; Nephews; Uncles; Aunts

- Friends from schools/colleges; Friends from clubs/associations
- Working peers, job-related; Local community, neighbourhood
- None of the above, who are:

5. Please describe which products/services your business provides:

 Please select the sector(s) best fit for your type of products/services:

- Wholesale; Retail; Production; Manufacturer
- Casual services; Professional services; Technical services

6. In which year did you start/run this business? Month

7. What was your job opportunity when you first entered business?

- Unable to find any appropriate paid-job opportunity
- Had other paid-job opportunity but chose to do business

8. How important are these motivations to you to do business:

(please select scale from 1 to 5) Extremely unimportant Medium Extremely important

	Extremely unimportant		Medium		Extremely important
Self-challenge, prove that you can do it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fulfill a personal vision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Continue learning, personal development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lead and motivate others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have influence in your community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Higher income, build great wealth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job security, to be my own boss	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build business for children to inherit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Continue family tradition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide jobs for family members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be respected by friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Follow example of a person you admire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovative and forefront in technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop an idea for a product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Achieve something & get recognition for it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Higher status, higher position in society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Free to adapt your own approach to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater flexibility for personal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Have you ever applied for a loan from bank/ formal financial institutions for this business? (Yes/ No)

- If Yes, your loan application was accepted or rejected?

10. Do you have loan from informal creditors? (Yes/ No)

11. Please estimate the total amount of capital you first invested to establish your business

..... (in Kshs or Usd)

- Of which, please indicate which sources of finance for your investment and the amount of money (or % of total investment):

- Bank loan: Personal funds:
- Friends: Family/Relatives:
- Informal creditors: Other:

12. Prior to this business, did you own any other, different business?

- (Yes/ No). If Yes, what business:
13. Please state your age when you started the first business:
14. What did you do in your last paid-job before entering business:
 in which company:
- Total number of employees in your last paid-job's work place:
 - Was your experience/skills acquired in last paid-job helpful to your current business?
Totally unhelpful *Extremely helpful*
 - How many co-workers in your last paid-job's work place also formed business before the formation of your business?
15. How many shops/branches is this business having in total:
16. How many people are being employed in this business at the moment? How many when this business started?
17. From the starting of your business to now, how many of your ex-employees left your business and formed their own business?
18. Please estimate your business total sales (in Ksh/Usd), or increase in sales (in %) compared to the previous year in:
 2015: 2014: 2013: 2012:
19. In recent years, have you introduced in your business:
 A new or significantly improved product:
 A new way of selling your goods or services:
 A significantly improved method to save cost:
20. Are you satisfied with your business from the beginning up to now?
Unsatisfied *Extremely satisfied*
21. What is your highest degree?
 in which major/field:
- Was your knowledge/skills acquired in your main major/field of your degree helpful to your current business?
Totally unhelpful *Extremely helpful*
22. Did you attend kindergarten/ nursery school? (Yes/ No)
23. In total, how many years of formal education have you got? (from 1st year of Primary School to last year in last degree, do not count gap years or years in labour market)
24. Have you attended any vocational/technical programme?
 (Yes/ No). If Yes, in which major/field:
- Was your training/skills acquired in vocational/technical programme helpful to your current business?
Totally unhelpful *Extremely helpful*
25. Did you have "**business**" as a subject in high schools, or study fields in tertiary education?(Yes/ No). If Yes, please specify in which level(s) of education:
- Was your knowledge/skills acquired in business studies helpful to your current business?
Totally unhelpful *Extremely helpful*
26. Please indicate the type of your education institutions in each level:
- | | Public | Private | Harambee | International | Study abroad |
|--|--------|---------|----------|---------------|--------------|
| | | | | | |

Primary school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Secondary school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical/vocational	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undergraduate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Postgraduate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Have you received any special training in starting/ managing business? (Yes/ No). If Yes, please state which institution:

- Formal education Past employers Government agency
 Chamber of commerce Non-government Private agency

Name of the institution(s):

• Was this training in starting/ managing business helpful?

Totally unhelpful *Extremely helpful*

28. Have you attended any training in area of your current business?

(Yes/ No). If Yes, please state which institution:

- Formal education Past employers Government agency
 Chamber of commerce Non-government Private agency

Name of the institution(s):

• Was the training in area of business helpful to your business?

Totally unhelpful *Extremely helpful*

29. Please name formal business association(s) that you/your business currently belong to:

.....

• Are these business association(s) helpful to your current business?

Totally unhelpful *Extremely helpful*

30. Please select how helpful informal source(s) of knowledge/ training/ advices you get to start/ manage the business:

(please select scale from 1 to 5)	Totally unhelpful	Medium	Extremely helpful
Friends from clubs, associations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working peers; job-related	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends from schools/ colleges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local community; neighbourhoods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business angels (if any)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family/ Relatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Book/magazine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any other informal source?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Please indicate other member(s) of your family or relative(s) who are self-employed or owner of a business:

- Spouse; Father; Mother; Grandfather; Grandmother
 Brothers; Sisters; Male cousins; Female cousins
 Sons; Daughters; Nieces; Nephews; Uncles; Aunts

Other(s):

• In total how many of your relatives are business owners:

32. Did you work for any business ran by relative before? (Yes/ No). If Yes, please indicate whom you worked for:
- And what was the type of business he/she owned:
- Was your experience/skills acquired in working for your relatives' businesses helpful to your current business?
- Totally unhelpful Extremely helpful
33. Did you received help from any members of your family/ relatives in building/ running your own businesses? (Yes/ No)
- If Yes, please indicate whom you received help *:
- (* if the person is your cousin, please specify male or female cousin)
- And by which means of help: Loans/Financial supports
 - Give advices/ ideas Share business contacts
 - Any other mean of help:
34. Do you help any members of your family/ relatives in building/ running their own businesses? (Yes/ No)
- If Yes, please indicate whom you help *:
- And by which means of help: Loans/Financial supports
 - Give advices/ ideas Share business contacts
 - Any other mean of help:
35. Do you provide jobs for any of relatives? (Yes/ No)
- If Yes, please indicate who work for you*:
36. Do you have business partners outside of Kenya? (Yes/ No)
- If Yes, where:
37. Are you hiring accounting/ financial/ advisory assistant? No
38. How many hours do you work per week?
- Do you work in the weekend? Saturday Sunday No
39. In upcoming years, you think the business condition in Kenya will be: much worse; worse; the same; better; much better
40. Imagine that you had won 10 million Kshs in lottery and immediately you receive an offer for investment. There is a chance to double the money within 2 years, but equally possible to lose half of the amount invested. How much would you invest?
- 10 mil 8 mil 6 mil 4 mil 2 mil Decline offer

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Declaration of Co-authorship

The dissertation comprises of four papers, one of which is a single-author paper. The other three papers are conducted with co-authorship. The details are as followed:

The first paper is a joint work with Andreas Freytag, titles “Entrepreneurial Learning under Institutional Context: The Effectiveness of Education and Training on Entrepreneurs’ Performance in Ghana and Kenya”. In this study, I and Andreas Freytag share the work of building the questionnaire and writing paper proportionately. I collect data, do literature review and conduct empirical analysis under the supervision of Andreas Freytag.

The second paper is a joint work with Michael Wyrwich, titles “The Effect of Parental Role Model on Entrepreneurs’ Entry Age, Start-up Sizen and Business Development: Empirical Evidence from two Developing Countries”. Micheal Wyrwich raises the research question and helps me build the questionnaire, as well as write parts of the paper. I collect data, do literature review and conduct empirical analysis under the supervision of Michael Wyrwich.

The third paper is a single author titles “Sub-Saharan Africa in a Globalized World: Toward a Knowledge-based Model of Entrepreneurial Economy”. The entire work of data collection, literature review and empirical analysis is done by myself.

The fourth paper is co-authored with Peter Draper, Andreas Freytag and Sören Scholvin, titles “Is a Factory Southern Africa Feasible? Harnessing Flying Geese to the South African Gateway”. I share the work of co-writing sections on “Flying Geese Model” with Andreas Freytag, and “Policy Implication” with Peter Draper, as well as collect data for different parts. Section on “Gateway Model” is written by Sören Scholvin. Other parts are done by Andreas Freytag and Peter Draper.

Statutory Declaration

Erklärung nach §4 Abs. 1 Promotionsordnung

Hiermit erkläre ich,

1. dass mir die geltende Promotionsordnung bekannt ist;
2. dass ich die Dissertation selbst angefertigt, keine Textabschnitte eines Dritten oder eigener Prüfungsarbeiten ohne Kennzeichnung übernommen und alle von mir benutzten Hilfsmittel, persönlichen Mitteilungen und Quellen in meiner Arbeit angegeben habe;
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5. dass ich die Dissertation noch nicht als Prüfungsarbeit für eine staatliche oder andere wissenschaftliche Prüfung eingereicht habe;
6. dass ich nicht die gleiche, eine in wesentlichen Teilen ähnliche oder eine andere Abhandlung bei einer anderen Hochschule bzw. anderen Fakultät als Dissertation eingereicht habe.

Curriculum Vitae

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2012 - 2013: M.Sc. Studies in Economics - Friedrich-Schiller-University of Jena

2008 – 2011: B.Sc. Economics and Finance – University of York, UK

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Vietnamese: mother tongue

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Lists of Publications and Presentations

Publications

- Draper, Peter and Freytag, Andreas and Scholvin, Sören and Tran, Luong Thanh (2016) “Is a 'Factory Southern Adrica' Feasible? Harnessing Flying Geese to the South African Gateway”. CESifo Working Paper Series No. 5867 and World Bank Working Paper
- Tran, Luong Thanh and Dulkova, Katarina (2013) “Relocation of Polluted Industries: Trade Liberalization in Developing Countries and Environmental Issues” in “The Western Tendency to outsource Problems”. Review of Essential Economic Aspects. Societas Verlagsgesellschaft KG.

Event Organization

- Conference “Economic and Cooperation between Vietnam and Germany: Opportunities and Challenge”, as organizer and presenter of “SMEs’ development in Germany: an approach for Vietnam?”, FSU Jena, 7/7/2015.
- G7 Summit Pre-Conference 2015 “Enhancing Africa’s Opportunity: The G7 Contribution and Challenge” by Jena Africa Study Group (JASG) – University of Jena & G8 Information Centre – University of Toronto, as a member of organizing team, Berlin, 1-3/6/2015.

Presentations

- “The Role of Multi-National Companies in the Global Standard Settings”, in Seminar “Global Governance”, KAS, Jena, 25-26/1/2018.
- “Parental Entrepreneurship: Entry Age and Startup Size of Business”, at Graduate School of Behavioral and Change, Jena, 7/6/2017.
- “Entrepreneurship Development in Sub-Saharan Africa”, at Conference “Expert Talks of the Graduate College Social Market Economy”, KAS, Frankfurt, 9-10/5/2017.

- “Wildlife Protection in Africa”, for David Sheldrick Wildlife Trust, FSU Jena, 17/11/2016.
- “Social Capital and Entrepreneurship in Developing Countries: Evidence from Sub-Saharan Africa”, at 5th International Workshop on Entrepreneurship, Culture, Finance and Economic Development (ECFED), Lyon, France, 23-24/6/2016.
- “Human Capital and Entrepreneurship Intention - Evidence from GEM Database”, at 9th Summer Academy on Innovation and Uncertainty with presentation “Entrepreneurship Intention, Education and Training”, GSBC, Jena, 26/7-8/8/2015.
- “The Relation between Entrepreneurship Training and Entrepreneurship Intention”, at Workshop “Research on Entrepreneurship with Data from Global Entrepreneurship Monitor”, Yeditepe University, Istanbul, Turkey, 15-19/6/2015.
- “Exchange Rate and Monetary Policy of Developing Countries in Asia-Pacific” at Vietnam Institute for Economic and Policy Research, Vietnam National University, Hanoi, 13/12/2013.

Participation in Courses, Seminars & Conferences

- Symposium “The future of entrepreneurship research – Where should we go to and what should we look at?”, Jena, 17/1/2018.
- Seminar “Dealing with Complexity in Teaching”, KAS, Erfurt, 3-5/11/2017.
- Workshop “The Global Program Migration for Development” by CIM/GIZ, Jena, 3/5/2017.
- Winter School “Think-Read-Write” by Giap School, Hanoi, 12-15/12/2016.
- Seminar “Boundless Production? Ways of Sustainable Use of Resources”, KAS, Darmstadt, 14-16/10/2016.

- Seminar "Prosperity for All? The Gap between the Rich and the Poor", KAS, Neresheim, 8-14/8/2016.
- 10th Summer Academy on Innovation and Uncertainty, GSBC, Jena, 24/7-6/8/2016.
- Conference "1st Expert talks on Social Market Economy", KAS, Frankfurt, 26-27/4/2016.
- Symposium "African Economic and Social Integration – is the European Model suitable?" Jena Monnet Centre Workshop, Jena, 6/4/2016.
- Seminar "Democracy in Germany", KAS, Gersfeld, 7-11/12/2015.
- Course "Design and Analysis of Questionnaires with SPSS", Graduate Academy Jena, 27/11/2015.
- Course "Structural Equation Modeling - A gentle Introduction", Graduate Academy Jena, 6&13/11/2015.
- Seminar "Is Social Justice taking place in Germany?", KAS, Königswinter, 28-30/8/2015.
- Seminar "Old and New Institutional Economics", KAS, Witten, 8/5/2015.
- Conference "Social Market Economy X.O", KAS, Berlin, 24-25/2/2015.
- Course "Conditional Process Analysis with Mediation and Moderation", Graduate Academy Jena, 17/1/2014.

Lời Kết

Khi viết những dòng cuối của luận văn này, cháu lại nhớ đến ông, nhớ đến những lời ông nói. Ngày trước khi quay trở lại Đức, ông cháu có dặn dò, để hoàn thành một luận văn tiến sĩ, người nghiên cứu sinh phải tìm ra một cái mới. Như đưa ra một khái niệm mới, sáng lập một phương pháp mới, hoàn thành một chứng minh mới, xây dựng một cỗ máy mới, thiết lập một lý thuyết mới, khởi xướng một phong trào mới.

Ghi nhớ những lời đó, qua năm tháng cháu chập chững bước vào con đường nghiên cứu đầy thử thách và cũng không thiếu những bất ngờ thú vị. Tìm thấy và đi trên con đường này, như là một cái duyên. Đến thời điểm này, như anh Sơn nói, hoàn thành luận văn tiến sĩ mới chỉ là bước xỏ chân vào giày trên con đường nghiên cứu khoa học. Hành trình dài phía trước sẽ còn nhiều khó khăn, nhưng trên hết cần một thái độ chân thành với công việc, không để những năm tháng trôi đi một cách sống hoài sống phí, và không bao giờ bỏ cuộc. Nhớ tới lời chị Linh, nếu thực sự muốn điều gì thì chắc chắn sẽ làm được.

Trên hết, cháu luôn ghi nhớ những lời ông dặn, sự nghiệp, tiền tài, danh vọng chỉ là những cái áo. Chỉ có con người mới là sự thật.