DOCTORAL THESIS

Focus: International Business Strategies and Finance

The intricacies of outward FDI strategies of South African-originated agribusiness MNCs in sub-Saharan Africa

Prepared for

Department of Business Management

College of Economic and Management Sciences

University of South Africa

Prepared By

Leo Mandlenkosi Mpofu

Student Number 31128459

Supervisor: Professor Aregbeshola Rafiu Adewale

Abstract

Foreign direct investment (FDI) has been touted in literature and by numerous studies on the topic as one of the main drivers of economic growth globally. Its benefits transcend from host to home countries, introducing related benefits that would not be realised without FDI. In sub-Saharan Africa, FDI is further regarded as one of the main avenues to alleviate resource deficits on the continent. Moreover, FDI is considered critical in mitigating socio-economic challenges experienced in many parts of the sub-continent. However, the continent lags behind the rest of the world in both outward FDI (OFDI) and inward FDI. Furthermore, intra-Africa FDI is also the lowest intra-regional FDI in the world.

Various studies have been conducted on how MNCs strategise for their FDI initiatives and how the host country attributes render nations either attractive or otherwise to FDI. However, most of the studies have been premised on the developed world, mainly neglecting the unique characteristics of the continent. Africa has become a potentially attractive FDI destination for MNCs, as it has achieved consistently higher economic growth rates when compared to the rest of the world in the past few decades. However, the relatively few studies on the business environment, compounded by the often-negative media publication about the continent have rendered Africa a treacherous investment destination for MNCs.

Democratic South Africa is a relatively new country in Africa. However, it is an important economic force on the continent due to superior resources and expertise formulated in the country over centuries. South African-originated MNCs currently form the bulk of MNC activity on the continent. However, SA MNCs have reported mixed fortunes in their OFDI endeavours in the rest of the sub-continent with many disinvestments, especially over the past two decades. These business closures continue up to the present day. This primary purpose of this study was to add to the existing literature on OFDI to ascertain scientific solutions to mitigate inappropriate business strategies being adopted by SA MNCs on the rest of the continent, especially those MNCs that invest in agribusiness.

The study is unique in that it investigates the firm, host industry and overall host country attributes of OFDI in agribusiness. Furthermore, the study focused on the four regions of sub-Saharan Africa (East, West, Central and Southern Africa) to ensure that the regional dynamics of the continent are considered. The study also considered the effects of the different historical legal and business processes of the continent by factoring in anglophone,

francophone and lusophone countries in the study. The formulation of this study and incorporation of these specifics therefore rendered this study different from existing studies.

Furthermore, agribusiness is one of the most important industries in Africa, employing most of its populace, given the unique agrarian nature of the continent. However, there are negligible studies on FDI in agribusiness on the continent. To bridge this academic lacuna, the current study primarily focused on this sector that is critical to most African economies. The research, therefore, fills these gaps in the existing literature. The period under study was from 2000 to 2018. With the usage of annual data sourced from reliable sources in a robust panel regression approach, the findings of the study are as follows.

Firm heterogeneity plays a critical role in the success of FDI initiatives. The study found that the asset base of an MNC was pertinent for the success of OFDI. Firms that relied on debt funding encountered challenges in OFDI processes. The research also found that profitability remained the main priority of MNCs, given that profitability and FDI share significant positive relationships. Interestingly, the findings established that MNCs that had a long history in their home countries struggled with OFDI, attributable to their limited ability to adapt their tried and tested home processes to new, unique markets on the rest of the continent.

The findings on the agribusiness sector of host countries revealed that countries with progressive policies in agribusiness attracted additional and better FDI. For instance, investments in agri-infrastructure were beneficial to those host countries, showing that countries that prioritised agribusiness reaped the benefits, especially in the long term. Furthermore, there was clear evidence that FDI had a mutually beneficial relationship with crop and livestock production as well as value addition in agribusiness. There were mixed and useful findings regarding the impact of climate, food security and arable land as they relate to agribusiness FDI.

Finally, the study supported the importance of institutional sturdiness on FDI. Although the study corroborated the direct relationship between FDI and economic growth, the findings revealed varied effects of the FDI relationship with unemployment, political stability and infrastructural development. The research findings inferred the importance of policy interventions to ensure that FDI initiatives are optimised to realise food security and growth in order to alleviate poverty and other social challenges experienced in the continent.

Declaration

I, Leo Mandlenkosi Mpofu, Student Number, 31128459, declare that:

The intricacies of outward FDI strategies of South African-originated agribusiness MNCs in sub-Saharan Africa is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

…….. ……..

Leo Mandlenkosi Mpofu Date

Certification

I certify that this work was supervised by me as guided by the regulations of the University of South Africa. The supervisory guidance has been based on solid principles of academic building and contribution to scholarship knowledge.

…… ……..

Professor Adewale Rafiu Aregbeshola Date

Acknowledgement

The commencement of my academic journey, like all other bases of my foundation, can be traced to my hometown of Bulawayo. A city my innocent mind considered one of the world's largest metropolises at the time! The journey of life has however revealed that there are many much larger cities in the world. However, Bulawayo remains the 'largest' in my heart, and its impact, indeed the most significant of my life. Similarly, the academic route has humbly revealed to me that the more one learns, the more one appreciates that there is more to learn.

I thank my late parents for believing in me in their unique ways. My mother, for being my biggest supporter and instilling the courage and willpower to face any challenge in the world. My father, for his wisdom and always ensuring my feet never left the ground to be consumed by complacency. They both wanted me to be a doctor, although I am convinced this was in the medical profession! However, I trust they would be proud of me achieving the highest academic qualification, a doctorate which is granted after a much longer route than the medical route.

My utmost gratitude goes to Professor Adewale Rafiu Aregbeshola, my academic big brother. I believe I was a challenging student as I endeavoured to balance many aspects of my life with my studies. He went way beyond the call of duty in guaranteeing that I reach this stage. Exquisite academic expertise was coupled with extensive guidance on all aspects of a PhD student's life from the professor. There were numerous times when my confidence was waning, and if it were not for this outstanding academic and human being who never stopped believing in me, I would not have reached even a fraction of the stage. You are an asset to the academic profession and humankind, and you have convinced me to change the way I approach the world progressively. I am forever indebted to you.

It has been said that no one person can sail a ship alone. My academic and professional careers have substantiated this viewpoint for me, a difficult realisation for the introvert that I am. A special mention goes to Dr Emmanuel Owusu-Sekyere, who chipped in invaluable technical advice on this journey. Managing many demanding aspects of one's life can be daunting. I thank His Excellency Ambassador Major General (retired) Professor Solly Molly,

who guided me in balancing all these challenges and remaining ‘human’. I still marvel at the many titles this leader has to his name while remaining humble and genuine.

I am grateful to many individuals and institutions that have moulded me to become the academic and professional that I am. However, a special place in my heart is reserved for the ones that gave me my numerous first opportunities. Mr Mathew Sibindi gave me my first job and countless other progressions in my career; Ms Roshani Rampersadh and Mr Jacob de Villiers gave me career lifts and took bold decisions to give me my first opportunities even at the risk of their careers and reputations. Mr Tinus Prinsloo who has always recognised talent – even if one did not realise it oneself. I thank you all for taking a chance on this – then-unknown – entity. You are revolutionary.

Another proven cliché in my life has been the impact of one’s inner circle. As an undoubted introvert, my inner circle is diminutive. However, it has been more than adequate in ensuring that I remained progressive. I express my appreciation to my close colleagues, acquaintances and comrades who have weathered many storms with me. I especially thank my family, who have set very high academic and professional standards across generations and from very challenging backgrounds.

Finally, this journey would not have been possible without the undying support of my wife and two boys. Mrs Fezeka Mpofu (uMaMkhize), my ‘Rock of Gibraltar’, thank you for believing in me through it all, for all the sacrifices that you have had to make it possible for me to achieve this dream. My best friend, my soul mate, my relative, I still do not know what I did to deserve you. Only our Creator knows. To my boys, Kelebogile and Wandile, and your future siblings, your existence is the only motivation I need. I hope you can be proud of the Mpofu name that I have attached to you, and I trust you will be inspired by this work and will also achieve the best that you can be in your chosen paths in life. ‘Everything is possible’ is not merely a phrase, but an achievable reality if you believe.

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List of abbreviations and acronyms

ACCORD-		African Centre for the Constructive Resolution of Disputes
ADB	-	African Development Bank
AEC	-	African Economic Community
AfCFTA	-	African Continental Free Trade Area
AMU	-	Arab Maghreb Union
AU	-	African Union
BIT	-	Bilateral Investment Treaty
BP-RTPLS	-	best projection reiterative truncated projected least squares
BRICS	-	Brazil, Russia, India, China and South Africa
CA	-	conservation agriculture
CADF	-	cross-sectional augmented Dickey–Fuller
CEMAC	-	Economic and Monetary Community of Central Africa
CEN-SAD	-	Community of Sahel-Saharan States
COMESA	-	Common Market for Eastern and Southern Africa
DRC	-	Democratic Republic of Congo
DTE	-	developing and transforming economy
EAC	-	East African Community
ECCAS	-	Economic Community of Central African States
ECOWAS	-	Economic Community of West African States
EODB	-	ease of doing business
EU	-	European Union
EY	-	Ernst & Young
FAO	-	Food and Agriculture Organization of the United Nations
FAOSTAT-		Food and Agriculture Organization Corporate Statistical Database
FDI	-	foreign direct investment
FE	-	fixed effects

FGLS	-	feasible generalised least squares
FIES	-	Food Insecurity Experience Scale
FMD	-	financial market development
FRED	-	Federal Reserve Economic Data
GFCF	-	gross fixed capital formation
GDP	-	gross domestic product
GMM	-	generalised method of moments
GMO	-	genetically modified organism
GRI	-	Global Risk Insights
IB	-	international business
ICBT	-	informal cross-border trade
IEP	-	Institute of Economics and Peace
IFRS	-	International Financial Reporting Standards
IGAD	-	Intergovernmental Authority on Development
ILO	-	International Labour Organisation
IMF	-	International Monetary Fund
JSE	-	Johannesburg Stock Exchange
LPI	-	Logistics Performance Index
LSDV	-	least squares dummy variable
LSM	-	least squares model
M&A	-	mergers and acquisition
MICs	-	middle-income countries
MNCs	-	multi-national company
NAFTA	-	North American Free Trade Agreement
NCX	-	Nigeria Commodity Exchange
NCC	-	Nigerian Communications Commission
NIPC	-	Nigerian Investment Promotion Commission
OECD	-	Organisation for Economic Co-Operation and Development
OFDI	-	outward foreign direct investment

OVB	-	omitted-variable bias
PBT	-	profit before tax
RCL	-	Rainbow Chicken Limited
SA	-	South Africa
SA MNC	-	South Africa-originated Multi-National Company
SAASTA	-	South African Agency for Science and technology Advancement
SADC	-	Southern African Development Community
SAFEX	-	South African Futures Exchange
SEZ	-	special economic zones
SSA	-	sub-Saharan Africa
TI	-	Transparency International
UEMOA	-	West African Economic and Monetary Union
UN	-	United Nations
UNCTAD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme
UNIDO	-	United Nations Industrial Development Organization
UO	-	University of Oxford
US	-	United States
USA	-	United States of America
USD	-	United States dollars
USSR	-	Union of Soviet Socialist Republics
WAMZ	-	West African Monetary Zone
WBD	-	World Bank Data
WFP	-	World Food Programme
WHO	-	World Health Organisation
WMO	-	World Meteorological Organisation

Chapter 1

Introduction and background to study

1.1 Overview

The termination of the apartheid system of government in South Africa in 1994 resulted in South Africa's re-integration into the rest of the commercial world, and more importantly, the African market. The presence of South Africa has been notable in issues of politics, business, sports, culture, and other aspects on the African continent (World Bank Group, 2012; Roux, 2014). The re-integration has, therefore, exposed the business community of South Africa to business opportunities in the rest of Africa. South Africa-originated Multi-National Companies (SA MNCs) have capitalised on their superior comparable advantages by investing in the other parts of the continent through Outward Foreign Direct Investment (OFDI) (United Nations Conference on Trade and Development [UNCTAD], 2017).

Democratic South Africa is thus a relatively new participant in the African business space. However, its impact and presence on the continent has been significant (The World Bank, 2015). Egu and Aregbeshola (2016:2) contextualise this by citing that 75% of African manufacturing MNCs, 40% of Africa's industrial output, 45% of Africa's mineral output, 50% of Africa's purchasing power and 50% of energy consumption are from South Africa. This background, coupled with Africa's status as a growing investment host, has led South African MNCs (SA MNCs) to invest in the rest of Africa (Roux, 2014).

However, reports on investment activities by SA MNCs in Africa over the past two decades have highlighted different experiences. Earlier reports focused on the great business potential – and in some cases, success stories (Chibba, 2014). Successful utilisation of superior resources, efficiencies, new technologies and skills that were welcomed and appreciated in host countries have been the bedrock of the success stories (Ewing, 2008; Douglas, 2013; Holmes, 2013; Chibba, 2014). However, more recent experiences have highlighted challenges for SA MNCs, including tax

complications (Business Day, 2013), xenophobic attacks' retaliation (Mail & Guardian, 2015), as well as the difficulties that emanate from regulatory frameworks and informal trade (Afrika & Ajumbo, 2012; Matsilele, 2015; Food & Agricultural Organization of the United Nations [FAO], 2018a). These challenges also include the failure of business strategies (Brands & Branding, 2015; Dludla; 2020; Madubela, 2020), complacency (Business Day, 2015) and other general business challenges affecting SA MNCs. De lonno (2016) has a more balanced view of the different business experiences of SA MNCs in the rest of the African continent, citing a mix of success and failure. The divergence of outcomes further emphasises the fact that there is an apparent absence of a precise path to success. The perceived uncertainties, challenges and risks of the African continent compound the unclear path to success. SA MNCs have utilised different avenues to exploit the business market in the rest of Africa. However, foreign direct investment (FDI) has been the most significant (UNCTAD, 2017). This study thus focused on the intricacies of FDI, particularly OFDI practices of SA MNCs.

OFDI is a channel to bridge the resources gap for investment and infrastructural interventions in cases where local resources are scarce (Aregbeshola, 2016). Pradhan (2011), Collins (2013), Chaudhuri and Mukhopadhyay (2014), Alcaraz, Zamilpa and Torres (2017) as well as Weilei, Li, Yan and Zhu (2017) add that FDI offers new markets and lower costs of production for MNCs. These new market opportunities could lead to increased profit, job creation (in home and host countries) that the MNCs would otherwise not have received with operations only in the home country. In the case of service-oriented FDI, the investment provides access to new consumers or provides an alternative for limited or saturated local options (Nelson, 2009; Goh, Wong & Tham, 2012). Figure 1-1 below contextualises the concept of OFDI.

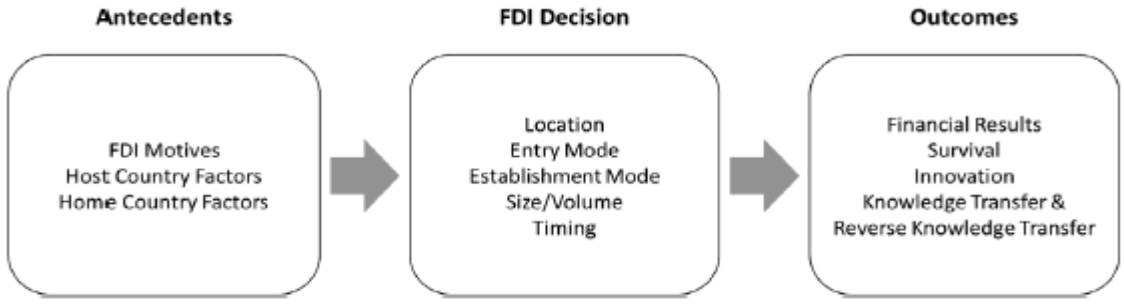

Figure 0-1 Conceptual framework: antecedents, decisions, and outcomes of OFDI
Source: Paul and Benito (2018:93)

Adeleye, White and Boso (2016) note that Africa has lagged behind the rest of the globe in attracting sustainable and sufficient FDI. FDI is crucial in Africa as it supplements local resource deficits that are required to facilitate economic growth (Aregbeshola, 2016). Economic growth subsequently inspires economic diversification and development in both host and investing countries (Aliyu, 2012; Duku, 2015; Ojonugwa, 2015). Indirect benefits or 'spillover effects' refer to general upliftment of local industries, provided the host country has the skills and resources to formulate and implement foreign investor strategies (Farole & Winkler, 2014). These benefits therefore infer a need for Africa to develop its comparative advantages in attracting FDI.

A major challenge in Africa when attracting FDI is underdeveloped capital markets (Aregbeshola, 2016). In the global context, well-developed capital markets have a direct correlation with FDI inflows. As future global trends become unpredictable, intra-Africa FDI or 'internalisation' is a viable alternative to the inflow of foreign-originated FDI on the African continent (Adeleye et al. 2016). Numerous African brands, such as Astral Foods, SABMiller, Shoprite, Massmart, Sanlam, Naspers, MTN, Vodacom, Woolworths Holdings Limited, Standard Bank, Nampak, Pick n Pay (South Africa), Access Bank, Dangote Group, United Bank for Africa [UBA] (Nigeria) and Ecobank (Togo) are examples of large MNCs that are contributing to intra-Africa FDI flow and stock (UNCTAD, 2017; ThinkAfrica, 2018; Johannesburg Stock Exchange [JSE], 2020; Nigerian Stock Exchange [NSE], 2020). SA MNCs, therefore, have significant FDI outflows into the rest of Africa. The substantial flows can be attributable to South Africa having a higher resource base in terms of access to capital, management experience, entrepreneurial abilities and technological expertise compared to other countries in sub-Saharan Africa (Aregbeshola, 2016). However, the uncertainty of the probable success of OFDI by SA MNCs in sub-Saharan Africa was the essence of this research effort, initiated to uncover the performance of SA MNCs in the rest of the continent.

Dorożyński and Kuna-Marszalek (2017) investigated the factors that influence the rate of FDI outflows from countries, particularly emerging economies, such as South Africa. Their findings suggest that policy, governance infrastructure and economic management of a government are vital determinants. Factors, such as policy,

governance infrastructure, economic fundamentals, human capital and physical infrastructure, are recognised as the direct determinants of FDI outflows. However, literature also highlights MNC-specific performance and attributes in foreign markets as a significant factor in OFDI (Kononov, 2010; Sass & Kalotay, 2010; Ciesielska, 2012; Dorożyński & Kuna-Marszalek, 2017; Heshmati, 2018). Sauvant, Mashcek and McAllister (2009) as well as Sauvant and Reimer (2012) add that numerous MNCs that have done well in OFDI have had the backing of their home governments through policy interventions, such as tax subsidies or state-negotiated preferential engagement in host countries, among other interventions. China's 'state capitalism' is one of such policies where Chinese MNCs are supported by the Chinese government to expand into Africa and other markets (Alcaraz et al., 2017; Morita, 2017; Mureithi, 2021). For instance, the Chinese government often insists on the use of Chinese banks when they extend loans to many African countries (see Mureithi, 2021). However, the situation is different for SA MNCs, as they are often not supported by the home government in their FDI outflow initiatives (Bijaoui, 2017). SA MNCs and other emerging economies find themselves at competitive disadvantages when competing with MNCs from countries where governments actively support FDI outflows (Bijaoui, 2017).

The economic fundamentals of doing business in Africa are a relatively new frontier in the global business arena (Andrade, 2017). It makes logical business sense that for FDI projects to succeed, these fundamentals need to be well understood. The interest in doing business in Africa has increased exponentially over the past two decades, but the understanding of the economics of Africa by investors has not improved at the same rate (Bright & Hruby, 2015; Andrade, 2017). Bright and Hruby (2015) attribute this increase of interest in African economies to considerable economic growth during this period. They add that information that focuses on a continent with a vast amount of potential has largely replaced negative sentiments about the continent, as was the norm in the preceding eras.

Brautigum (2015) and Hazelwood (2016) however warn that negative perception about Africa is still present in mainstream Western media. Hazelwood (2016) highlights some notable examples – which include the emigration crisis and political instability in North Africa, xenophobic attacks in South Africa and random acts of terrorism by groups

such as the Boko Haram – that received significant media attention. For instance, Business Wire (2016) reported a 331% increase in terrorist attacks in Africa from 2009 to 2015. However, the report omits that these events had occurred randomly and were mainly isolated to countries (or regions) at arbitrary times, but the report focuses only on the percentage of incidences, which could be highly misleading. This unbalanced media coverage dents business confidence on the continent (Brautigum, 2015; Hazelwood, 2016). Peng, Sun and Blevins (2011) note that non-scholars produce most media. Hence, they counsel that it is the responsibility of scholars, particularly International Business (IB) scholars, to create work based on research to counter misleading media with scientific facts.

Nevertheless, the growth of African economies has attracted leading MNCs in the world to develop an interest in Africa. However, Bright and Hruby (2015) warn that investments into the African continent, like any other investment, are unique. Tvedten, Hansen and Jeppesen (2014) supplement this notion by adding that investment parameters are specific to an organisation, an industry and a country. Tvedten et al. (2014) further state that the study of investments is a study that implies the distinct element of business models and robust evaluation of all investment experience with different outcomes, even in similar environments. Moreover, a vague understanding and implementation of these investment principles may lead to business failure (see Tvedten et al., 2014).

The principles and observations above would infer that the distinctness of and variety on the African continent and African economic fundamentals demand special attention. Bright and Hruby (2015:2), who focused their work on sub-Saharan Africa, summarise it well by stating:

> If we attempted to do comprehensive work on the dynamics of all 48 Sub-Saharan African countries, it would be likely too expansive to complete with timely facts and too long to attract mainstream readership. Yet characterising a region as large as Africa too generally risks inaccurately applying a narrow view to large swaths of the continent.

The current study focuses on South African-originated agribusiness MNCs that were operating within selected sub-Saharan Africa countries at the time of this research or which had operated in selected African countries. The prevalence of SA MNCs in those host countries, the economic importance of those countries in their regions and

regional linguistic socio-political considerations formed the criteria for the choice of host countries to be investigated. Hence, the countries considered in this study as per the annual reports of select SA MNCs were

- Nigeria (West Africa – anglophone, i.e. English-speaking-speaking);
- Uganda (East Africa – anglophone);
- Mozambique (Southern Africa – lusophone, i.e. Portuguese-speaking);
- Zambia (Southern Africa – anglophone); and
- the Republic of Congo (Central Africa – francophone, i.e. French-speaking).

These countries are important representatives of their regions, they capture the diversity of sub-Saharan Africa, and have been popular destinations for SA agribusiness MNCs (Labour Research Service, 2017), which made them ideal for this study.

FDI inflows into developed economies are efficient, mainly because they benefit from well-developed home financial markets and economic infrastructure to fill capital gaps (Aregbeshola, 2016). Financial markets in Africa are not as developed and are mostly fledgling markets; hence, the FDI inflow mechanism in Africa is not as straightforward as in developed countries. Aregbeshola (2016) adds that there is minimal literature on financial markets and FDI in sub-Saharan Africa, making investments into Africa somewhat unattractive and risky. Adeleye et al. (2016) note that traditional FDI, such as investments in the mining sector by Western-originated MNCs, constitutes the focus of the limited literature available. However, intra-Africa FDI has grown exponentially in the last two decades with relatively new FDI avenues, such as service-industry FDI, becoming more prominent than conventional FDI (see UNCTAD, 2017). The deregulation of services in many African host countries has been the main reason for the growth of investments in the service industry FDI (Goh et al., 2012).

Nelson (2009) as well as Goh et al. (2012) defines investments in services such as agri-services as 'non-traditional FDI'. Nelson (2009) adds that this type of FDI investment has become increasingly significant and relevant globally. Internalisation and service industry FDI have also become increasingly important to Africa (UNCTAD, 2017). FDI outflows from South Africa into the rest of Africa in agribusiness and agri services are therefore significant and relevant. However, the flow of FDI from SA agribusiness MNCs breeds mixed fortunes, and there is relatively limited literature on

the subject (De lonno, 2016). The analysis of FDI strategies of agribusiness MNCs and understanding why they often fail formed the crux of this study.

1.2 Problem statement

SA MNCs have had limited success in investments in the rest of the African continent, with many MNCs divesting partially or fully (Standard Bank, 2016; PricewaterhouseCoopers [PwC], 2017; UNCTAD, 2017; Business Daily, 2019; Daily Monitor, 2020; Dludla, 2020; Madubela, 2020). The main problem to be investigated during this study was to uncover why SA MNCs sometimes fail in the rest of Africa despite their experience, success in South Africa, and divergence in their expansion strategies.

The limited successes or failures of SA MNCs in sub-Saharan Africa are a major challenge for the SA business community (Roux, 2014; De Lonno, 2016; Standard Bank, 2016). Whereas some investments have achieved some success, research-based strategic certainty of the outcomes of these investments is minimal, resulting in a high failure rate of many investments (Roux, 2014; Standard Bank 2016; Business Daily, 2019; Daily Monitor, 2020; Dludla, 2020; Madubela, 2020). According to the Standard Bank Africa Expansion Monitor (see Standard Bank, 2016), out of the 31 listed (or formerly listed) SA MNCs, 12 had disinvested or in the process of disinvesting in certain sub-Saharan African (SSA) countries as of 2016 (see Table 2.1). The challenge is that, after more than two decades of SA outward FDI into sub-Saharan Africa, the science of predicting business success is evidently still limited. The trend is substantiated by six more disinvestments continuing up to 2020, bringing the total to 18 out of 31 SA MNCs (Business Daily, 2019; Daily Monitor, 2020; Dludla, 2020; Madubela, 2020). Edsel (2016) states that business closures and downsizing are the culmination of failed investment strategies. He adds that these are due to ignoring of or limited existence of scientific tools in predicting business failure.

This study sought to address this scientific gap in literature. Effectiveness of the investment strategies utilised by firms at the time of this research when investing in the continent were analysed, as well as the possible influence of expansion strategies and host country attributes on the performance of these MNCs.

1.3 Research question

Africa has shown immense potential in economic growth, particularly in the last two decades (see UNCTAD, 2017). The continent has achieved an upward trajectory regarding issues such as the ease of doing business, investment potential, economic maturity and development (UNCTAD, 2017). Consequently, SA MNCs view other African countries as ideal for FDI and other forms of investment due to the proximity of these countries to South Africa and other shared characteristics. Therefore, SA MNCs have invested extensively in the continent.

The Standard Bank Africa Insight Report (Standard Bank, 2016) reported closures or planned closures of numerous operations of SA MNCs in sub-Saharan Africa. Many closures continue to the time of writing (Dludla, 2020; Madubela, 2020). Therefore, the main research question of interest was if these businesses had been penetrating other parts of the continent for more than two decades, why have incidences of OFDI business failure and closures continued?

1.4 Research objectives

The current research strived to uncover FDI investment strategies that are robust and resilient to organisations operating or intending to operate on the continent. The study thus involved analysing the effectiveness of investment approaches previously utilised by firms when investing in the rest of the continent and doing so at the time of this research, as well as the possible influence of MNC attributes and destination country characteristics on the performance of these MNCs. Therefore, the main objective was to aid the viability of FDI investment tactics of African MNCs on the African continent to ultimately promote effective and sustainable intra-Africa FDI.

The objectives of the study were expanded as follows, namely to –

1. explore the investment strategies and competencies of SA MNCs invested in the rest of Africa;
2. investigate the economic significance of agribusiness-related FDI inflow into other African countries;
3. examine the possible strategic and operational challenges faced by SA-originated agribusinesses on the rest of the African continent;

4. identify the determinants of preferred agribusiness host markets;
5. ascertain the determinants of preferred host nations for SA-originated agribusiness MNCs in the sampled African countries; and
6. investigate the linkages between country-, market- and firm-level aspects of OFDI and successful OFDI business strategies for SA-originated agribusiness MNCs in selected African countries.

By so doing, this study:

- supplements existing knowledge on outward FDI strategies of SA MNCs in the rest of Africa;
- provides scientific evidence on how to grow the African economy sustainably through attractiveness to intra-Africa investment flows, in order to alleviate poverty and related socio-economic challenges;
- assists SA MNCs in devising strategies that could alleviate challenges they face in the rest of Africa, and thereby increasing the success rate of SA MNC investments in the rest of Africa;
- influences SA MNC investment decisions in the rest of Africa to be more sustainable; and
- promotes internalisation (by influencing more sustainable intra-Africa agribusiness FDI) and reduces dependence on external (out of Africa) FDI.

1.5 Research methodology

The research approach (quantitative, qualitative or mixed method) is the primary step in any research effort. In the current study, the quantitative approach was followed. Harkiolakis (2018:22) states that quantitative research methods and analysis are based on data in its numerical form. Quantitative research is defined by Harkiolakis (2018:22) as –

> [A]n attempt to (positivist stance mainly) investigate an objective reality (realist stance mainly). In other words, we assume that the phenomenon under study is real (not a social construct) and can be represented (knowable) by estimating parameters and

measuring meaningful variables that can represent the state of entities that are involved in the phenomenon under study.

Over the years, quantitative research methods have developed into multiple formats, such as factorial designs, such as repeated measure designs, detailed structural equation modelling, hierarchical linear modelling, and logistic regression. Collectively, they are classified as econometrics (Harkiolakis, 2018). Numerical data can be attained through observation or by collating information which is already available and converting this information into numerical form (see Harkiolakis, 2018). The current study was premised on quantitative econometric approaches based on existing knowledge and guided by previous studies, as recommended by Woolridge (2016). The process envisaged estimating the outcomes of the relationship between the dependant and independent variables through historical datasets, as recommended by Studenmund (2017). Furthermore, the study reflects unique perspectives that distinguish it from the body of existing knowledge in order to contribute to existing literature.

Econometrics approaches are favoured because they focus on the measurement of economic relationships and dependencies (see Wooldridge, 2016), which aligned to this study. Specifically, "econometrics is based upon the development of statistical methods for estimating economic relationships, testing economic theories, and evaluating and implementing government and business policy" (Wooldridge, 2016:1). To support the choice of econometrics, Studenmund (2017:20) states:

"Econometrics has three major uses:

- describing economic reality
- testing hypothesis about economic theory and policy
- forecasting future economic activity."

1.5.1 Research design

In econometrics, it is essential to understand and formulate the question of interest to develop the estimation approach (Hilmer & Hilmer, 2014). Due to the nature of the problem, the current research followed multiple linear regression analysis (see Hilmer & Hilmer, 2014). The process was as follows:

- the formulation of various questions of interest, which led to the research objectives;
- the identification of relevant variables, as suggested by literature;
- data collection on the variables from various secondary sources;
- model specification and calibration of equations;
- choice of data fitting models and various diagnostic analyses;
- model testing and estimation of models or equations; and
- drawing of inferences and interpretations for policy recommendations.

1.5.1.1 Research questions

Hilmer and Hilmer (2014) define selection of the research questions as the first step in regression analysis. It is essential to understand the problem and the objectives to find the correct variables that are required to achieve valid inferences.

The research question for this study related to the evaluation of FDI investment strategies against their efficacy in yielding predetermined performance targets.

The following secondary questions were identified, in addition to the main research question:

1 What are the OFDI strategies adopted by South African-originated MNCs and how competitive are they?

2 What is the economic significance of OFDI initiatives of South African-originated MNCS for South Africa and the host countries?

3 What are the challenges faced by South African-originated MNCS, and how do they affect the success of SA MNCs in the sampled countries?

4 What motivates the choice of host nations for South African-originated MNCs in sub-Saharan African countries?

5 What specific performance indicators are favourable to South African-originated MNCs in specific sub-Saharan African countries?

These questions thus led to the research objectives:

1 to identify and evaluate the effectiveness of OFDI strategies that these MNCs adapt to venture into the sampled SSA countries;

2 to determine how OFDI strategies of SA MNCs could positively affect intra-Africa FDI;

3 to determine the specific challenges that are peculiar to these MNCs and how they can be alleviated;

4 to determine which host countries are favourable for SA MNCs and assist other host countries to be favourable hosts; and

5 to determine the specific performance indicators that favour these MNCs.

Consequently, the following research hypotheses were raised:

1 There is a strong positive relationship between the expansion strategies adopted by the MNCs, their capabilities and the performance of their investments in the sampled sub-Saharan African countries.

2 International investments of South African-originated MNCs are motivated by profit motives and favourable host markets.

3 Institutional challenges (in addition to business strategy) are the other major hindrances to the performance of South African-originated MNCs in sub-Saharan African countries.

1.5.1.2 The relevant elements and variables

As per Hilmer and Hilmer (2014), the choice of elements and variables therein should be carefully selected. In the regression model, *X1, X2⋯Xn* represented the variables. The available literature and previous studies based on the success of OFDI strategies provided a guide for the selection of variables, and the variable components of the models were modified where appropriate.

1.5.1.3 Data collection on the variables

In academic research, it is essential to decide whether the dataset is quantitative or qualitative, as this helps to determine the research method and the data analysis approach (Anderson, Sweeney, Williams, Camm & Cochran, 2015). This study followed a quantitative approach with the deployment of quantitative data. Neusser (2016) adds that the distinction between cross-sectional (static) and time-series data

is important. The current research effort considered both cross-sectional and time-series data to ascertain the full interpretation of projected estimations.

Data sources may be secondary or raw (Anderson et al., 2015). The current study utilised a secondary published dataset, being statistical analyses that adopted econometric approaches. The data sourcing followed verification mechanisms to avoid erroneous data processing. Furthermore, throughout the study, considerations for research ethics were given prominence.

1.5.1.4 Model specification

The number of response and explanatory variables determines the model specification (McClave, Benson & Sincich, 2014). The current study had multiple panel data and various explanatory variables that were determined by the direction and knowledge base of the literature survey. The specific dynamics of sampled countries and the MNCs also played prominent roles in the model specification and ultimate data analysis.

1.5.1.5 Choice of data fitting model

McClave et al. (2014) state that the next step is the estimation of model parameters based on data collected. These authors add that the most reliable method for this is the least-squares model (LSM). Although the current study considered the use of LSM, various other estimation approaches were deployed depending on data behaviour and knowledge from the literature review.

1.5.1.6 Composition of model

After estimating unknown parameters, the model's values and substituting of these values (or composition) may render the model usable (McClave et al., 2014). For example, the estimated parameters of the model statistically represented as *ß1, ß2 … ßk* gave the fitted model as:

y=f (X1, X2 … Xk, ß1, ß2 … ßk) where y is the fitted value or the predicted value.

1.5.1.7 Model testing

Silvia, Iqbal, Swankoski, Watt and Bullard (2014) as well as Doane and Seward (2016) advise that model testing is the most critical part of regression analysis. The quality of the result hence depends on the careful application of the whole estimation process and techniques. Figure 1-2 below illustrates the model testing approach followed in the empirical aspect of the study:

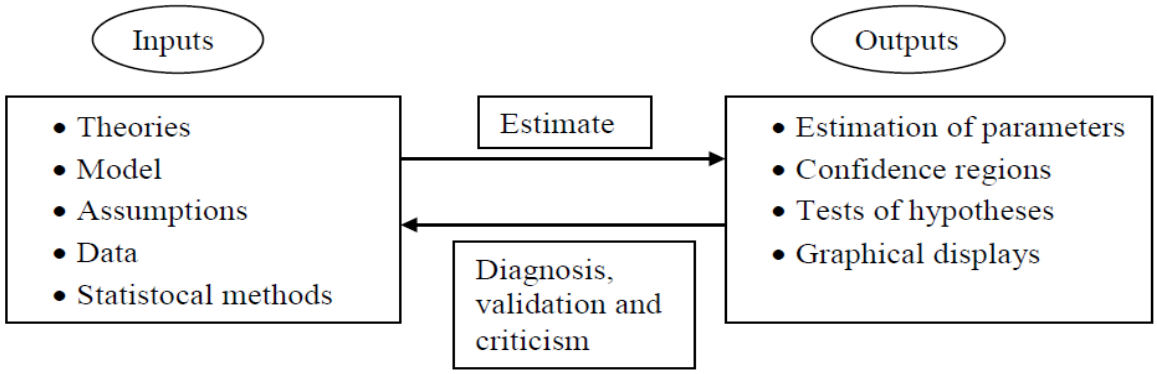

Figure 0-2 Econometric model testing approach
Source: Researcher's own compilation

1.5.2 Population

Creswell and Creswell (2018) define the population of research as the entire group for which a general conclusion is desired. Subsequently, the accessible or target population is the component of the population through which the researcher can draw a substantive determination to the research effort. SA-originated MNCs operating in the rest of Africa represented the population of this study. The target population were SA-originated MNCs in the agribusiness industry, who had conducted or were conducting business in Nigeria, Uganda, Mozambique, Zambia, and the Republic of Congo.

The host countries have been chosen on account of four main aspects, namely:

- the prevalence of SA MNCs in the host country;
- the region within sub-Saharan Africa (West, East, Central and Southern Africa);
- the economic relevance of the host nation in the region and popularity of the host nation for SA MNCs within the region; and

- the socio-economic and political background of the host nation (including their legal and linguistic framework, whether anglophone, francophone or lusophone).

Sub-Saharan Africa has four main regions, West, East, Central and Southern Africa. The current study incorporated representative economies of these regions, and the prevalence of SA MNCs in these countries was an influencing consideration, quantifying the material influence of the SA MNCs in the areas. The agribusiness industry is one of the most critical on the African continent as it has a direct effect on more than two-thirds of the African population. It further has an indirect effect on the entire African populace (PwC, 2018), and numerous direct and indirect links to other industries.

Additionally, agribusiness contributes a significant portion of South Africa's gross domestic product (GDP). In 2017, agriculture added 2.4% to the overall GDP (South African Government, 2018). The agribusiness component of the GDP is significantly more at 10% if the entire agri-food complex is considered, inclusive of inputs and food processing, which are recorded under manufacturing (Greyling, 2015).

In 2016, the agri-food complex contributed R124 billion to the SA economy and employed 450 000 in the formal sector (Brand South Africa, 2017). SA agribusiness MNCs have significantly contributed to SA FDI outflows into the rest of Africa and are illustrative of the SA FDI outflow strategy (UNCTAD, 2017).

1.6 Expected outcomes and significance

Democratic South Africa is a relatively new country in Africa, having attained independence in 1994. However, its economic strength plays a significant role in the economic direction of the continent (World Bank Group, 2012; 2015; 2017). The relationship between South Africa and the rest of Africa after 1994 may be termed ‘a tale of two decades’.

During the first decade into democracy (between 1994 and 2004), the business community in South Africa regarded investment into the continent as risky (Roux, 2014). Adesida and Karuri-Sebina (2011) argue that this was a case of not studying

the terrain and prematurely arriving at the 'risky' conclusion. This perception generated fear of the economic and business environment in sub-Saharan Africa (Roux, 2014).

The SA economy was also experiencing positive economic growth during this period, peaking at 4.6% in 2004 (The World Bank, 2015). The new democracy benefited from the lifting of sanctions, expansion of businesses into all sectors of the economy, the growth of the middle class, and interaction between South Africa and the international market enabling export growth (Roux, 2014). There was, therefore, no immediate need or urgency to diversify and invest into the continent.

The second decade after democracy (2005 to 2015) commenced with the continuation of the economic boom experienced in the previous decade. In 2006, the peak in the economic growth of the post-Apartheid era was 5.6% (The World Bank, 2015). However, as illustrated in Figure 1.3, South Africa achieved declining economic growth from 2007 onward, and this trend has continued into the current decade (see World Bank Group, 2019). These trends were very similar to world trends during the same period epitomised by the world economic recession experienced in 2009 (The World Bank, 2020i).

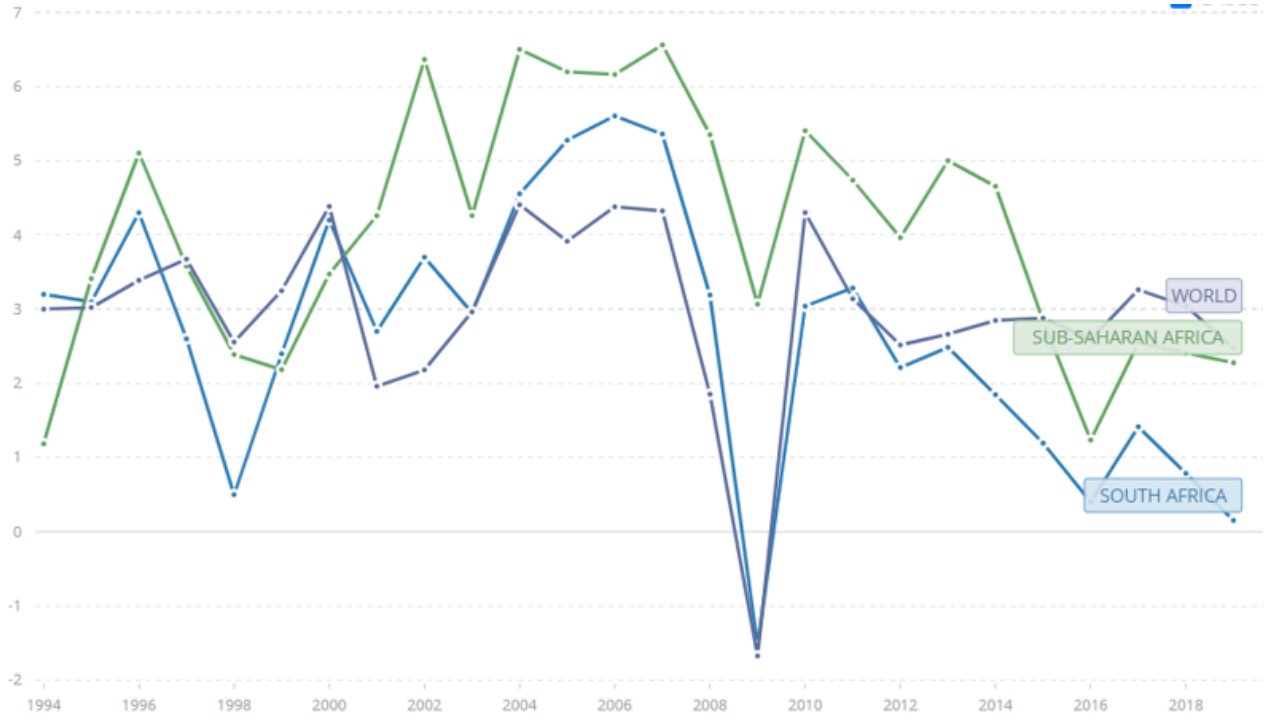

Figure 0-3 Economic growth – South Africa vs. sub-Saharan Africa vs. world (percentage)
Source: The World Bank (2020i)

Other sub-Saharan economies have consistently recorded higher economic growth levels when compared to South Africa from 2001 as per Figure 1-3. The contrasting economic fortunes of many SSA countries, and South Africa in particular, placed these countries as potentially lucrative investment destinations for SA businesses (UNCTAD, 2017; PwC, 2018). The increased knowledge of commerce on the African continent supplemented this perception (Roux, 2014).

However, the African market is a unique environment compared to the rest of the world (Hazelwood, 2016). In addition, business set-up and timing are imperative in business investment strategy, more so in developing countries where there is conflicting research, for example, when comparing greenfield and brownfield projects[1] as preferred entry modes (Sauvant et al., 2009; Morris & Aziz, 2011). Investment in the continent, therefore, requires unique business strategies suited to the environment. Statistical information has become more available with organisations, such as the World Bank and International Monetary Fund, issuing comprehensive reports on macro-economic conditions in African countries (Jerven, 2015). This information, however, is not conclusive and contains numerous inconsistencies. For instance, official intra-Africa trade statistics were last published in 2013 (FAO, 2018a). Complications are common in information sourcing in Africa (Tvedten et al., 2014; Jerven, 2015; Christiaensen & Demery, 2018).

The informal nature of many business transactions compounds this assertion (Afrika & Ajumbo, 2012). Consulting firms, such as Deloitte and PricewaterhouseCoopers (PwC), have also released statistical and business publications that delve deeper into economic conditions in the countries. However, Dorożyński and Kuna-Marszalek (2017) conclude that the data that is collected through most official statistics is insufficient and prone to error and bias, especially when relating to emerging and developing countries.

Statistical and business information clarifies the broader environment of a country where an organisation intends to invest (Jerven, 2015). However, the information is not superlative in addressing business strategies (Tvedten et al., 2014). Limited

[1] Greenfield investments are when a company conducts FDI in another country by establishing a subsidiary and constructing new facilities, whereas a brownfield investment involves the takeover of an existing facility in a new country (Morris & Aziz, 2011).

literature further complicates the understanding of the African business environment (Aregbeshola, 2016). The use of econometrics in learning and predicting business success and failure is often misunderstood and hence underutilised (Studenmund, 2017). Jerven (2015), Edsel (2016) and Studenmund (2017) add that numerous OFDI failures are avoidable with accurate data collection and the use of econometrics.

The current research effort sought to make strides into bridging the scientific gap in the limited availability of literature by undertaking an intensive analysis of SA MNCs and their relationship with the African continent. Further, econometrics was utilised to add to the scientific development of FDI outflows and investment strategies. The research endeavoured to assist SA MNCs working in the continent or intending to work in the continent with valuable scientific business investment information and, importantly, to avoid failure.

1.7 Scope and delimitation

This study focused on SA agribusiness MNCs that were operating in sub-Saharan Africa at the time of the research. The research mainly focused on the four sub-Saharan regions as recognised by the African Union, namely West Africa, Central Africa, East Africa and Southern Africa. There is an emphasis on crucial economies within those regions, namely Nigeria, the Republic of Congo, Uganda, Mozambique and Zambia. In addition, there is a notable concentration on agribusiness with a focus on large companies within these sectors. Secondary data, including financial information, business sector and strategic information, was utilised to ascertain the time series data of the study. The study frame was identified to situate the study within the 2000 to 2018 annualised dataset.

1.8 Ethical consideration of study

Comstock (2013) summarises the core ethical research considerations to involve responsibility with:

- data acquisition, management, sharing and ownership;
- conflict of interest and commitment;
- human subjects;

- animal welfare;
- research misconduct;
- publication practice and responsible authorship;
- mentor and/or trainee responsibilities;
- peer review; and
- collaborative science

In this study, all the above were considered except animal welfare, peer review and collaborative science.

Shamoo and Resnik (2015) add that, although research is ultimately investigative, it must follow the ethical guidelines, as set out by the University of South Africa (2016). Peng et al. (2011:3) reiterate, "[t]he social responsibility of international business (IB) scholars stems first and foremost from the social responsibility of scholars. All scholars seek the truth (through research), disseminate learning (through teaching), and make a difference (through service)." The researcher ensured that every aspect of the study conformed to the generally accepted ethical guidelines and affirmed conformity with the laid-down ethical guidelines of the University of South Africa, as contained in the Research Ethics Policy of the university (see University of South Africa, 2016).

1.9 Framework of the study

Having depicted the general frame of the research in Chapter 1, beginning with the introduction and background to the analysis, as well as the research design, approach and methodology, the rest of the study follows the following format:

Chapter 2: SA MNCs and FDI dynamics in Africa

This chapter is the first literature review chapter focusing on the general business environment in the continent and its impact on the dynamics of FDI in Africa. The chapter comprises a discussion of the history of doing business on the continent, giving valuable insight into how the continent formulates policy decisions that directly affect FDI. Further information is presented on how FDI is conducted on the continent, commencing with a synopsis of the historical background of the business environment.

The historical background enables a comprehensive appreciation of the current outlook of FDI on the continent. The recent FDI performance of sub-Saharan Africa, the regions within the sub-continent, and specific representative countries that were studied in the course of the study are also presented. Finally, the chapter reflects the relationship of SA MNCs and OFDI based on current literature.

Chapter 3: Agribusiness, FDI and SA MNCs in Africa

The third chapter, being the second chapter based on existing literature, extends the discourse contained in Chapter 2. However, in this instance emphasis is on the agribusiness sector, which forms the core of this study. The agribusiness sector is discussed from a global perspective and contrasted with the SSA experience. Like the previous chapter, the discussion also contextualises the sub-Saharan agribusiness sector with an understanding of the history, agribusiness development and current status of the industry. Notably, the chapter looks at FDI in agribusiness in the sub-continent. The unique attributes of FDI space and its related business challenges, such as trade and regional effects, are reviewed. The chapter also enables an appreciation of SA MNCs in agribusiness, their performance, and the challenges they encounter in OFDI initiatives.

Chapter 4: Research methodology

The study followed a quantitative econometric approach. The research methodology is an expansion of the introduction described in Chapter 1. In this chapter, the researcher explains synchronising the research objectives and the existing literature to formulate the research hypotheses. Subsequently, the linear regression models were developed that enabled the study to answer research questions and address the research objectives. For a comprehensive analysis, the study was based on a firm-, sector- and country-level perspective as discussed in this chapter. The choice of variables was determined by existing literature, previous studies, and the researcher's own research about the study material. In choosing the variables, the sample frame of MNCs and the host FDI countries, attention was paid to the perspectives of previous studies unique viewpoints were also introduced that enabled the study to add value to existing literature and knowledge. Robust and statistically proven estimation review

techniques were employed in the study to ensure that the empirical results would be valid and reliable.

Chapter 5: Empirical estimation and analysis – firm level

Empirical results of the study were divided into firm-, sector- and country-level perspectives. In this chapter, the empirical results are preceded by a description of the data availed by the study and the respective characteristics of the data. The specified models enabled the analysis to establish firm heterogeneity in relevance to OFDI. In the last part of the chapter, the researcher discusses triangulation of the findings at firm level with the research objectives and the existing literature.

Chapter 6: Empirical estimation and analysis – sector level

Reporting of sector-level empirical results forms the crux of the sixth chapter. A similar process as the one adopted for firm-level data was adopted in terms of presentation of data and data characteristics. However, the complexities of agribusiness introduced the need to formulate models that analyse the sector from economical, productive and investment support perspectives. Furthermore, the results are presented from static and dynamic viewpoints to reflect the establishment of trends in the industry. The chapter also concludes with a triangulation of the results with the research objectives and current literature.

Chapter 7: Empirical estimation and analysis – country-level macro-economic and institutional perspective

The final part of the presentation of the empirical results reflects the country-level perspective. Many previous studies have been done on FDI attractiveness and host countries. This chapter shows the results of the unique approach of analysing host attractiveness in the context of SA agribusiness MNCs. The empirical results in this chapter hence contrast the impact of macro-economic and institutional attributes on agri-FDI and overall FDI in selected OFDI host countries with the hypothesis presented in the literature review.

Chapter 8: Summary of findings, policy recommendations and conclusion

The final chapter of the thesis provides a review of the findings in relation to the whole thesis. The implications of the empirical results on policy are discussed in this chapter, providing relevant direction to MNCs who intend to succeed in OFDI, and host countries wishing to attract and retain increased quantum and quality of FDI. Although, the study was focused on agribusiness the most important industry in Africa, which creates meaningful employment on the continent – the conclusions of the research presented in the chapter are useful to all sectors and the broader subject of OFDI.

Chapter 2

South African MNCs and FDI dynamics in Africa

2.1 Introduction

After the decolonisation of most of Africa, African leaders had to chart a new course for their countries. It is important to note that South Africa was still under the Apartheid regime for most of the period when the rest of Africa was decolonised (the 1960s to 1980s), and hence the country was excluded from the more significant part of the African renaissance. South Africa also received limited information regarding the continent, and even less communication from or published on the continent. Hazelwood (2016) and Shubin (2008) highlight that the narration of African stories is mainly conducted externally. Hazelwood (2016) adds that numerous studies have been done on how the world views Africa. Still, significantly fewer studies have been done on how Africa views itself and the world, leading to inconsistencies about the perceptions of the business environment in Africa (see Hazelwood, 2016).

Nevertheless, Hazelwood (2016) states that the early post-colonial era (c. 1960s to 1970s) was characterised by Africa being in desperate need to replicate relatively successful economic models and simultaneously eradicate colonial influences. The United States of America had achieved successful economic advances and had grown to be the most powerful economy in the world in this era (see Hazelwood, 2016). However, through the lens of African leaders, the United States of America was an ally of former colonisers and had its history of racism and discrimination against African-Americans, which was highlighted by the Civil Rights Movements of the 1960s (Berger, 2014; Murakawa, 2014).

Hazelwood (2016) notes that African leaders subsequently turned to the Union of Soviet Socialist Republics (USSR) for salvation. They perceived the Soviet Republics as an equally successful economic model that could compete with the United States

and even surpass it in some spheres. Shubin (2008) details how the Soviet Republics were assisting many liberation movements in some countries in Southern Africa that were still colonies at the time. As a bonus, the Soviet Republics had never colonised Africa. Subsequently, African leaders viewed the Soviet Republics positively.

Concurrently, Asia was also going through formulation as a post-colonial region (see Hazelwood, 2016). At this stage, China was a nation with great potential, but struggled to formulate progressive economic policies (see Hazelwood, 2016). However, initiatives such as the Badung Conference of 1955 and the Non-Aligned Movements (see Hazelwood, 2016) strengthened relations between Asia and Africa at this point, which would have significance later (Hazelwood, 2016). Shubin (2008) and Hazelwood (2016) agree that African leaders therefore chose socialist policies in opposition to capitalist policies. The socialist system seemed progressive at first, but met challenges after a few decades (see Shubin, 2008).

During this early developmental period, many African economies were focused on the export of raw materials, agricultural produce, and other natural resources to sustain their economies, with the former colonial masters being the primary recipients of this produce (see Lopes, 2019). The downside of this approach was that the economies were not diversified, did not grow vertically (no value addition) and were vulnerable to world economic resource conditions (see Lopes, 2019). The lack of diversification and vulnerability to world markets, especially commodities, persists to this day (Lopes, 2019). Mbaku (2007) adds that, in the new democracies, leaders got away with many unethical practices, such as corruption and economic malpractice.

Within a few decades, many African nations were in debt and had to look to organisations such as the World Bank and International Monetary Fund (IMF) for financial succour. The irony was that these organisations were arms of the United Nations (UN), which was primarily controlled by the former colonisers and their allies (see Mbaku, 2007). This left African leaders with the quandary of having to seek help from the same capitalist and colonial movements that they had shunned a few decades previously. These African countries unfortunately, were left with minimal choice but to seek relief from the IMF and World Bank due to the flailing economies (Mbaku, 2007). The funding organisations duly obliged, but the funding had conditions that involved the countries altering their political and socio-economic ideologies. The

countries inevitably adopted more liberal and capitalist policies to access support, and the result of these sporadic changes in macroeconomic perspectives was devastating (Aregbeshola, 2019).

Some African countries have been developing and rising from its dark past (see Wamboye & Tiruneh, 2017). Although challenges persist in many African nations, democratically elected governments, infrastructure investments, the rule of law, public sector management and social inclusion have been on the rise since 2001 (Wamboye & Tiruneh, 2017). The trend towards best practices is progressing, and most importantly, Africa offers the highest returns on investment of all emerging markets (Andrade, 2017). However, Sauvant et al. (2009) as well as Andrade (2017) warn that, due to the rise in nationalism across the globe, developing FDI host countries, including African countries, have also become selective in welcoming investors and have again developed an affinity for investors that conform to their ideals. Sustainable investments have proved to be more desirable than 'rental' investors that would leave when faced with relatively minor disturbances (see Andrade, 2017).

Additionally, many host countries on the continent have improved analysis of FDI, economic growth and job creation (see Andrade, 2017; FAO, 2018b). For instance, it is interesting to note that many African countries have higher employment rates than some developed countries (see The World Bank, 2020r). However, and in the face of these strides, these countries and their people are still impoverished due to significantly lower FDI initiated wages when compared to other FDI hosts in other continents, drawing more scrutiny on investors (De Vreyer & Roubaud, 2013).

2.2 Status of SA MNCs in the rest of Africa

South Africa is the most significant African FDI outflow contributor within Africa (Adeleke, 2018). The service industry has dominated South African FDI outflow into the rest of Africa (UNCTAD, 2017). However, as highlighted numerous times in this thesis (see for example sections 1.1 - 1.6), SA MNCs have encountered mixed fortunes in the rest of Africa. Of considerable concern is the inconsistent success and failure rate.

Table 2.1 illustrates closures and planned closures of SA MNCs in the rest of Africa in 2016. The summary of the planned closures at the time indicates that many SA-

originated MNCs were struggling to adapt their business models to those of the rest of the African continent. Notably, the MNCs that were affected by the closures transcended across many industries at the time. Businesses highlighted in the table below show that the closure trend was not limited to any region, but spread across sub-Saharan Africa. Furthermore, the MNCs shown below are not exhaustive of all MNCs that were experiencing challenges in FDI initiatives across the continent at the time.

Table 2.1 Closures and planned closures of SA MNCs in the rest of Africa (2016)

	Country	Companies	Details
Closed	Nigeria	Woolworths / TRUWORTHS	■ **November 2013:** Woolworths exited Nigeria citing high rental costs, duties and complex supply chain processes. ■ **February 2016:** Truworths closed remaining two stores in Nigeria and exited the market due to stringent regulation of stock imports, foreign exchange controls and rising costs.
	Tanzania	Shoprite / famous brands	■ **June 2014:** Shoprite sold its non-profitable stores in Tanzania to the Kenyan retailer Nakumatt. ■ **FY15:** Famous Brands closed its stores and exited the country.
	Zimbabwe	MASSMART	■ **2011:** Massmart exited Zimbabwe due to the controversial indigenisation law.
	Mali	ILLOVO	■ **May 2012:** Illovo Sugar pulled out of a ZAR2.6 billion sugar project in Mali, largely due to political risks.
	Lesotho	famous brands	■ **2014:** Famous Brands closed its three stores in Lesotho.
	Uganda	famous brands	■ **2012:** Famous Brands closed its store and exited the country.
	Algeria	PPC	■ **2015:** PPC abandoned its plan to build a cement plant in the country.

Clover to exit Nigeria; SABMiller to close its brewing operations in South Sudan due to shortage of foreign currency			
	Country	**Companies**	**Details**
Planned Closure	Nigeria	Clover	■ **March 2016:** Clover Industries announced that it will no longer invest in Nigeria and exit the country due to the financial crisis. Clover had planned to invest ZAR100 million in developing its products in Nigeria.
	Uganda	Shoprite	■ **June 2015:** Nakumatt Holdings announced that it had finalized plans to acquire two Shoprite stores in Uganda, which would result in Shoprite exiting the country. In October 2015, Nakumatt Holdings bought the branch building that previously hosted Shoprite Supermarkets. No further update is available.
	South Sudan	MTN / SAB MILLER	■ **March 2016:** MTN announced job cuts in South Sudan as a result of inflation and high cost of doing business in the war-ravaged country. The company will reduce 75% of its international staff in April and 55% of national staff. MTN is also considering exiting the country. ■ **January 2016:** SABMiller announced that it will close its brewing operations in South Sudan due to acute shortage of foreign currency, to buy the raw materials it needs to continue brewing.

Source: Standard Bank (2016)

Furthermore, major closures of SA MNCs continue to date, such as the exit of Stanlib from East Africa (see Business Daily, 2019), PEP from Uganda (see Daily Monitor, 2020) and Shoprite from Nigeria and Kenya (see Dludla, 2020; Madubela, 2020) amongst others. Shoprite disinvested from Kenya only two years after entering the

market (Dludla, 2020), reflecting an under-appreciation of the market. Keough (2011) and Edsel (2016) concur that business closures are the culmination of failed business strategies. The above illustration hence points to inadequate strategising or forecasting, resulting in the continuing trend of business failures. Standard Bank (2016) and PwC (2017) insist that the African continent offers the best possibilities for growth, albeit reliant on an appropriate business strategy. These authors add that business-related failures in dealing with general business planning, the market, the regulatory environment, the political environment, macroeconomic conditions (including currency risk), competitive forces and the socio-economic environment are some of the challenges that SA MNCs experience.

Moreover, SA MNCs, like other emerging market MNCs, are relatively new to OFDI compared to the developed world (see UNCTAD, 2018b). Conventionally, MNCs from emerging countries and the developing world have had challenges, such as upskilling staff to manage these investments, often compounded by the unwillingness to hire local management (Sauvant et al., 2009). Sauvant et al. (2009) add that analysis of MNCs from the developed world shows that they have twice as many local managers as MNCs from emerging and developing countries due to their superior upskilling and OFDI competencies and experiences.

There are many motivations for OFDI, including strategic consolidation and risk diversification (Paul & Benito, 2018). OFDI also offers an escape from home country challenges, such as stunted economic growth and policy challenges, that are mitigated through business opportunities in host countries (Kononov, 2010; Peng & Parente, 2012; Weilei et al., 2017). Peng and Parente (2012) and Weilei et al. (2017) argue that institutional fragility in home countries is one of the primary motivations for OFDI, especially in developing and emerging economies. Institutional fragility occurs when the institutions of a home country struggle to keep up with the developmental progress of the private sector (see Weilei et al., 2017). To date, SA MNCs have been facing challenges that range from slow economic growth to saturated markets, poor electricity grid stability and other macro-economic challenges (De Lonno, 2016; Business Tech, 2020). Hence, the rest of the continent remains a promising business opportunity for SA MNCs.

Business opportunity is inseparably linked to business challenges, and the study of one is not complete without a study of the other (Adesida & Karuri-Sebina, 2011). This concept logically challenges the due diligence processes that are undertaken by SA companies when investing in the rest of Africa (see Standard Bank, 2016; PwC, 2018). Lajoux and Elson (2010) emphasise that the value of due diligence has become increasingly prominent in modern times as numerous organisations have notably suffered due to inaccurate due diligence. The exit of Shoprite from Kenya after two years highlighted above, is one such an example. In addition, the challenges of inaccurate due diligence are compounded when the environment being investigated does not have readily available historical information or datasets (Lajoux & Elson, 2010).

SA businesses that have invested in the rest of Africa are perceived as pioneers (see De lonno, 2016). This perception is due to the relatively limited knowledge and literature on the business environment on the continent. The reports of some failed SA MNCs have classified investments into the rest of the continent as 'risky' (see De lonno, 2016; Dludla; 2020; Madubela, 2020). The 'risky' conclusion is challenged by Adesida and Karuri-Sebina (2011). They say that this is often a case of not studying the terrain sufficiently and inadequate due diligence on quantitative and qualitative attributes of Africa, such as culture.

With the growth of the business environment in Africa, the African continent has proved that it is 'as diverse as it is similar' and the variety of cultures is a material factor when discussing business on the continent (Darley & Blankson, 2008; Leakey, 2017). As alluded to earlier, the SA business culture is predominantly unchanged since the colonial era. Interestingly, more than 70% of senior management in South Africa is of white ethnic background (Statistics South Africa [Stats SA], 2016). In contrast, managers of black ethnic background handle most of the business processes in the rest of Africa (Schroeder, 2012; Museisi, 2013). Museisi (2013) asserts that culture has a bearing on FDI outflow of SA MNCs into the rest of Africa and that cultural emphasis has an influence on the location of host countries and investment strategies of these MNCs.

The unclear element is how significant culture is or to what extent culture influences the business interactions of SA MNCs on the African continent. It is also unclear

whether the influence would be positive or negative, if the exchanges had been between people of the same ethnic background or a more general populace. Taylor (2012) argues that the crux in business is the business culture, and insists that the ethnic culture of businesspeople (white or black) in Africa is irrelevant. Although Taylor's (2012) position is supported by Darley and Blankson (2008), who suggest that business culture is intricately linked to business success, the viewpoint is arguably found to be the overbearing stance of the rest of the world about Africa (see Hazelwood, 2016). While culture does not form a direct part of this study, it is relevant in the overall analysis of FDI to be cognisant of how the cultural background of SA businesspeople and other African businesspersons affects the business culture in intra-Africa FDI. Schroeder (2012) analyses the cultural and business relationship between South Africa and the rest of Africa, highlighting possible challenges of the predominantly white senior management of SA companies. Schroeder (2012) details this by noting how the rest of Africa finds post-Apartheid business investments led by white managers unsettling in some instances. Schroeder's (2012) study mainly focused on Tanzania, but highlighted that the dynamics are similar in many African nations that aligned with black SAs in the fight against Apartheid, especially in Nigeria and Tanzania (see Schroeder, 2012). Evidence suggests that many Africans have had conflicting views managing the post-Apartheid era and welcoming SA investors into their country (Museisi, 2013). Schroeder (2012:2) says that:

> This was a stunning change of circumstances as far as many Tanzanian's were concerned. Not only was their economy saturated with South African capital and imported goods, but Tanzania citizens who had long been active in the anti-apartheid struggle were now forced to engage their long-time enemies, the 'Boers' (in Kiswahili, makaburu), face to face on Tanzanian soil … The South African 'invasion' was a bitterly painful affront to national dignity and sovereignty.

Schroeder (2012) cautions that statements commonly used by SA businesspeople, such as referring to other parts of Africa as merely 'Africa' are often seen as highly derogatory and may have a profound impact on business interactions. In contrast, these statements are taken lightly by some SA investors (see Schroeder, 2012). Although the current study was quantitative in its approach, it highlighted qualitative dynamics and its impact on investments by SA MNCs into the rest of Africa. The historical and cultural relationship of the host nations and South Africa is relevant in

examining the linkages between the choice of host nations for SA MNCs and the subsequent success of OFDI investment strategies in the host countries. It is imperative to note that the under-appreciation of history and culture in FDI could result in investment misfits and, subsequently, institutional challenges and costs for investors (Museisi, 2013).

MNCs are organisations that could successfully reproduce and align themselves across geographical borders without overly mislaying their identity (Tihanyi, Banalieva, Devinney & Pedersen, 2015). Tihanyi et al. (2015) add that successful expansion strategies reflect a balance of local (host country) alignment and MNC homegrown business model duplication. This notion poses an incongruous challenge in that two potentially and often-contradictory models must somehow align, namely the home country strategic model and a host country adaptation version (see Tihanyi et al., 2015). Poon and Rigby (2017) reiterate that successful MNCs have the engrained principles of consistency and international competitiveness, that is, comparative and competitive advantage. MNCs must therefore be competitive in markets where they operate.

Although it could be opined that unsuccessful SA MNCs investing in the rest of the continent have ordinarily done 'due diligence' before the investments, this is not supported by their frequent failures. Instead, the failures are often attributed to a 'non-conducive business environment' (see Daily, 2019; Daily Monitor, 2020; Dludla, 2020; Madubela, 2020). Does this imply a lack of understanding of the unique business environment, or is it suboptimal competitiveness as per Poon and Rigby (2017)?

Newman et al. (2016) further explain that the continent has a very striking manufacturing deficit, and this can be linked to the colonial past of Africa as detailed above. However, current issues, such as weak infrastructure, a lack of skills and government mismanagement have compounded this issue (Rakotoarisoa, Iafrate & Paschali, 2012; Moyo, 2015; Bijaoui, 2017). African manufacturing as a share of global manufacturing fell from 3% in 1970 to 2% in 2013 (Bijaoui, 2017:5). These statistics are concerning from an African perspective. Moyo (2015), Newman et al. (2016) and Lopes (2019) further argue that the economic growth of the past two decades (i.e. 1998–2018) has mostly excluded manufacturing. Although many African countries

aspire to reach middle-income status[2], they are finding it challenging without manufacturing. Middle-income countries (MICs) on the continent, such as Mauritius and South Africa themselves lag behind the rest of the world in terms of manufacturing (Newman et al., 2016). Hazelwood (2016) concurs with this notion when giving examples of successful companies in Africa. Without explicitly linking these companies to a manufacturing concern, Hazelwood (2016) provides examples of predominantly manufacturing companies as successful MNCs in Africa. These include:

- General Electric, Microsoft, IBM, Cisco Systems (USA);
- Renault, Peugeot, Alcatel (France);
- BMW, Mercedes-Benz, Volkswagen, Siemens (Germany);
- Unilever, Heineken (the Netherlands);
- Nestle (Switzerland);
- Ericsson (Sweden);
- Toyota, Mitsubishi, Mitsui (Japan);
- Rusal (Russia); and
- Sino Hydro (China).

Special economic zones (SEZs)[3] are some of the measures used to attract manufacturing to Africa. Still, these have had mixed results due to macroeconomic conditions within host countries (Farole, 2011). Nevertheless, some companies in non-manufacturing industries have been successful in Africa (see Standard Bank, 2016; PwC, 2018). Hazelwood (2016) and Newman et al. (2016) agree that many of the successful companies have achieved this success by replicating themselves, having comparable advantages and becoming engrained as local businesses. In practice, Asian economies that have attained middle- and high-income status have stepped up to the manufacturing challenge (see Newman et al., 2016; Du, 2020). The following logical questions consequently arose:

- Are SA MNCs solving the manufacturing problem of Africa?
- Do SA MNCs have a comparative advantage?

[2] Middle-income status is achieved when a country achieves a gross national income per capita of between $1 006 and $12 235 (World Bank Group, 2019).

[3] Special economic zone (SEZ) is a designated area in a country that is governed by different economic laws than other parts of the country. The laws are usually favourable to FDI (Du, 2020).

- Have SA MNCs been able to embed themselves as local businesses in other African countries; and
- Do SA MNCs have the correct information on the needs to be addressed on the continent?

Access to reliable information informs business and investment decisions (Tvedten et al., 2014). Data on the business environment and operational praxis in African countries is not readily available, and firms intending to invest in the continent need to develop a substantive information strategy to curb this challenge. Jerven (2013), who spent many years on the continent analysing how different nations keep records, boldly states that record-keeping on the continent is poor. Jerven (2015) adds that, in some cases, the information is available, but some economists and authors tend to report subjectively. Jerven (2015) gives an example where certain African economies such as Mali, Togo and Somalia were reported as having endured a lack of economic growth since the 1960s (see Jerven, 2015). The stunted growth was attributed to the natural resource trap, being landlocked with bad neighbours, the conflict trap and bad governance in a small country (see Jerven, 2015).

However, Jerven (2015) argues that those reports were not based on facts, as the countries that were analysed had indeed recorded economic growth in the 1960s (see The World Bank, 2021a). Further analysis of the fallacy of the information reveals that African economies grew during the 'dark ages' of the 1960s and 1970s when many had shortly before become independent and reportedly struggled to succeed. For instance, the Tanzanian economy grew by 1% on average per annum from 1960 to 1990, while Japan grew by 4% during the same period (see Jerven, 2015; The World Bank, 2021b). However, Jerven (2015) raises concern that authors such as Acemoglu and Robinson (2012) place their focus instead on the difference in GDP per capita of Tanzania ($1 000) and Japan ($20 000). It is important to note that Acemoglu and Robinson (2012) are not wrong in their assertions. The concern is that the focus of reporting may affect investors in their interpretation of the wellbeing of a nation. Besley (2015) concludes that the challenges in Africa are often overstated due to inaccurate data. Moreover, Jerven (2015) notes that it took many mainstream authors and publications over a decade (from 2000 to 2010) to acknowledge the growth of African

economies after the turn of the century, even if the World Bank and others were reporting African economic growth rates as the highest in the world.

Socio-economic statistics are vital in formulating business investment decisions (see Jerven, 2015). However, it is essential to understand the correct interpretation of the statistics, and to consider the conditions of an environment before and during decision-making. The current researcher experienced many such situations in doing business on the continent. For instance, a one-time employer of the researcher contemplated a decision regarding the assessment of an interconnecting road of 30 km. Google Maps estimated that the route would take 15 minutes to complete, whereas, in reality, the route would have taken 11 hours to navigate and impossible to travel with delivery trucks! Remote planning had overlooked this issue and would have resulted in a costly decision, had that crucial detail not been revealed through consultation with local inhabitants. Jerven (2015) adds to this by stating that over and above major macroeconomic factors, such as GDP and inflation, factors such as the prevalence of malaria, local election malpractices, proximity to group headquarters of the SA MNC, culture influence and many other qualitative and quantitative issues need to be considered in orchestrating investment strategies.

Jerven (2015), Hazelwood (2016) and Newman et al. (2016) agree that Africa has suffered incredibly from negative press and malicious authors. This negative press has directly and indirectly affected investors and business strategies. The current study analysed the impact of this phenomenon on the investment strategies of SA MNCs, especially large enterprises that rely heavily on secondary information.

The OFDI processes of an organisation are often linked to the size of the enterprise (see Kuada, 2015). However, enterprise size may have a progressive or regressive influence on business fortunes (Kuada, 2015). SA enterprises that have invested in the rest of Africa have taken different forms. The most noticeable would be the large public firms, as their information is relatively easy to access and to report on accurately (JSE, 2020). Due to their size, their successes and failures would be more prominent as well than for smaller enterprises. However, previous studies have contradicting viewpoints on whether enterprise size contributes to their success or failure (see Kononov, 2010; Peng & Parente, 2012; Kuada, 2015; Weilei et al., 2017). Kuada (2015) argues that the African business environment is a combination of small and

large enterprises with varying fortunes linked to their business prowess instead of to their size. McKeown (2010) agrees with this assertion, and adds that, over and above the fundamental elements of good numbers, sound backing, good cash flow and rational business models, coupled with high skill levels and critical-thinking of management that can understand and manage chaotic business environments, are vital. McKeown (2010) acknowledges that large companies can sustain the risk and indeed back up a non-performing entity until it performs (within limits). The alternate perception is that large organisations are also vulnerable to serious risks, such as being visible to regulating authorities and hence more prone to government interdicts (see Financial Times, 2017) than small entities. An instance of note occurred in 2015 when MTN was fined an equivalent of $5,2 billion for infringing the Nigerian Communications Act No. A287 of 2003 (see Federal Republic of Nigeria, 2003; Nigerian Communications Commission, [NCC] 2019). The question, therefore, was to establish whether the authorities had taken similar action against small businesses, or in fact, if they noticed when small businesses flouted regulations. Large public organisations formed the scope of the current study, and the research investigated the effect of enterprise size on success.

Numerous direct and indirect factors that may affect SA MNC investments in the rest of Africa have been discussed above. The current study considered these elements through the adopted research process and supplemented this knowledge with cases of companies that had taken or intended to embark on this investment process.

2.3 Status of FDI in Africa

Sauvant and Reimer (2012) state that FDI outflows are strongly linked to the economic performance of a country and its MNCs. For instance, during the financial crisis of 2009, global FDI outflows were reduced to $1,2 trillion, nearly half of the 2007 high of $2,2 trillion (Sauvant & Reimer, 2012:5). According to the World Investment Report (2017), South Africa was the second highest FDI outflow country in Africa (after Angola) in 2016, having invested $3,4 billion predominantly into the rest of Africa. In 2017, South Africa had the highest FDI outflows into the rest of Africa (Adeleke, 2018; UNCTAD, 2018).

Regulatory frameworks on issues such as managing large capital inflows and outflows have a significant direct bearing on the attractiveness of host countries (Habermeier & Kokenyne, 2011; Pradhan, 2011). Pradhan (2011) as well as Li, Liu and Jiang (2015) add that home countries and their MNCs have become highly meticulous in their analysis of FDI destinations. They consider the economic variables of GDP and GDP per capita, inflation, foreign exchange management, resource endowment, policy frameworks, and political and security stability. Countries, such as Ethiopia, reflected a 46% rise in FDI inflows in 2016 propelled by investments in manufacturing, infrastructure and domestic reform policies (UNCTAD, 2017). Figure 2-1 reflects that Southern Africa, buoyed mainly by South Africa and Angola, has continued to be the most significant region in Africa in terms of both FDI inflows and outflows. The current research thus sought to establish the role that SA MNCs have played in this process, particularly with agribusiness-related FDI outflows into the rest of Africa.

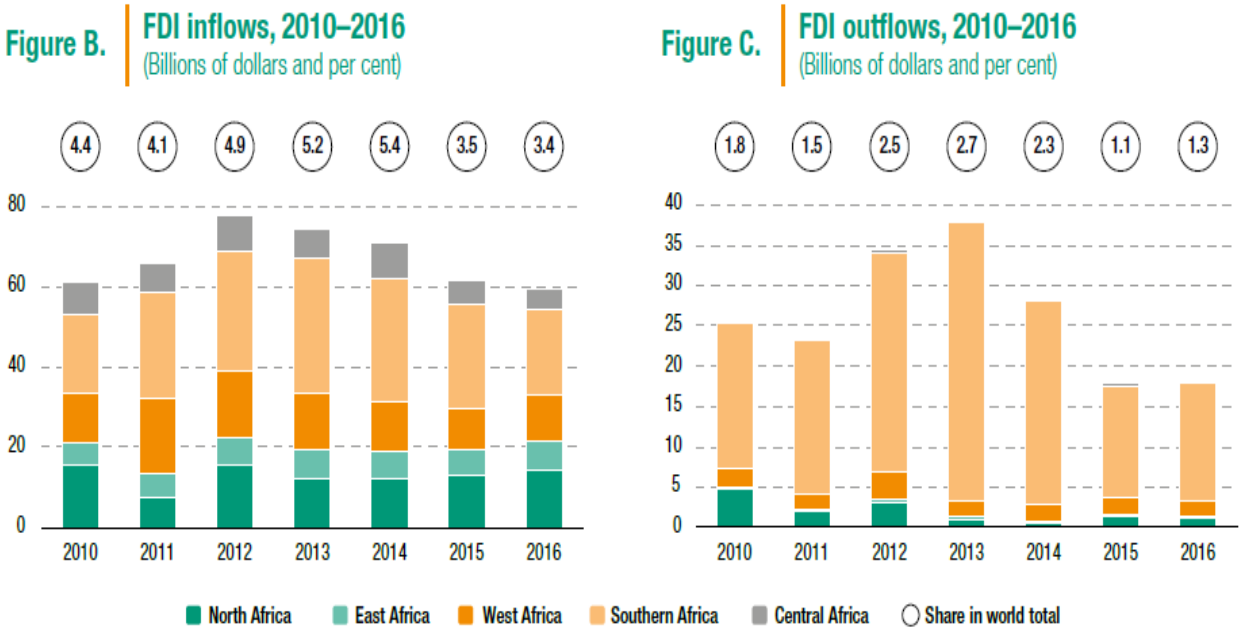

Figure 2-1 FDI inflows and outflows per region (Africa)
Source: UNCTAD (2017:45)

From Figure 2-1, it is clear that North Africa attracted the second-highest stock of FDI during the period that was dominated by Southern Africa in both outflow and inflows, i.e. 2010-2016 The attractiveness of East and Central Africa throughout the period depicted (2010-2016) was comparatively low. It could be suggested that the

perspective of a country on the intricacies of FDI would influence the attractiveness of that country as a potential destination for FDI. In practice, business-friendly host countries with stable economic growth rates tend to attract the most FDI. This observation is supported by the statistics reflected in Figure 2-2.

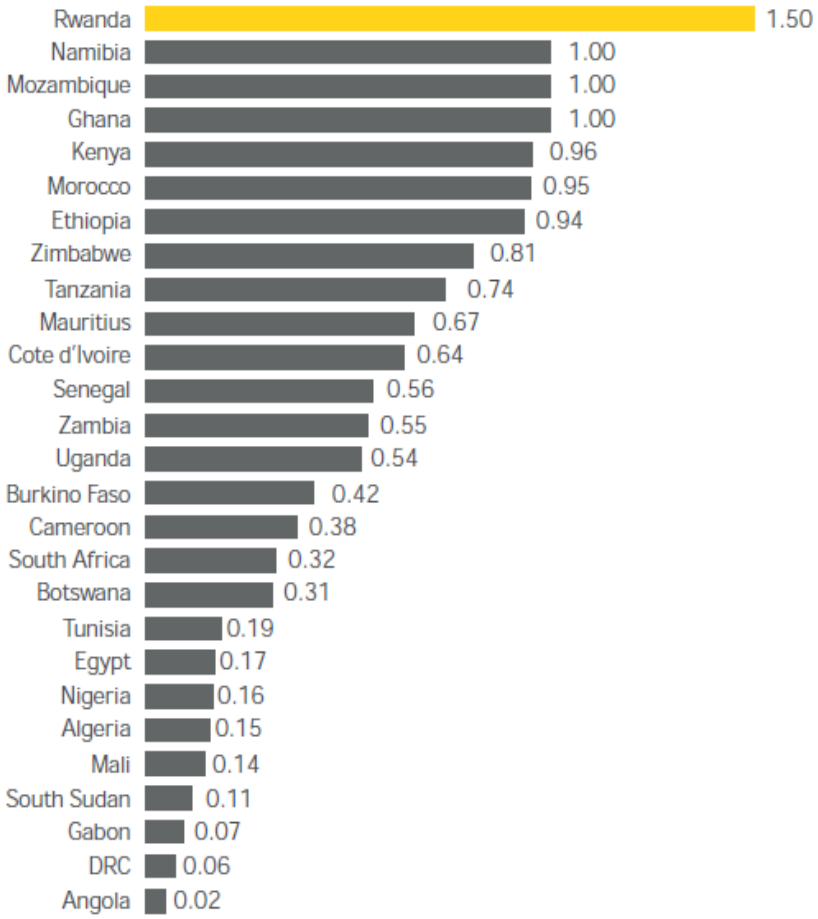

Figure 2-2 Analysis of FDI inflows per country relative to GDP (2017)

Source: (Ernst & Young [EY], 2018)

Analysis of the FDI inflows of countries indicated in Figure 2-2 shows that the relative inflows compared to the GDP strongly correlate with the ease of doing business (EODB) report (see World Bank Group, 2017c ; The World Bank. 2020g). For instance, Rwanda is by far the most favoured destination for FDI in Africa relative to its GDP, and this can be linked to its business-friendly policies and macro-economic stability. This analysis also dispels the notion that large economies attract more FDI than smaller economies. A comparison of Rwanda and Angola reveals that Rwanda attracts

more FDI in relative and absolute terms, even as Angola is a significantly larger economy (EY, 2018).

An analysis of cross-border mergers and acquisitions (M&As) in Table 2.2 shows a sharp decline in the purchases (investments) by SA entities from the rest of Africa from 2015 to 2016. The fall shows a significantly reduced appetite for M&As by SA companies in the rest of Africa in recent years. The factors influencing this trend formed a part of the current research effort.

Table 2.2 Cross border mergers and acquisitions globally

Table B. Cross-border M&As by region/economy, 2015–2016 (Millions of dollars)

Region/economy	Sales		Purchases	
	2015	2016	2015	2016
World	**21 259**	**9 689**	**3 533**	**6 061**
Developed economies	**22 357**	**-2 199**	**-165**	**5 792**
European Union	18 605	847	490	3 131
France	612	236	-180	-
United Kingdom	201	596	161	965
United States	2 194	-3 085	-396	2 445
Developing economies	**-1 194**	**12 911**	**2 497**	**162**
Africa	174	390	174	390
Morocco	81	-	-	375
South Africa	43	284	-9	-
United Arab Emirates	-616	9 187	1 543	-
China	53	2 932	279	-
Transition economies	**-**	**-1 135**	**1 200**	**106**

Source: (UNCTAD, 2017:45)

As stated above, this study focused on the performance of agribusiness-focused SA MNCs in Nigeria, Uganda, the Republic of Congo, Mozambique and Zambia. It was therefore important to analyse the performance of these host countries regarding FDI inflows. The information below was based on selected years in the recent past.

2.3.1 Nigeria and West Africa

UNCTAD (2017:47) reports that FDI inflows into West Africa comprised $11,4 billion in 2016 on the back of the Nigerian inflow of $4,4 billion, an increase from the 2015 low. However, this amount was well below previous inflows and was attributed to declining oil output. Nigeria also fell into an economic depression in 2016 for the first time since 1991 (UNCTAD, 2017:47).

The over-reliance of the largest and most populous economy in Africa on oil exports had been a recurring issue in the economy of Nigeria over the last few decades (Ojonugwa, 2015). Aliyu (2012), Duku (2015) and Ojonugwa (2015) concur that, for Nigeria to track sustainable economic growth and mitigate risks related to the oil industry, it has become increasingly obvious that FDI in diversifying the economy is necessary.

2.3.2 Uganda and East Africa

Although Kenya is still the largest and most developed economy in East Africa, FDI inflows were only $394 million in 2016. The East Africa region received $7,1 billion (13% up from 2015) (see UNCTAD, 2017:47-48). The increase was mainly due to Ethiopia rising by 46% to $3,2 billion, a strong service-related FDI performance by Mauritius and a recovery from previous lows by Madagascar (see UNCTAD, 2017:47-48). East Africa remains an attractive investment destination, although Kenya is struggling to attract investment. Uganda is expected to grow significantly as an FDI host due to recently discovered oil reserves (see UNCTAD, 2017:47-48). The oil company Total pledged to invest $900 million to the estimated $3 billion projects that would position Uganda as a prominent FDI host in East Africa (UNCTAD, 2017:47–48). As of April 2021, the projections of Total's investment had risen to $5,1 billion, with the oil MNC pledging to continue with the project (Burkhardt, 2021).

2.3.3 The Republic of Congo and Central Africa

FDI into Central Africa dropped by 15% to $5,1 billion in 2016, mainly due to the drop in FDI inflows into the largest economy in the region (the Democratic Republic of Congo), which dropped by 28% to $1,2 billion. Equatorial Guinea experienced the most significant drop of 77%, while Chad remained flat (UNCTAD, 2017:46).

FDI inflows into the Republic of Congo (up by 8%) along with Gabon (up by 13%) were the only countries in Central Africa that showed an increase in 2017 (UNCTAD, 2018:46). However, this was mainly in extractive FDI (see UNCTAD, 2018:46). The Republic of Congo FDI was mostly focused on cobalt and copper extraction by Chinese firms. The Republic of Congo is the only francophone country reported on in this study. Its diversity provided a pertinent viewpoint of the performance of SA MNCs in francophone countries.

2.3.4 Mozambique, Zambia and Southern Africa

Southern Africa is the home region of South Africa and the most popular destination for SA MNCs (see Egu, M.E. & Aregbeshola, 2016). FDI inflows dropped in all countries in Southern Africa in 2016 except in South Africa and Malawi. However, investment in the region remains significant in Angola ($14,4 billion) and Mozambique ($3 billion) (see UNCTAD, 2017:47).

FDI inflows to Zambia fell sharply by 70% to $469 million by 2016, mainly due to low commodity prices (UNCTAD, 2017:47). Mining investment dominates Zambian FDI inflow (see UNCTAD, 2017:47). However, this FDI has not translated into job creation or economic growth (Chanda, 2013). This observation somewhat corroborates Adeleke's (2018) assertions that not all FDI leads to economic growth, job creation or poverty alleviation in Africa. Chanda (2013) adds that agriculture employs 80% of the population in Zambia. The rest of the population work in the informal sector and small enterprises linked to MNCs. Chanda (2013) further states that Zambia is a popular destination for SA MNCs due to shared cultures and proximity. The question that beckons is to ascertain whether the FDI destination popularity has received equally favourable business success, particularly for South African-originated agribusiness MNCs.

Namibia FDI inflows dropped from a high of $1,095 billion in 2015 to a low of $275 million in 2016 (UNCTAD, 2017:47). Namibia is arguably the most similar neighbour for South Africa in terms of political and business dispensation. It has a high and direct reliance on the SA economy and SA MNCs (Roux, 2014). Angola continues to be the highest recipient of FDI in Africa, mostly for oil and gas extraction (UNCTAD, 2017:47). The country is also the largest African financial market after South Africa and Nigeria

(Pederneira, 2015). Angola shares a strong relationship with South Africa in the post-apartheid era due to historical links of the ruling political parties (Shubin, 2008). However, the SA business environment is considerably different from the political landscape and this will be discussed in detail in Section 2.6 (Roux, 2014).

FDI inflows into Mozambique declined by 20% in 2017, although they remained significant as stated above. Investors remained confident of Mozambican prospects as an opportune FDI host, although the country has faced a financial crunch over the last few years (i.e. 2015–2020) and severe political instability (see The World Bank, 2020p). Eni (from Italy), which approved an $8 billion oil exploration facility into Mozambique in 2016, exemplifies the country as a favourable FDI host (UNCTAD, 2017:47). Mozambique further has strong historical links with South Africa (see South African high commission, 2020). The country is also the only lusophone country in this study, and therefore provided a unique dynamic to the research.

2.4 FDI flows per industry in Africa

According to UNCTAD (2017:45), in 2016, $70 billion (75%) of all announced FDI inflows into Africa were in services, up from $36 billion in 2015 (Table 2.3). Similarly, in 2015, $10,3 billion or 78,6% of FDI outflows from Africa were in services. To place the numbers in perspective, $4,6 billion or 40% of FDI outflow from Africa was explicitly for chemicals and chemical extraction, primarily in Angola and other countries. Contrastingly, only 20% of FDI inflows were in manufacturing or mining (see UNCTAD, 2017:45). These statistics confirm that FDI in Africa is mostly two-dimensional, focusing mainly on extractive FDI and services. The two-dimensional FDI inflows are concerning in the context of the economic growth outlook of Africa, as it implies short-term initiatives without substantial long-term effects (Lopes, 2019). This effect was captured in Table 2.3 below.

Table 2.3 Announced greenfield FDI projects by industry, 2015–2016 (millions of dollars)

Table C. Announced greenfield FDI projects by industry, 2015–2016 (Millions of dollars)

Sector/industry	Africa as destination		Africa as investor	
	2015	2016	2015	2016
Total	**67 047**	**94 073**	**13 192**	**11 739**
Primary	**14 972**	**3 713**	**383**	**-**
Mining, quarrying and petroleum	14 972	3 713	383	-
Manufacturing	**15 178**	**19 385**	**2 491**	**5 985**
Textiles, clothing and leather	401	1 077	97	46
Coke, petroleum products and nuclear fuel	53	5 354	29	-
Chemicals and chemical products	2 709	5 107	696	4 596
Motor vehicles and other transport equipment	3 019	2 788	23	28
Services	**36 897**	**70 975**	**10 318**	**5 754**
Electricity, gas and water	14 791	15 601	2 139	156
Construction	8 339	16 372	2 595	2 542
Transport, storage and communications	5 887	12 879	2 068	698
Business services	3 733	22 734	2 282	1 003

Source: UNCTAD (2017:45)

Although, the specific contribution of the agribusiness component of FDI inflow is not documented in Table 2.3, the primary sector contributed more than a quarter of the overall FDI inflows between 2015 and 2016 (see UNCTAD, 2017:45). In order to understand the specific contribution of agribusiness as a sector to the stock of FDI, Figure 2-3 is presented.

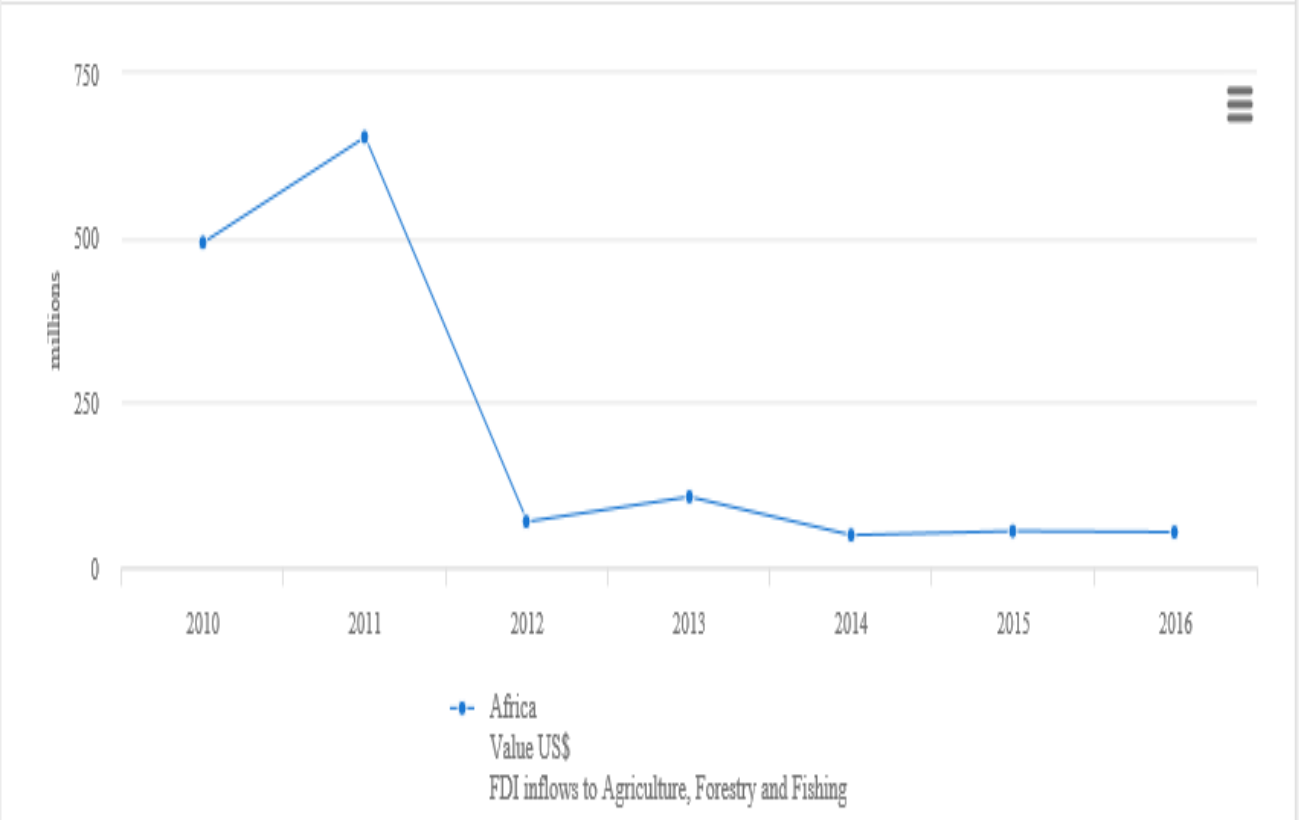

Figure 2-3 FDI inflows to agriculture, forestry and fishing value USD by country

Source: FAO (2018b)

According to Figure 2-3, between 2010 and 2016, FDI into primary agriculture (agriculture, forestry and fishing) in Africa peaked at $653,1 million in 2011 and sharply declined to a low of $48,5 million in 2014. Figure 2-3 further shows that FDI into primary agriculture has averaged about $50 million from 2012 to 2016, which is considered immaterial and inconsequential in the context of growing the agri-economy in sub-Saharan Africa (see FAO, 2018a).

To gauge the strategic importance of the global flow of investment into agribusiness, FAO statistics were adopted as depicted in Figure 2-4.

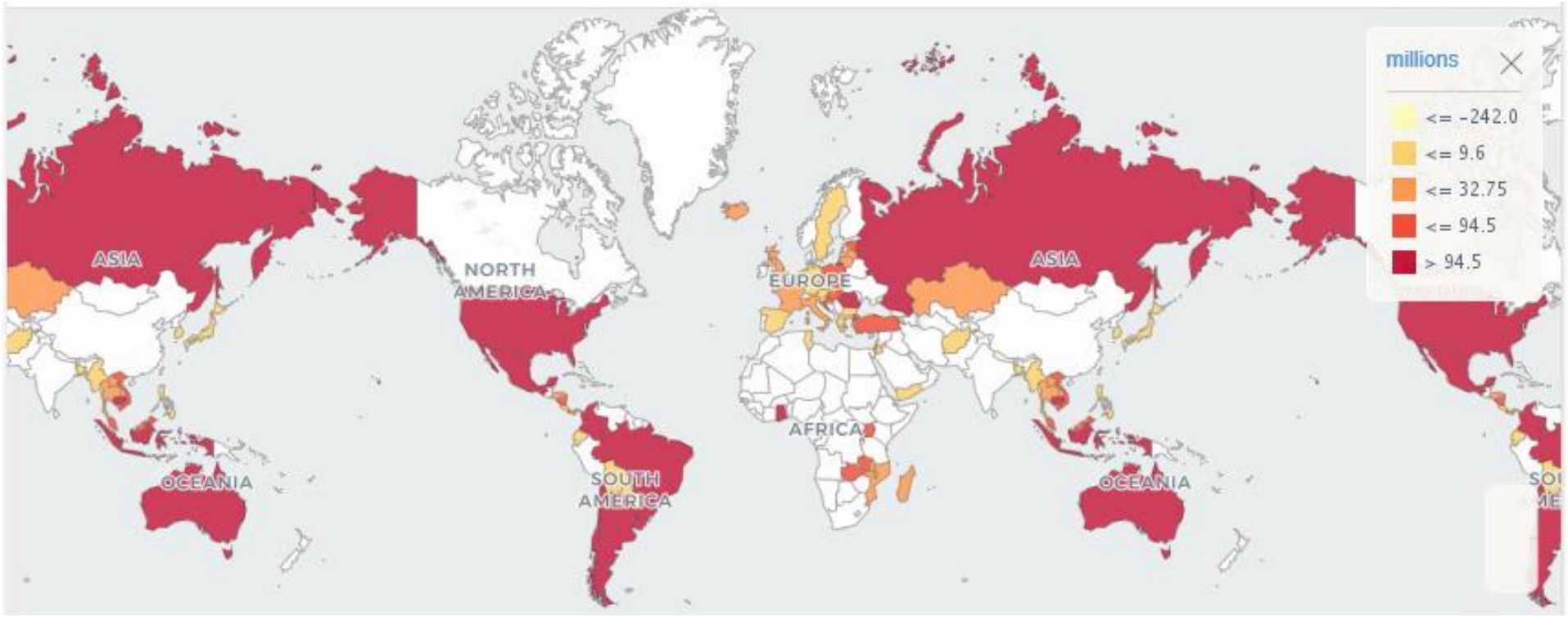

Figure 2-4 FDI inflows to agriculture, forestry and fishing value US$ by country and region (global map) – average (2010–2018)

Source: FAO (2018b)

The agricultural, forestry and fishing FDI inflow map in Figure 2-4 shows minimal investment into Africa. Over the period 2010 to 2018, the recordable inflows were into Ghana, Uganda, Zambia, Mozambique and Madagascar. Agriculture investment levels contrast with the importance of the industry in terms of it being the largest employer as well as the bedrock of most African economies (see FAO, 2018a).

Although Figure 2-4 also shows that there are relatively low levels of FDI into highly developed agricultural regions such as North America and Europe, it is important to evaluate these numbers in context. These regions are highly resourced and primarily self-sufficient in agrarian development. Therefore, FDI inflows may be relatively low. The situation in Africa is different, and the influx of FDI is imperative to support the resource deficits in the continent (FAO, 2018a). In the global context illustrated by comparison (Figure 2-5), Africa received 9,8% of global FDI inflows into primary agriculture, forestry, and fishing. The minimal FDI into agriculture dwarfs in comparison to the investments into the Americas (42,2%) and Asia (22,2%). The Americas and Asia house other emerging and developing markets that have emphasised agricultural and agribusiness development.

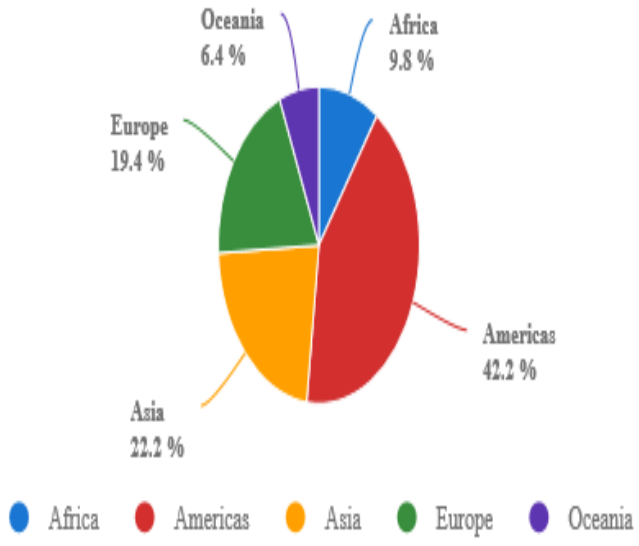

Figure 2-4 FDI inflows to agriculture, forestry and fishing value (%) by country and region (global map) – average (2010–2018)

Source: FAO (2018b)

An analysis of FDI into value-added agribusiness in food, beverages and tobacco (Figure 2-6) into Africa for the same period shows an even lower appetite for investment into this sector with a peak of $23,3 million in 2011 and an average of less than $1 million thereafter (FAO, 2018b). The world value-added agribusiness investment map (Figure 2-6) shows that only Malawi received notable investment in this sector between 2010 and 2018.

Figure 2-5 FDI inflows to food, beverages and tobacco value US$ by country and region (global map) – average (2010-2018)

Source: FAO (2018b)

In the global context shown in the comparison graph (Figure 2-7), investment into agribusiness in Africa is less than 1% of global inflows. Low agribusiness investment is consistent with the modus operandi of FDI investors into Africa where investments are skewed towards extractive FDI, exacerbating the African manufacturing and value addition deficiencies.

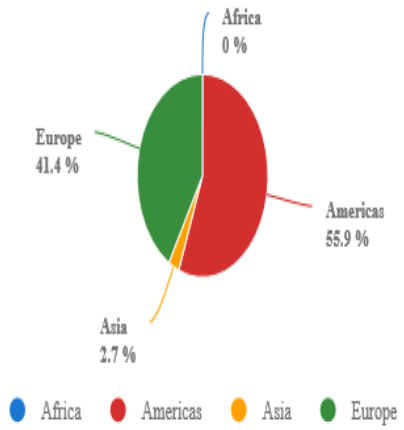

Figure 2-6 FDI inflows to food, beverages and tobacco value (%) by country and region – (2010–2018)

Source: FAO (2018b)

2.5 FDI in financial services in Africa

It is a generally well-known concept that FDI has a significant correlation with financial market development (FMD) and economic growth (Knoop, 2013; Aregbeshola, 2014a; 2016). Consequently, the availability of funds in local markets positively affects local financial markets and the local banking environment due to increased liquidity (Aregbeshola, 2014a; 2016; Soumaré & Tchana, 2015). However, most studies on this correlation are based on developed economies or in developing economies outside of sub-Saharan Africa. Research focused on the African context is minimal and inconclusive, while a few others adopt less robust market dynamic approaches (Akanonu, 2016; Aregbeshola, 2016; Gebrehiwot, 2016). Adeleke (2018) cautions that some FDI harms economic growth and national interests. Adeleke (2018) adds that this has led to the careful analysis of FDI inflows by many African states, moving gradually away from the neo-liberalism boom of the 1990s to nationalism.

Consistent with many aspects of current literature and this research effort, the African story is unique. Gebrehiwot (2016) adds that the impact of FDI on financial markets is direct, but this is more prevalent in developed economies. In developing countries, and particularly in sub-Saharan Africa, these relationships are not clear. Donaubauer, Neumayer and Nunnenkamp (2016) argue that local markets in host countries may not be as relevant to FDI in the long term. Rakotoarisoa et al. (2012), Li et al. (2015),

Moyo (2015) and Seck (2017) concur that in many instances the attractiveness of a host country may be simply limited to market size, political stability, security, regional integration, export potential and the strength of the regulatory environment. Dorożyński and Kuna-Marszalek (2017) further argue that the absence of efficient capital markets encourages FDI in some instances, as there is no other secure route to enter the local market. These authors, however, assert that developed financial markets in the home countries would have a weightier effect on FDI decisions.

Esfandyari (2015) introduces the concept of absorption capacity. Absorption capacity means that FDI can positively affect financial market development and economic growth in environments where the financial markets and economic development of a host country are mature enough to absorb such FDI dynamics. SSA capital markets are relatively underdeveloped. The capital market immaturity renders FDI challenging and its relationship to FMD difficult to correlate (Gebrehiwot, 2016). A developed, liberal, and efficient local financial market attracts both local and international investment (Soumaré & Tchana, 2015; Donaubauer, Neumayer & Nunnenkamp, 2016), but a robustly functional capital market is required to boost the spillover effects of FDI in the host markets. Absorbing capacity includes the ability of a host country to capitalise on spillover effects such as skills absorption, which is challenging in many developing economies (Farole & Winkler, 2014). This area has not received substantial attention in Africa from researchers, making it a thought-provoking phenomenon to study.

Soumaré and Tchana (2015) state that financial markets are quite broad and care must be taken when analysing them in the context of FDI. For instance, the development of the banking sector due to increased inflows is often encompassed as financial market development. However, capital markets could remain unaffected by FDI even if banking sector inflows increase (Soumaré & Tchana, 2015). In summary, Africa needs to develop its local capital markets to attract FDI (Aregbeshola, 2016). In the context of the SA MNCs, this would make the investment into the rest of Africa more financially expedient and rational.

2.6 Ease of doing business in Africa

Africa is undoubtedly not a straightforward continent on which to conduct business. As per the World Bank Group (2017a), Mauritius is the most forthright country in which to do business in Africa, but ranks at No. 49 in the world rankings. At a snapshot, the global ease of doing business (EODB) map in Figure 2-8 indicates how Africa relates to the rest of the world in terms of EODB.

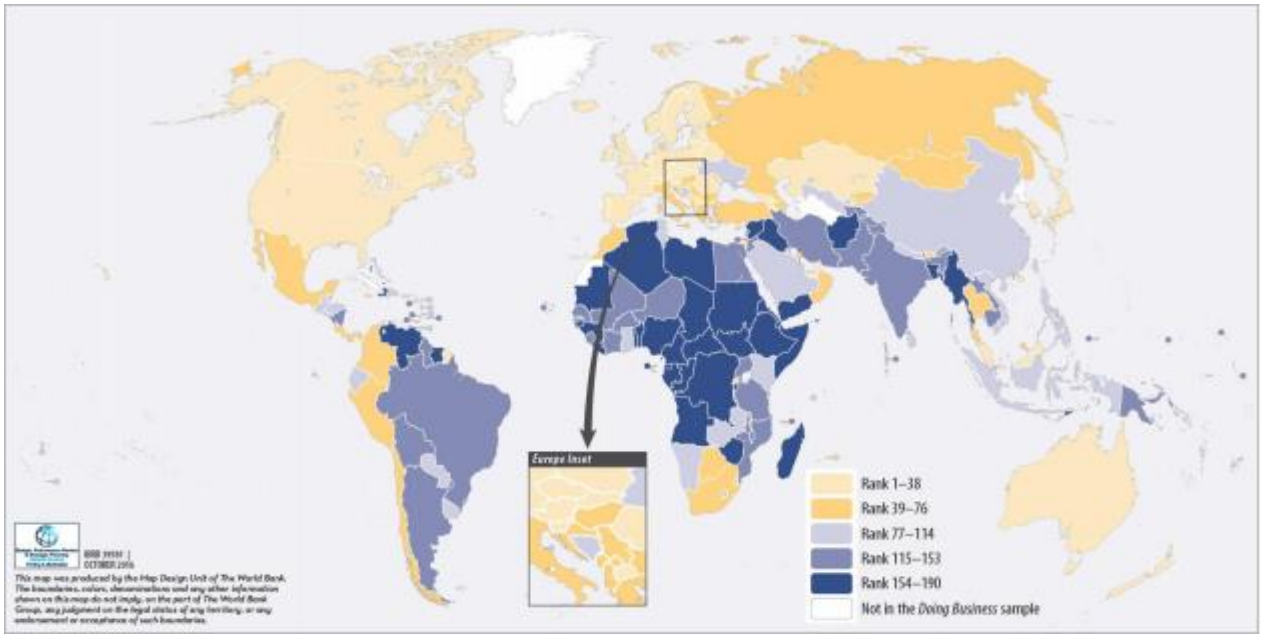

Figure 2-8 Global ease of doing business map

Source: World Bank Group (2017a)

Understanding the challenges of doing business in Africa requires that the history of the continent needs to be understood. Africa is a continent that has come through a history of colonisation by mostly European powers. Colonisation in Africa dates as far back as the sixth century (Pétré-Grenouilleau, 2014). After colonisation, these relatively new countries had to decrypt the business environment of their countries with non-existent or insignificant support from the former colonial masters (Thurow & Kilman, 2009; Gwilliam, 2011; Hazelwood, 2016).

The Southern African ‘de-colonisation’ journey is somewhat different from other African regions (L’Ange, 2009). South Africa, and similarly Zimbabwe and Namibia, were “adopted” by colonial powers of European descent that had minimal or severed ties with mainstream Europe (L’Ange, 2009). The situation often led to armed combat

between the new “colonisers” and the native population. This scenario meant that decolonisation of these countries was prolonged into the late 1970s, 1980s, and 1994 for South Africa. The SA process was unique in that the armed combat took the form of mainly targeting strategic apartheid government sites as compared to a full military war model experienced in many African countries (South African history online [SAHO], 2020). Furthermore, the handover of political power in 1994 was done in a manner where most of the socio-economic environment remaining unchanged.

The SA business process was hence not ‘overhauled’ at independence, unlike many other African countries. Neither was there a mass exodus of the Caucasian (white) population as seen in other African countries (L’Ange, 2009). The business proprietors and business environment in South Africa have remained consistent with the process of the pre-colonial era up to the present age (L’Ange, 2009). L’Ange (2009) terms this group of proprietors ‘White Africans’.

Hazelwood (2016) warns that Western literature has claimed that colonisation was a civilising force that introduced order and business practices in Africa and insists this is an incomplete observation. Hazelwood (2016) adds that the destabilising influence of colonisation on the African business and the subsequent effect is often highly underappreciated. Although most African countries had one colonising force, many had two or more colonising powers with countries like Ghana experiencing six colonising forces and seven colonising countries (Figure 2-9). The borders created by the colonising parties had the effect of combining different ethnic peoples that often had little in common and “splitting some ethnic societies between two or more states” often leading to political and ethnic instability and conflict (Verhoef, 2017:7) as persistently experienced in Nigeria. An appreciation of this history assists in explaining business practices in some African countries.

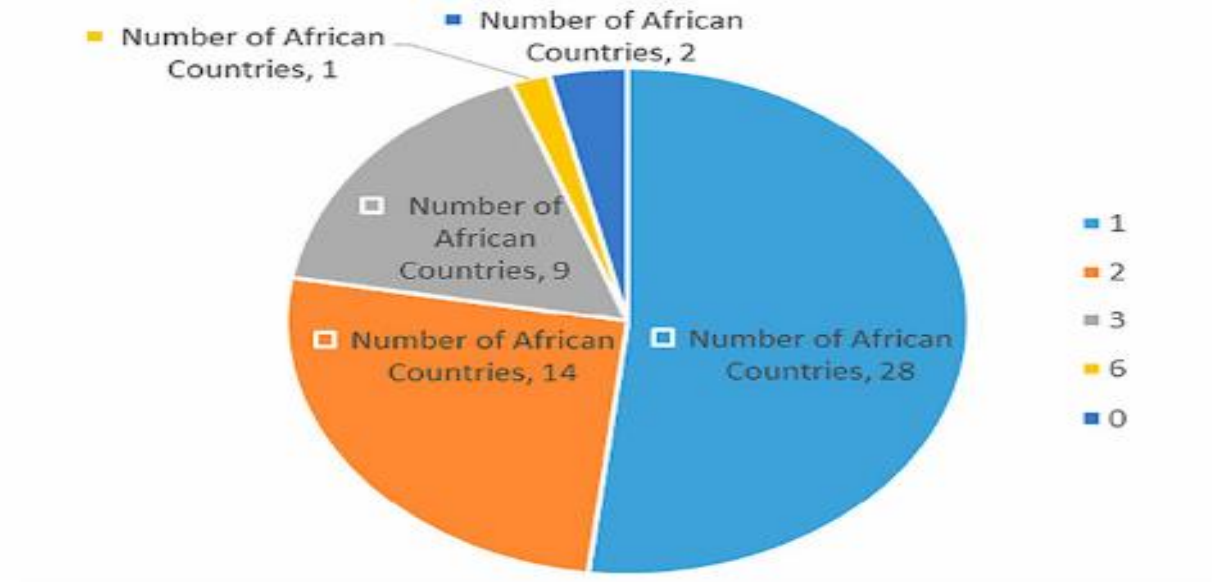

Figure 2-7 The number of colonising forces in African countries

Source: Hazelwood (2016)

From Figure 2-9 it is evident that a single country colonised 28 African countries, while 14 countries were colonised by two European powers and three European countries colonised nine countries in Africa. The figure indicates that only two countries in Africa were never colonised, namely Ethiopia and Liberia (Hazelwood, 2016).

After a spate of bitterness that characterised political emancipation in many African countries, political stability in Africa has indeed increased when compared to a few decades ago (Table 2.4), although there is still a pocket of unruly incidents that arise at times (Lesser & Moise-Leeman, 2009; Rakotoarisoa et al., 2012; Lu, Huang & Muchiri, 2017). Given that political stability and social peacefulness has been arrogated as strong determinants of FDI inflows (Aregbeshola, 2016), Table 2.4 documents that historical records of conflicts on the continent as a way of explaining the possible implications of disputes in the attractiveness of African countries, especially countries in sub-Saharan Africa, to the inflow of agribusiness FDI from South Africa. The reduction in incidents as illustrated in Table 2.4 is due to many countries focusing extensively on economic transformation. There is also an increased youth population in most African countries and they tended to be less interested in political combat than their predecessors. Most of the youth on the continent often do not regard political conflict as a resolution to their challenges (Rakotoarisoa et al., 2012; Lu et al., 2017).

Table 2.4 Indicators of the frequency of civil tensions in Africa

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Northern Africa													
Algeria	29.6	30.2	30.3	33.4	29.9	25.6	16	2.5	15.4	5.8	0.3	7.4	11
Egypt	5.7	10.1	0	0.2	1.9	1.8	0.5	1.4	1.7	3.3	1.7	0.1	6.3
Libya	...	...	...	...	...	...	...	...	...	...	...	0	0.2
Morocco	2.9	0.4	0.5	0.1	0.1	0	0	0	0.9	0.5	0	1.3	1.8
Sudan	...	...	...	...	...	...	...	...	...	...	...	...	8.8
Tunisia	0	0	0.1	0.6	0.1	0	0.7	0.6	0	0.7	0	0	0.7
Eastern Africa													
Burundi	...	...	...	...	...	...	...	...	...	...	...	...	2.1
Comoros													
Djibouti	...	...	...	...	...	...	...	...	...	...	...	...	0.7
Eritrea													
Ethiopia	11.8	3	0.4	6.2	1.4	2.1	10.6	3.8	6.5	3.3	1.7	2.7	3.2
Kenya	2.5	6.4	8.5	0	0	1.9	0.5	1.7	1.1	2.8	1.4	16	9.8
Madagascar	...	...	...	...	...	...	...	...	1.7	2.2	1.2	1.8	0
Malawi	...	...	...	...	...	...	...	...	...	1.4	1.4	0.7	0
Mauritius	0	0	0	1.3	0	0	0	0	0.5	0.2	0	0	0
Mozambique	8.4	0	0	0.7	1.7	0	0	1.1	1	0.2	0	0.5	1
Rwanda	...	...	...	...	...	...	...	...	0	0	0.1	0	0.9
Seychelles	...	...	...	...	...	...	...	...	...	...	...	...	0
Somalia													
Tanzania	1.2	0.5	0.2	0	0	1.5	0	0.1	0.1	1.3	0	0.5	0.1
Uganda	19.5	3.8	2.6	2.4	0	6	3.6	4.3	9.8	2.2	1.9	5.3	1.7
Zambia	1.2	1.1	1.2	0.9	0.1	4.4	0.3	1.4	0.5	0.5	0.7	2	0.5
Zimbabwe	2.1	2.2	2.8	1.3	4.2	3.2	4.1	1.2	0.9	1.1	1	6.4	8.3
Middle Africa													
Angola	...	...	...	...	...	...	...	...	10.1	0.7	0.5	0	0.2
Cameroon	5.8	11.2	0.3	0.4	0.6	0.2	0.1	0.2	0.5	0.8	0.9	0	1.6
Central African Republic	...	...	...	...	...	...	...	...	...	...	...	...	2.9
Chad	1.1	1.4	0.6	5	6.7	4.1	2.6	4	1	2.8	9.4	4	3.5
Congo	...	...	...	...	...	...	...	...	0.5	0.5	0.2	0.1	0
Congo Dem. Rep.	...	...	...	...	...	...	...	...	5.4	4.7	7.8	7	8.6
Equatorial Guinea	0.5	0	0.5	0	0	0	0	0.2	0.3	0	0	0	0
Gabon	2.3	0.2	0.6	0.2	0	0	0.4	0	0.1	1.1	0.6	0.8	0.5
Sao Tome and Principe													
Western Africa													
Benin	...	...	...	...	...	...	...	...	0.7	0	0.2	0	0
Burkina Faso	0	0.8	0.3	0.6	2.4	0.6	0.6	0	0.5	0.2	0.5	0.1	1.3
Cape Verde	...	...	...	...	...	...	...	...	...	...	...	0	0
Côte d'Ivoire	4	0.9	0.8	5.3	6.9	0.7	3.4	4.7	6.3	4.7	4.6	2	1.7
Gambia	...	...	...	...	...	...	...	...	...	...	...	...	0
Ghana	1.2	0	0.1	1.1	0.5	1	1	0.3	0.5	0	0	0	0.7
Guinea	...	...	...	...	...	...	...	...	...	...	...	...	1.6
Guinea-Bissau													
Liberia	...	...	...	...	...	...	...	...	...	...	...	2.2	0.7
Mali	0.8	3.4	0.3	2.2	0	0	0	0.1	0.1	0.6	0.5	1.7	2.1
Mauritania	...	...	...	...	...	...	...	...	...	...	...	...	2.6
Niger	...	...	...	...	...	...	...	...	1.4	0.9	0.3	4.2	5.7
Nigeria	7.3	12.8	2.5	11.8	6.6	9.9	4.8	2.6	7.6	1	5.4	6.8	9.9
Senegal	0.1	4.9	0.7	1.4	1.4	1.2	1.9	1.7	2.3	1.2	1.1	1.6	0.8
Sierra Leone	...	...	...	...	...	...	...	...	...	...	...	...	0.1
Togo	...	...	...	...	...	...	...	...	...	...	...	...	0
Southern Africa													
Botswana	0	0	0	0	0	0	0	0	0	0	0	0	0
Lesotho	...	...	...	...	...	...	...	...	...	...	...	...	0
Namibia	0.9	0	0	1.9	1	0	0	0	0	0	0	0	0
South Africa	21.2	10.1	4.9	9.3	4.7	0.6	0.8	0.3	2.7	0.8	2.3	4.7	5
Swaziland	...	...	...	...	...	...	...	...	...	...	...	...	0

Source (FAO, 2012:47)

Lu et al. (2017) state that MNC policies that deal with political relationships in host countries are vital and include maintaining strong ties with local governments and politicians, joint ventures with local companies or strengthening of local social responsibility among other initiatives. However, although these procedures give guidance to MNCs, implementation thereof has resulted in mixed results for MNCs, including agribusiness SA-originated MNCs. The practical implementation of these strategies is often influenced by the relationships between home and host country governments, frequently superseding firm tactics (Lu et al., 2017).

2.7 Intra-Africa FDI and trade

The relationship between trade and FDI is an area of developing research, particularly in developing and transforming economies (DTEs). FDI may have an effect of complementing or substituting trade. Earlier studies had the view that FDI substituted trade (Furtan & Holzman, 2004). In contrast, later studies have shown that the impact can be that of replacing, complementing or a combination of both depending on other variables (Goh et al., 2012). The settled position is that FDI and trade influence each other in one form or the other. As per Table 2.5, intra-Africa FDI was $8,6 billion or 9% of total FDI into Africa in 2016, decreasing from $11,5 billion or 17% in 2015 (World Investment Report, 2017:45). In 2017, intra-Africa FDI had reduced to $1,9 billion or 2% of total FDI inflows into Africa (UNCTAD, 2018:39). Though it is expected that developed economies and larger developing economies would have higher FDI stock than countries in Africa, the relatively low level of intra-Africa FDI and the sharp decrease is apprehensive.

Table 2.5 shows that the European Union is the largest contributor to FDI greenfield projects on the continent from the developed world. Individually, Italy, the United States and Japan have been the most prominent countries that have galvanised FDI flow to the African continent. The FDI projects have mostly focused on extracting raw materials from the African continent to fuel the home countries' manufacturing and processing sectors. Among the developing countries, the leading investors on the continent have been the UAE, China and Saudi Arabia. These developing countries have also taken advantage of the resource surpluses on the continent to invest in extractive FDI. Contrastingly, FDI investment from within the continent has been negligible with more investment flowing from outside of Africa, than within the

continent. The table indicates that only Morocco showed recordable, but negligible amounts in the 2015–2016 period (UNCTAD, 2018).

Table 2.5 Announced greenfield FDI projects by region/economy, 2015–2016

Table D.	Announced greenfield FDI projects by region/economy, 2015–2016 (Millions of dollars)			
Partner region/economy	Africa as destination		Africa as investor	
	2015	2016	2015	2016
World	**67 047**	**94 073**	**13 192**	**11 739**
Developed economies	**37 412**	**19 979**	**756**	**1 378**
European Union	26 549	11 864	646	1 182
Italy	7 420	4 006	-	-
United States	6 447	3 640	62	48
Japan	368	3 070	-	-
Developing economies	**29 362**	**73 642**	**12 376**	**10 342**
Africa	11 550	8 604	11 550	8 604
Morocco	3 403	4 751	16	-
China	2 651	36 144	169	110
Singapore	206	3 197	24	13
Saudi Arabia	1 506	4 057	1	743
United Arab Emirates	4 068	11 004	248	117

Source: UNCTAD (2017:45)

Furthermore, formal intra-Africa trade was 17,9% of all trade in African states in 2017. In the same year, informal trade between African nations was estimated to be more than 55%, although it is difficult to measure accurately (Adeleke, 2018:4). Nevertheless, most of African business is beneficial to non-African states (Rakotoarisoa et al., 2012; Hazelwood, 2016; Lopes, 2019). Although African countries have had some time to address these challenges, the situation can be partially attributed to the former colonial landscape of Africa. Trading systems were designed to extract resources from the continent as trade systems including transport and logistics were designed to provide a channel for resources to leave the continent instead of trading within it (Gwilliam, 2011). As shown in Figure 2-10 below, Africa (except for South Africa) ranks low on the world logistics performance index (LPI) due to various infrastructural and institutional challenges.

According to Figure 2-10, it is evident from the ratings that logistical infrastructure on the continent is underdeveloped, and this is undoubtedly a challenge for any form of business operations in Africa. The biggest economies and regions in the world have

reliable infrastructure as evidenced below, inferring the relationship between infrastructure, economic performance, trade and FDI.

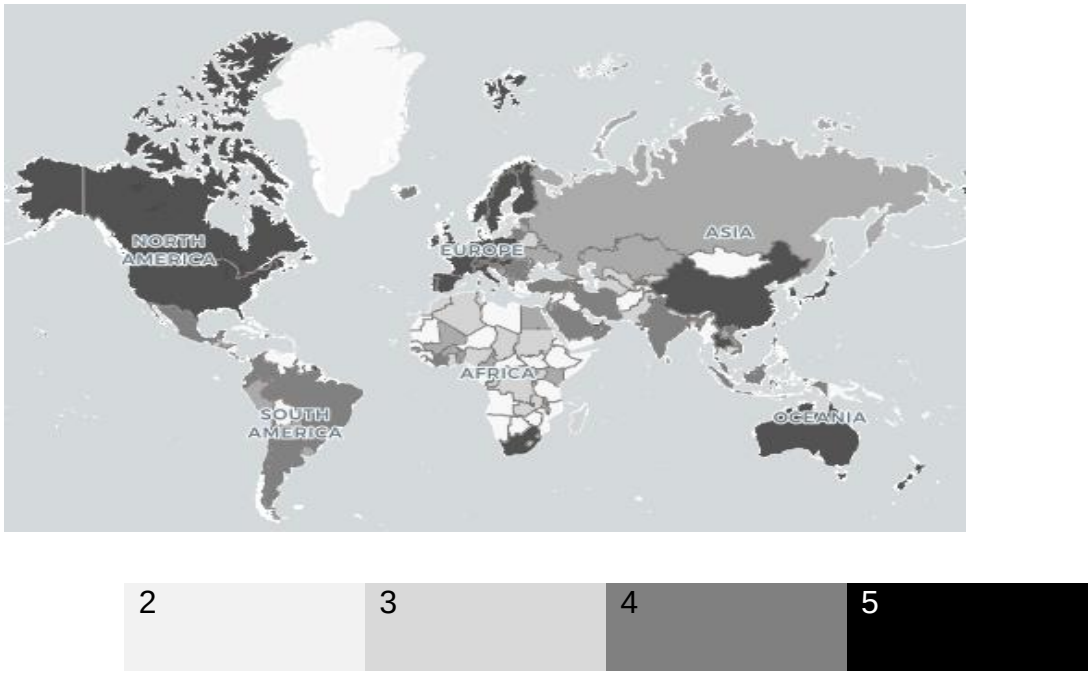

Figure 2-8 World logistics performance index (2018) [1=Least efficient and effective, 5= Most efficient and effective]

Source: World Bank Group (2019b)

In the African context, logistical challenges pose a significant challenge for intra-Africa integration. For instance, South Africa has successfully managed possible food insecurity challenges through infrastructure and logistics. An example is South Africa logistically handling the transition from being wheat and cereals net exporters to being net importers and at the same time increasing fruit exports or managing the change from beef to chicken consumption for the indigent population (Greyling, 2015). The challenges with logistics have a direct bearing on intra-Africa trade, the attractiveness of SSA countries to the inflow of FDI, and SA MNCs operation in the rest of the continent. Although tensing and challenging, SA MNCs that have survived in Africa have been innovative in dealing with these challenges. For example, Shoprite receives more than 80% of its supply from local markets and simultaneously has aligned with government policies of food security in host countries (De Lonno, 2016). The infrastructural and institutional factors that are used to determine the logistics performance index are clarified in Figure 2-11, which contrasts Germany (the top-performing LPI in the world) and the low performing regions of sub-Saharan Africa and

South Asia. The subcategories of infrastructure, customs, efficiency, tracking, tracing, and international shipments are all items that are required for effective business dealings (World Bank Group, 2019b).

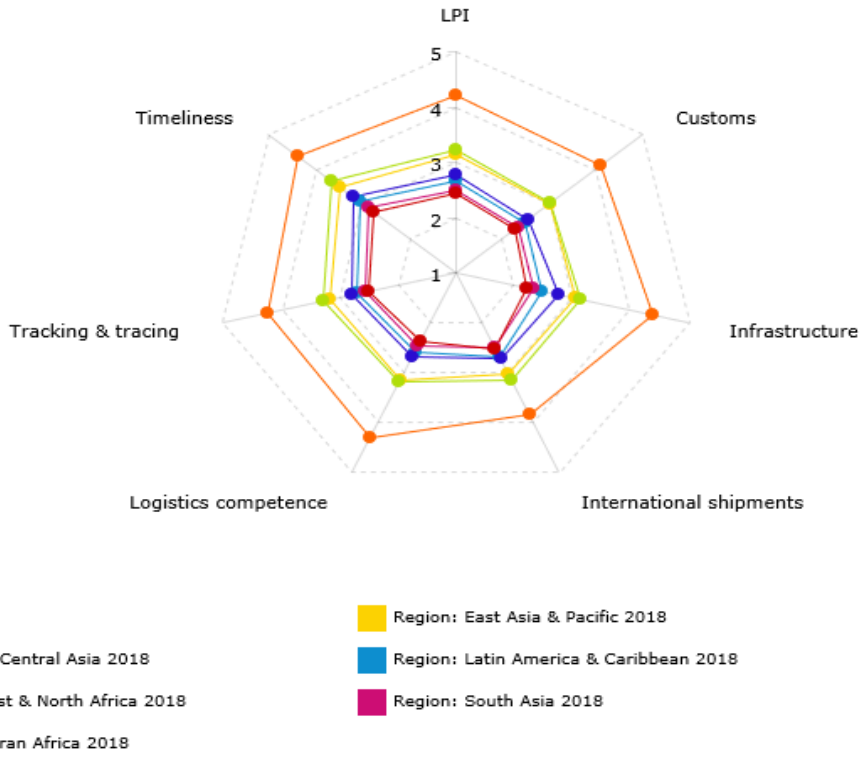

Figure 2-9 LPI top performer (Germany) in comparison to the world

Source: World Bank Group (2019c)

Although African countries, especially countries in the sub-Sahara region, are confronted with various infrastructural gaps and inadequacies, some notable strides have been made to address these shortcomings. Notable amongst these improvements are the Gabonese manganese ore line and SA Transnet freight rail coal and ore lines. These initiatives are lauded because they have galvanised vertical integration of industries, but they are confined to the specific country. The NLPI route from South Africa to Zambia through Zimbabwe, the Malawi-Mozambique link, the Burkina Faso-Ivory Coast link and the Mali-Senegal links are other encouraging developments in bridging the infrastructural gap in the sub-region (Gwilliam, 2011).

Political and socio-economic blocs such as the now defunct North American Free Trade Agreement (NAFTA) and The European Union (EU) were set up to foster intra-regional

FDI and for the member countries to become more globally competitive (Olsen & McCormick, 2017). For instance, one of the favoured FDI hosts, apart from the United States in NAFTA, is Belgium in Europe. Two-thirds of its FDI inflow is from the EU member countries, notably its immediate neighbours – France, Germany, and the Netherlands (Sauvant, Mallampally & McAllister, 2013). Socio-economic blocs are not necessarily confined to regional boundaries as evidenced by BRICS (Brazil, Russia, India, China, and South Africa).

South Africa motivated its ascension to BRICS in 2010 with a view of aligning with other emerging economies in the World (Wamboye & Tiruneh, 2017). South Africa and other BRICS countries have the long-term vision of competing with, and surpassing developed economies in terms of economic growth, mainly through FDI (Collins, 2013). Although, the reality of this vision remains bleak, the objective of the vision motivates for a more robust integration among the countries in the sub-region.

Philander (2009) and Bijaoui (2017) note that Africa should also be benefitting from intra-African regional blocs through investment and trade. Philander (2009) and Salami (2012), state that the apparent lack of full regional integration has a direct bearing on FDI and economic growth, seeing Africa lag in intra-regional FDI. By design, these regional blocs should make the investment for SA MNCs easier in comparison to MNCs from other continents. However, the reality is that African countries tend to rely more on bilateral investment treaties (BITs) than regional treaties (Adeleke, 2018). Minimal regional integration means that African MNCs often need to navigate OFDI in other African countries individually.

It must be pointed out that recent interventions at the continental level have established mechanisms for addressing this shortcoming. Specifically, the African Continental Free Trade Area (AfCFTA) signed in March 2018 by most African states, and with implementation set for 2021, is a critical item in the 2063 agenda of the African Union. It seeks to give new impetus to intra-Africa trade. Amongst its goals is to double intra-Africa trade by 2022 and triple intra-Africa agricultural trade by 2023 (FAO, 2018a). AfCFTA seeks to benefit the entire continent, but will positively impact countries and MNCs that have competitive and comparable advantages (PwC 2018; SA Government, 2018). The consistent challenge in Africa has been the

implementation of policy, and it remains to be seen if the performance of AfCFTA will be optimal.

In addition to the challenges indicated in Figure 2-12 as hindrances to intra-Africa FDI, other significant possible challenges of AfCFTA implementation highlighted by UNCTAD (2018) are the commitments and complexities that member states have with other regional blocs and individual countries globally. Figure 2-12 lists the most highlighted challenges to investment in Africa as conveyed by corporate businesspeople involved in intra-Africa FDI (PwC, 2018).

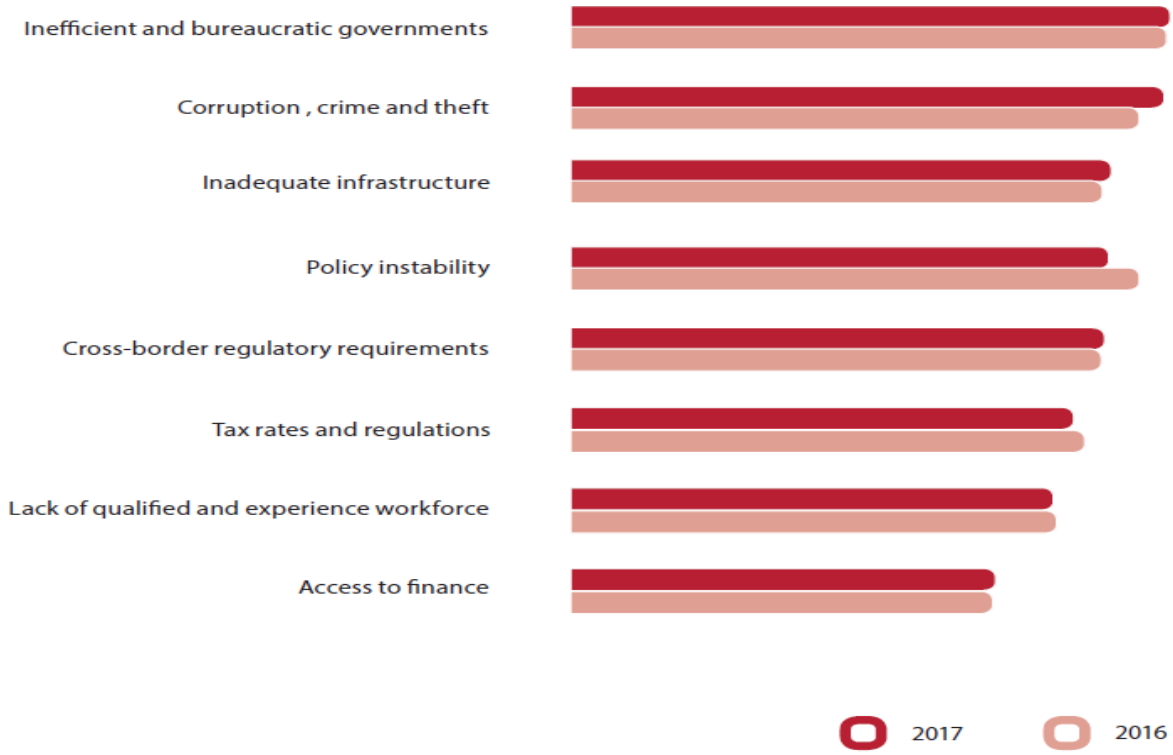

Figure 2-10 Barriers to intra-Africa FDI

Source: PwC (2018:7)

According to Figure 2-12, the most challenging barrier to intra-Africa FDI is bureaucracy and government-linked institutional challenges for corporations. MNC executives have also highlighted that corruption, crime, theft, infrastructural deficits and political instability rank highly in deterring their investment decisions. Other regulatory complications such as taxation and cross-border trade regulations for formal business endeavours have also been problematic for MNCs (PwC, 2018).

Picking on one the conspicuous challenges identified by UNCTAD (2018), fragmented agreements with various countries and trading blocs could potentially trigger practical fallouts on the rule of origin for exports. This is so because there are numerous international associations within Africa. The African Union (AU) encompasses all African states. The regional groupings are the Common Market for Eastern and Southern Africa (COMESA), Southern African Development Community (SADC), African Economic Community (AEC), Community of Sahel-Saharan States (CEN-SAD), East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD) and the Arab Maghreb Union (AMU).

The AU is mainly perceived as a purely political block, unlike other relatively large unions such as the EU, which are both politically and economically inclined (Akokpari, Ndinga-Muvumba & Murithi, 2008). As such, it has not facilitated much business alignment within the member states (Salami, 2012; French, 2014). French (2014) points out that it is often easier for MNCs from China to access African markets than it is for other African companies. However, some regional blocs within Africa have proven to be more cohesive than others. Some of the groupings encompass political and socio-economic goals, whereas others focus on economic and business interests. However, Olofin et al. (2008) explain that the demarcation lines between politics and business interests are often obscure, and objectives frequently overlap.

This said, in the next paragraphs the researcher focuses attention on the review of relevant literature on the specific functioning of a few regional economic blocs within the continent. This is considered essential in order to uncover how these trade blocs could potentially facilitate or hinder intra-African trade and investment, especially inflow of investment from SA agribusiness MNCs in the sub-region.

2.7.1 West Africa

ECOWAS is composed of 15 West African states. ECOWAS is subdivided into two regions, the West African Economic and Monetary Union (French acronym UEMOA) and the West African Monetary Zone (WAMZ). UEMOA is mainly made up of francophone nations that use a common currency (the West African Franc), whereas WAMZ is made up of primarily anglophone countries (Maiyaki, 2012).

It is a region of mixed fortunes having the largest economy on the continent (Nigeria), but having only two countries in the top 15 of the sub-Saharan Africa EODB (World Bank Group, 2017c). Nigeria has the largest economy in the region and indeed in all the African continent. Nigeria dominates trade in ECOWAS, accounting for about 40% of all trade in the area (Maiyaki, 2012:2). The rest of the economies in the region, apart from Nigeria, and Ghana to a certain extent, rely on agriculture. As stated by Maiyaki (2012), modernised agriculture in West Africa lags behind the rest of sub-Saharan Africa. Like the EAC, investments into West Africa by SA companies are made on a stand-alone basis, as South Africa is not a member of ECOWAS. In addition to this, there is a significant Nigerian influence in the region, and this needs to be understood by SA MNCs. This study delves deeper into trade and investment in ECOWAS, focusing on the Nigerian economy as the dominant economy in the region.

2.7.2 East Africa

EAC is arguably the most integrated and fastest-growing region in Africa (Drummond, Kal Wajid & Williams, 2014; FAO, 2018a). EAC was set up as a political and socio-economic bloc and is composed of Kenya, Tanzania, Uganda, Rwanda, Burundi and recently South Sudan. At an average GDP growth rate of 3,5% compared to the sub-Saharan average of 3,3%, it is a region that has lived up to its promise of sustained growth (Drummond et al., 2014).

Kenya is the largest economy in the region with a nominal GDP of $95,5 billion in 2019 and Tanzania, the second-largest with a nominal GDP of $363,1 billion for the same period (World Bank Group, 2020). Drummond et al. (2014) explain that Kenya is also the most advanced economy in the region and has been the primary beneficiary of the integration of EAC with the balance of trade heavily in the favour of Kenya. Four of the EAC members are in the top fifteen countries in sub-Saharan African World Bank EODB report, with Rwanda in the second place in the entire sub-Saharan region (World Bank Group, 2017c). Only Burundi and South Sudan are outside of the top fifteen. The economic bloc that encompasses some EAC countries is COMESA. However, this grouping stretches much wider (encompassing Southern Africa) and is not as integrated as EAC (Olofin et al., 2008).

It is important to note that South Africa is neither a member EAC nor COMESA and hence would have no direct bearing on the intricate details of these communities. Accordingly, SA MNCs are obliged to negotiate business dealings in the region as lone entities, which may have benefits and risks. This study looks at EAC as one of its focus areas, with a strong emphasis on Uganda, which is a popular destination for SA MNCs.

2.7.3 Central Africa

ECCAS encompasses and is related to the Economic and Monetary Community of Central Africa (CEMAC). Only the Democratic Republic of Congo (DRC) is a member of ECCAS and not CEMAC. Like other regional groupings, ECCAS was formed to harmonise and increase trade within the Central African region and has eleven members (Olofin et al., 2008).

Within this region, there is also a common currency (CFA Franc) which is used by Cameroon, Central African Republic, Chad, the Republic of Congo, Equatorial Guinea, and Gabon. The region has numerous organisations and numerous nations with different backgrounds in their post-colonial transition (see Section 2.6). The monetary policy of CEMAC is highly integrated and is comparable to the EU in this regard. The CEMAC monetary policy has enabled it to have a stable currency linked to the Euro (Usa, 2009). However, the larger grouping of ECCAS has had major challenges in achieving regional integration. For instance, Usa (2009) notes that seven of the eleven members had some military conflict and civil instability since its formation. Olofin et al. (2008) add that although ECCAS was formed in 1983, it did not sign any free trade agreement until 2004 and only implemented it in 2006. Further to this, Olofin et al. (2008) highlight a reluctance within member states to diminish national powers to the detriment of regional groupings.

All members of the region except for Rwanda (which is also a member of the EAC), are ranked below the sub-Saharan average for EODB (World Bank Group, 2017c). However, Equatorial Guinea has the largest GDP per capita on the continent at $40 718 (World Bank, 2016). The Republic of Congo, with a GDP per capita of $5 652, is one of the largest economies per capita in CEMAC (World Bank Group, 2018). It is also a francophone country and investments into this country by SA MNCs are significant, thereby justifying its inclusion in the study.

2.7.4 Southern Africa

SADC is a grouping of 15 Southern and Central African countries. Like EAC, it is one of the most integrated regional blocs with more than 85% of its trade free of tariffs (FAO, 2018a; SA Government, 2018). Many of its members are also part of other economic blocs such as COMESA and CEMAC. SADC has significance for the study, being the only regional bloc where South Africa is a member. Olofin et al. (2008) state that SADC is an organisation that has a history of a 'laisse-faire' approach when it comes to regional matters. As such, its secretariat is often regarded as ceremonial without much bearing on regional affairs. However, Laurie (2012) comments that the region is relatively stable compared to the rest of sub-Saharan Africa in terms of doing business. The World Bank Group (2017b) confirms this by stating that nine of the best fifteen countries in which to do business in Africa are from this region, including the highest-ranking sub-Saharan Africa country, Mauritius.

Due to the individual nature of the members in SADC, extremities in this bloc include notable achievements of the Mauritian economy and the collapse of the Zimbabwean economy. The organisation has mostly ignored all these events and left it to the countries to manage themselves (Laurie, 2012). Similarly, business practices in the region have also progressed individually with vast differences in how the countries conduct business. South Africa is the largest economy in SADC and the second largest in sub-Saharan Africa, with a GDP of $314 billion in 2015 (World Bank Group, 2016) rising to $351 billion in 2019 (World Bank Group, 2020). SA MNCs trade more with SADC countries than any other region, with South Africa being the primary benefactor in these engagements (Egu & Aregbeshola, 2016; SA Government, 2018). There is a high reliance in the SADC region on the SA economy and SA MNCs. A combination of factors has made SA companies dominate the region. These include the competitiveness of SA companies, superior skills, the proximity of the countries to South Africa and similar historical backgrounds (Shumba, 2015; Egu & Aregbeshola, 2016).

For this study, Zambia and Mozambique form an important part of the empirical investigation because they are attractive destinations for SA agribusiness companies. Zambia is the fourth-largest economy in the SADC region after South Africa, Tanzania, and the DRC (World Bank Group, 2020). However, Zambia is an important trade

partner in the 'traditional' boundaries of Southern Africa. Mozambique has been selected as it is a popular neighbouring destination for SA MNCs and, and more importantly, for its language bias, being a lusophone country.

Having looked briefly at the characteristics of each of the sampled countries, it is considered important to look at the intricacies of informal business formation in the sampled countries. Material on this component of the literature review is presented in the paragraphs that follow.

2.7.5 Informal trade

Analysis of the intra-Africa trade landscape is not conclusive without an examination of informal cross-border trade (ICBT). Afrika and Ajumbo (2012) report that although ICBT is mostly considered illegal, it is a source of income for about 43% of the African population. Informal trade by nature is difficult to explore (Afrika and Ajumbo, 2012) or quantify (Afrika & Ajumbo 2012; Jerven, 2015). ICBT is generally defined as trade in processed or non-processed goods across borders, where some controls may not be adhered to strictly or at all. As illustrated in the categorisation below, it is important to note that ICBT transcends across many forms of organisations as it is not only confined to individuals and can also involve large corporates (Lesser & Moise-Leeman, 2009). Figure 2-13 clearly shows the kind of business interests that fall into each of the three categories.

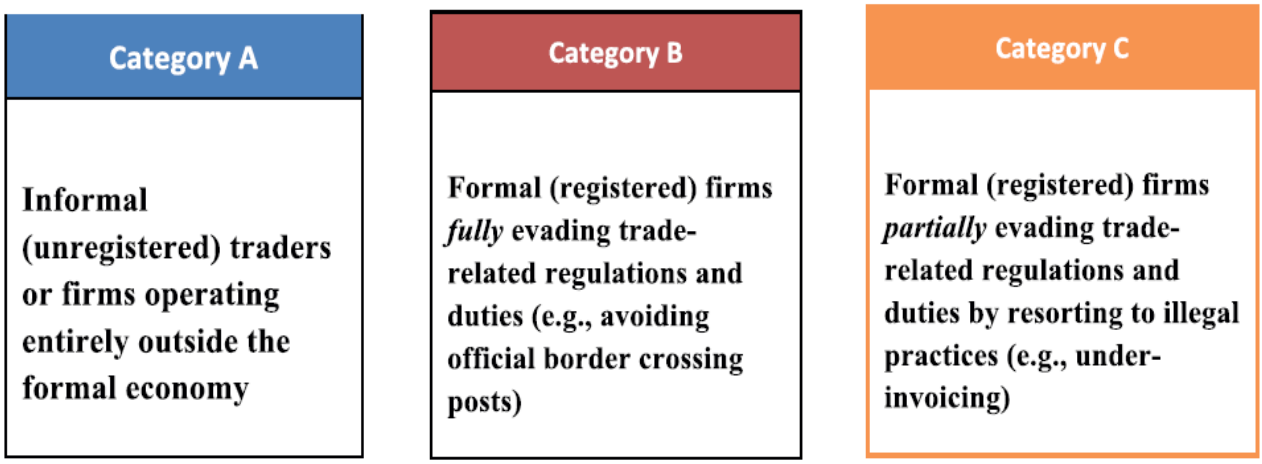

Figure 2-11 Types of informal cross-border traders

Source: Lesser & Moise-Leeman (2009:10)

It is important to note that ICBT across sub-Saharan Africa covers varied items across the regions. However, scrutiny of Table 2.6 shows a high propensity towards food items and low-quality manufactured goods. ICBT could thus be observed to have a substantial influence on agribusiness.

Table 2.6 ICBT regional analysis for sub-Saharan Africa

Regions	Non-Processed Goods	Manufactured Goods	Re-exports	Value of Goods
Eastern Africa including Horn of Africa	Foodstuff and non-food stuff, livestock.	Low quality manufactured and processed goods	Low quality goods from Asia, contrabands, counterfeits and substandard goods	US$50-US$1,000
West Africa	Foodstuff and non-foods-tuff, livestock.			
Central Africa	Minerals, jewelry, forest products, Food and non-food stuff			
Southern Africa	Handicrafts and foodstuff and non-foodstuff.			

Source: Afrika and Ajumbo (2012:10)

From the content of Table 2.6, it is evident that ICBT in agricultural produce is endemic, and this cuts across all the regions considered important in this study. Notably, ICBT often accounts for more trade than formal trade. For instance, COMESA estimates that US$2,9 million of trade occurs at the Mwami/Mchinji border between Malawi and Zambia per month (Afrika & Ajumbo, 2012:10). The amount is nearly double the formally recorded trade of US$1,6 million per month. In East Africa, Uganda estimates that more than 80% of its exports to its neighbours are through ICBT. In West Africa, where ICBT is one of the most structured in sub-Saharan Africa, ICBT ranges from 20% of GDP in Nigeria to 75% in Benin.

Lesser and Moise-Leeman (2009), Hitimana, Allen and Heinrigs (2011), Afrika and Ajumbo (2012), Rakotoarisoa et al., (2012), as well as Brooks and Matthews (2015) concur that ICBT arises mainly due to the following:

- Lack of trade facilitation;
- Inadequate border infrastructure;
- Limited access to finance;
- Limited market information;

- Corruption and insecurity; and
- Limited knowledge, education and business management skills.

However, it must be admitted that there are many positive socio-economic benefits of ICBT, especially in the short term. These include employment creation, foreign exchange earnings, consumer choice and reduced socio-economic challenges such as poverty. However, there are challenges with informal trade, especially in the long term. These include difficulty in regulation and planning, corruption, compromised health standards, loss of income for states and competitive disadvantages for formal business such as legal trading MNCs (Lesser & Moise-Leeman, 2009; Africa & Ajumbo, 2012; De Lonno, 2016; FAO, 2018a). To this end, the main challenge faced by African governments over the past decade has been how to formalise and legalise ICBT to alleviate these challenges without compromising the benefits of ICBT (Lesser & Moise-Leeman, 2009; Hitimana et al., 2011; Africa & Ajumbo, 2012; Brooks & Matthews, 2015; FAO, 2018). Most SA MNCs have developed their competencies in a formal trade environment and have often found the ICBT and informal trade as challenging to their expansion strategies into sub-Saharan Africa (De Lonno, 2016; Standard Bank, 2016; SA Government, 2018).

Although, ICBT poses a great threat to law-abiding MNCs, the role of investors from countries with low regulatory records and poor business ethics are critical in the operations of law-abiding MNCs. It is thus considered important to look at the role of Chinese investors in Africa.

2.8 China and Africa FDI

In contrast to the sharp decline in intra-Africa FDI, FDI inflows into Africa from China show a progressive trend. Chinese FDI outflows into Africa were $2,6 billion or 4% in 2015, $36 billion or 38% in 2016 and eased to $8,9 billion or 10% in 2017 (World Investment Report, 2017:45, 2018:39). China is also the largest single contributor to FDI inflows into Africa (UNCTAD, 2017, 2018), rendering it important and relevant to understand Sino-African FDI dynamics in the context of this study.

Moreover, China surpassed the United States as the largest trading partner of Africa in 2009 with trade between Africa and China reaching $126,9 billion in 2010

(Hazelwood, 2016). French (2014) explains how China has moved from being the factory of the Western world to determining the course of globalisation in just a few decades. The effect is most notable in Africa where China has introduced a form of modern-day bartering, where it offers infrastructural and other developments in Africa in return for a guaranteed supply of natural resources at undercut prices and through shady negotiations (Csizmadia, 2016). Also, Chinese banks are financing these projects, usually on the condition that Chinese companies are contracted to implement the construction (French, 2014). The fact that most of the negotiations are done behind closed doors and agreements are mostly written in Mandarin raise various ethical questions as to whether this form of investment would be to the benefit of Africa in the long term. What is certain, however, is that this form of practice gives China and Chinese companies a superior competitive advantage over other nations and companies, even African-originated MNCs within the continent. The issue of hostile media is again mentioned in the relationship between China and Africa by Brautigum (2015). Stories about China taking over land in Africa primarily to feed the Chinese people have received significant coverage, though many of these stories have (expectedly) been debunked by government officials in Africa (Peng et al., 2011; Brautigum, 2015).

French (2014) brings to light another concept that the Chinese seem to understand better than other economic superpowers, and that is a term called ‘servicing the relationship’. French (2014) details how China has utilised the history of the colonial past to position itself as a ‘comrade’ to Africa, thereby capitalising on a shared history of colonisation. Shinn and Eisenman (2012) term this a ‘century of engagement‘ between China and Africa and add that China has mastered the art of non-partisanship in the African political course, thereby managing to maintain their business model regardless of the prevailing political leadership. In fact, political instability in African countries has often benefited Chinese companies (Li et al., 2015). Hazelwood (2016) agrees with French (2014) that the bond between Asian and African nations is enshrined in the shared history of colonisation and dominance by European powers.

The historical past has made the relationship between China and Africa distinct in that it seems purely by choice, unlike the relationship with the IMF and World Bank discussed earlier. Besides, reports have indicated that China prefers host countries

that have similar (though often weaker) governance procedures than themselves (Csizmadia, 2016). African leaders and African businesses have mainly ignored reports of this relationship being a new form of colonialism. In 'servicing the relationship', Chinese leaders have ensured that Africa is afforded the relevant 'respect' evidenced by numerous visits of senior Chinese leaders to the continent. Contrastingly, American and European leaders have given Africa a 'second-rate status' (French, 2014). As one crosses Africa, it is quite evident that Chinese companies and Chinese people have a significant and growing imprint in Africa and have penetrated many aspects of everyday life in Africa – good and mostly, bad.

Shinn and Eisenman (2012) look at the China-Africa engagement as one that has been predominantly driven by China, where China has carefully merged its needs with those of Africa. For instance, China has become the biggest supplier of manufactured goods to Africa, benefiting from the African manufacturing 'problem' highlighted by Newman et al. (2016). Simultaneously, China has continued to become more competitive with the rest of the developed world and is competing successfully with the developed world. The ability of China to compete successfully with the developed world and simultaneously relate on a peer-to-peer level with Africa (at least as perceived by Africa) has made it difficult for other superpowers to surpass China (Shinn & Eisenman, 2012).

More importantly, China and Sino-MNCs have orchestrated a success model on the African continent, managing to conduct business in all Africa countries. The Chinese unique stance of 'state capitalism' seems to be beneficial to Chinese corporates (Morita, 2017). More than 90,5% of Chinese OFDI is by state MNCs (Alcaraz et al., 2017). Hence, the study of Chinese interaction with Africa is relevant to understand FDI in Africa fully. For instance, Chinese MNCs involved in OFDI show minimal effects of challenges such as political risk and to some extent, foreign exchange risk (Li et al., 2015). Contrastingly, these challenges have been cited as significant by SA MNCs (De Lonno, 2016; Standard Bank, 2016). SA companies are competing in the same space as Chinese companies and need to equal or surpass the competitive advantage of China to succeed. Whether SA MNCs have competitive advantages to compete with Chinese and other MNCs is a question addressed by this study.

2.9 Conclusion

In this chapter the researcher analysed the varied FDI dynamics in Africa. Emphasis was placed on the status of FDI inflows into the rest of Africa and a further focus was on the relationship of SA MNCs and FDI outflows into the continent.

The background of how Africa approaches investor relationships was a natural starting point. Research-based evidence show that historical background often determines the economic and FDI policies of SSA countries. FDI host countries also exhibit a fondness for home countries with which they have strong historical links, although this is not always consistent, particularly where host countries have limited choices. Often, mismanagement of economies has led to host countries accepting FDI inflows from formerly hostile countries or entering into transactions that mainly favour the investor.

The researcher highlighted the complicated relationship of South Africa with the rest of the continent, as it has historically friendly and hostile elements within its fold, particularly in the business space. Fortunes of SA MNCs have also been mixed in the rest of the continent due to factors internal and external to the MNCs. The previous, continuing, and planned closures of SA MNC investments was the primary concern explored in the chapter. Furthermore, the lack of clear scientific literature on successful investment strategies was discussed. These challenges set the platform for the research effort. Nevertheless, South Africa remained the most significant FDI outflow contributor to the rest of Africa and hence critical in the intra-Africa FDI discourse.

The challenging African business environment with unique and diverse challenges that are not prevalent in the rest of the world was detailed. Crucial elements of successful FDI attraction and retention such as information asymmetry, poor infrastructure, political instability, cumbersome regulatory factors and capital market inadequacies were discussed as having a direct impact on FDI inflows into Africa. The uniqueness of each region and the attributes of representative countries were highlighted as also having a direct effect on FDI inflows.

The nature of FDI into Africa was discussed in the chapter, highlighting the mostly two-dimensional nature of FDI inflows into the continent. Service and extractive FDI remained the prime contributor to FDI inflows on the continent, thereby not contributing to real wealth generation. A comparison to Asian economies that have increased their

wealth indicated their increased aptitude in manufacturing. SA MNCs were noted as not alleviating this African need.

According to the World Bank, most African countries rank lowly in the EODB index, and this also affect African investors. The relatively weak intra-regional economic and trading blocs exacerbated the difficulty in conducting business. The statistics referred to in this chapter show that intra-Africa FDI and trade was on a downward trend, with Africa relying heavily on inflows from Asia, Europe, and the Americas. China, as the leading contributor to FDI inflows into Africa in the world, was analysed. Contrastingly to intra-Africa FDI, Chinese FDI into Africa has increased. The policies and approach of China in Africa were examined and contrasted with other countries, particularly South Africa, to understand further where SA MNCs have had challenges.

Summarily, the researcher illustrated that SA MNCs were often at a disadvantage when investing in the continent compared to investors from other parts of the world. SA MNCs experience the same or often worse challenges than MNCs from different parts of the world. Institutional fragility of government institutions in South Africa has forced SA MNCs to invest in the rest of Africa, but without government support or protection. The pioneering investment strategies, limited home support, lack of cohesion and other challenges on the continent has led to SA MNCs being experimental investors in the rest of Africa, leading to many unsuccessful investment strategies.

Chapter 3

Agribusiness, FDI and SA MNCs in Africa

3.1 Introduction

This chapter described agribusiness in sub-Saharan Africa and its relationship to SA MNCs and FDI. Agribusiness and its components were discussed to enable comprehension of one of the most important industries in Africa. The worsening food insecurity status in Africa was evaluated and the need to encourage and manage intra-Africa FDI in agribusiness accentuated.

Beierlein, Schneeberger and Osburn (2014) define agribusiness as the industry that manages the agri-food system, that is, how food gets to the consumer. Agribusiness employs more than 65% of the sub-Saharan Africa population and is involved in 75% of domestic trade (PwC, 2018). However, governments in sub-Saharan Africa spend an average of 2–4% of GDP on agribusiness directly, with indirect expenditure focused on issues such as general infrastructure which also benefits other industries (Webber & Labaste, 2010; FAO, 2019a). It was important to note that the proportional capital outlay for agribusiness infrastructure compared to the overall capital outlay, has also been declining over the past two decades. The expenditure in African countries on agribusiness research and development averages below 1% (in many cases zero), with Botswana and South Africa being the exceptions.

The low research budgets have a direct bearing on the development of agriculture and agribusiness (Rakotoarisoa et al., 2012). However, most sources (Larsen, Kim & Theus, 2009; Rakotoarisoa et al., 2012; Brooks & Matthews, 2015; Juma ,2015; FAO, 2018a; SA Government, 2018) agree that FDI in agriculture and agribusiness is required to guarantee food security in Africa, although many governments ironically regard it as principally a private-sector investment. Brooks and Matthews (2015) state that agribusiness sectors in countries that are the largest or improving producers of agriculture and agri-products, generally receive a high level of support from their governments. The policies and strong support of Organisation for Economic Co-

Operation and Development (OECD) countries for their own agribusiness initiatives has even been a limiting factor for developing countries, particularly in Africa, as Africa has become more dependent on OECD and other emerging countries for food security (Brooks & Matthews, 2015).

The limited support of government for agribusiness is also prevalent in South Africa, which has a relatively developed agricultural landscape. A survey conducted by the SA government, shows that only 11.1% of farming households received any form of government support, with only 2% receiving training (SA Government, 2018). Larsen et al. (2009), Juma (2015) and Mengestia (2012) substantiate the concern of limited support for agribusiness in Africa. They state that agribusiness development needs innovation and must involve informal and formal institutions, corporates, institutions of higher learning, social and other organisations.

Amid the challenges, Africa is making some progress in agribusiness innovation through OFDI. However, the agribusiness OFDI route is often a treacherous one for MNCs as it has potential infringements on sensitive issues such as land ownership, politics, sovereignty, and self-determination in host countries (Cheru & Modi, 2013; Bates, 2014). Agribusiness FDI sensitivity is well understood, and history shows that food security can win or lose elections in Africa (Cheru & Modi, 2013)

In 2017, agriculture contributed 2.4% to the GDP of South Africa (SA Government, 2018). A significant contribution to the SA agribusiness economy has been through intra-Africa trade and FDI outflows by SA MNCs to the rest of Africa. Numerous SA agribusiness MNCs invest in other parts of Africa, and these include Tiger Brands, Pioneer Foods, Tongaat-Hulett, AFGRI, Astral Foods and others (Harding, 2011). Intra-Africa OFDI in agribusiness is challenging for SA MNCs, due to various factors including, but not limited to, government inefficiency, corruption, access to capital and regulatory challenges (PwC, 2018). However, there is a renewed optimism in agribusiness with growth prospects in agribusiness-related intra-Africa FDI, mostly attributed to improved penetration of existing markets and diversification of current value chains (PwC, 2018).

3.2 Components of agribusiness

The value chain of agribusiness is composed of various activities and functional units. As Figure 3-1 demonstrates, the agribusiness system is the business component of the agri-food systems or agri-food value chain (Beierlein et al., 2014).

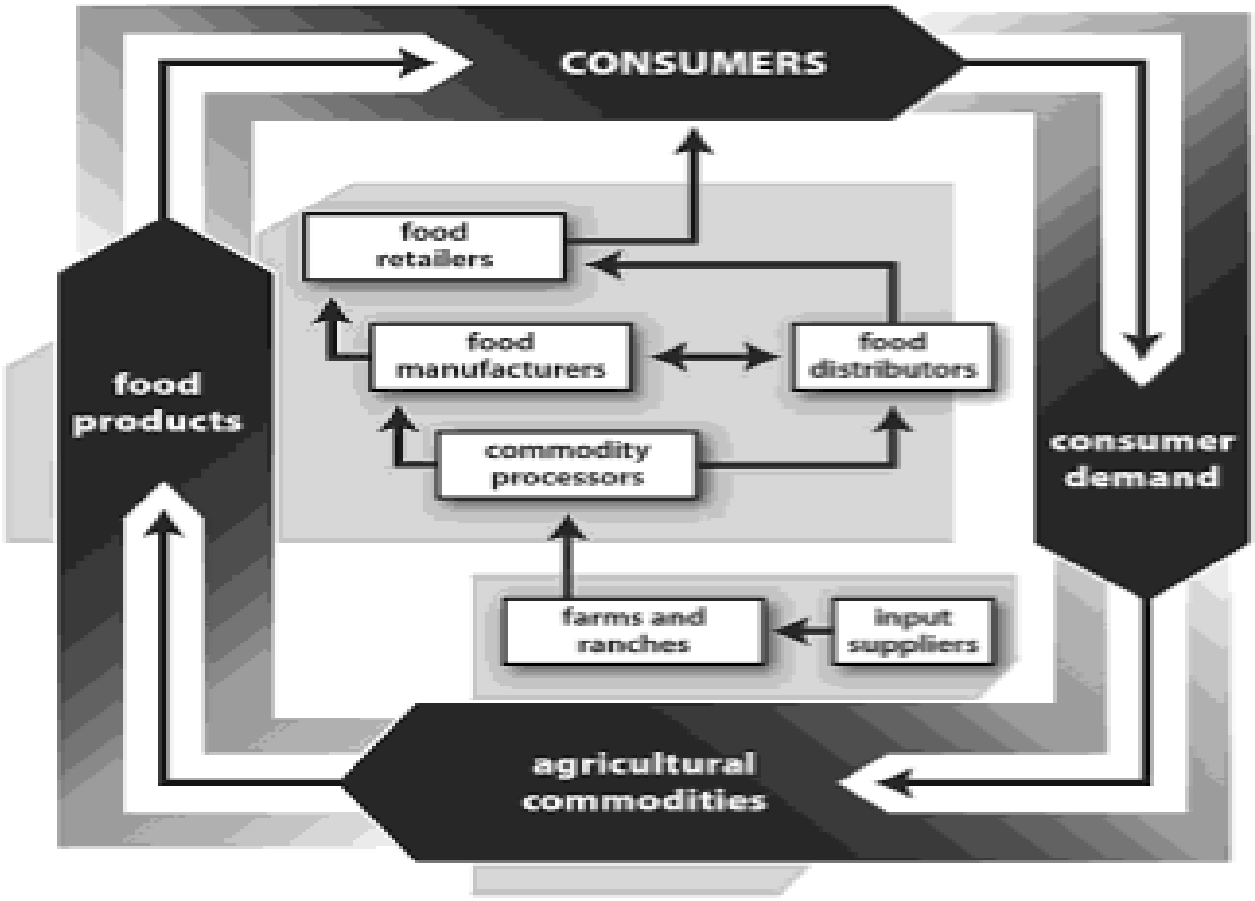

Figure 2-12 The agri-food system

Source: Beierlein et al. (2014:5)

According to Figure 3-1, the agri-food value chain is a system with various critical components, which are explained as:

- Input suppliers are responsible for providing seed, fertiliser, and financing services to farmers.
- Producers are farmers responsible for producing the primary form of agricultural commodities. Some agricultural products are ready to be

consumed in their primary form (e.g. fruit). Some are sold to processors for further refinement.

- Processors are agri-processers that buy agricultural commodities and add value to these products (e.g. flour from wheat).
- Manufacturers are more sophisticated (usually larger, but not necessarily) processers that buy the product from processers to add additional value (e.g. cakes from flour).
- Distributors are transporters in the agribusiness value chain responsible for linking different aspects of the value chain.
- Retailers are the final link of the agri-food value chain and are responsible for selling the final product to the consumer.

3.3 Intra-Africa agri-products trade and FDI

As discussed earlier, FDI can have the effect of substituting or complementing trade, or a combination of both. Horizontal OFDI (investment in the same industry and market to which a corporate previously exported) can have the effect of substituting trade as MNCs expand out of home countries to avoid trade costs. Vertical OFDI (investment in a different, but related leg of the value chain) has a complementary effect on trade in the host country, as vertical OFDI does not replace the trade market, but provides linkages within the value chain (Goh et al., 2012; Paul & Benito, 2018). However, Goh et al. (2012) add that the relationship between trade and OFDI is intricate and dependent on other variables. Therefore, the effect of OFDI on trade can have different outcomes due to other variables in the value chain. Nevertheless, the relationship is vital, as trade is often the predecessor or a primary determinant to FDI and can have a significant effect on OFDI strategies in sub-Saharan Africa.

Weilei et al. (2017), and Paul and Benito (2018) write that OFDI and regional trade provide a viable escape for MNCs that want to circumvent challenges from home markets or that seek a diversified or broader market for their products. Thus, it has been necessary for SA agribusiness MNCs to invest in sub-Saharan Africa as this region provides an outlet to mitigate against challenges in South Africa and to grow the markets of the MNCs. However, ominously, Figure 3-2 reveals that most of the

food trade in Africa (especially imports), is with the rest of the world, with only a small component being of intra-Africa trade (Rakotoarisoa et al., 2012).

The peculiarity of agrarian trade in African is that it is predominantly with the rest of the world, just as other sectorial trading that transcend any specific region. Figure 3-2 supports the issue that trade in Africa is extractive and designed to interact with the rest of the world, rather than with other countries on the continent. It is hence unsurprising that the EU is the primary beneficiary of agri-trade with Africa, with significant trade with North America and Asia. To correct this anomaly, one of the sub-objectives of this thesis is the promotion of intra-Africa FDI, and by extension, trade. Correction of the trade and investment mismatch is also a major objective of the African Continental Free Trade Area (AfCFTA). AfCFTA seeks to liberalise trade among African countries by eradicating tariffs and other barriers to trade (FAO, 2018a).

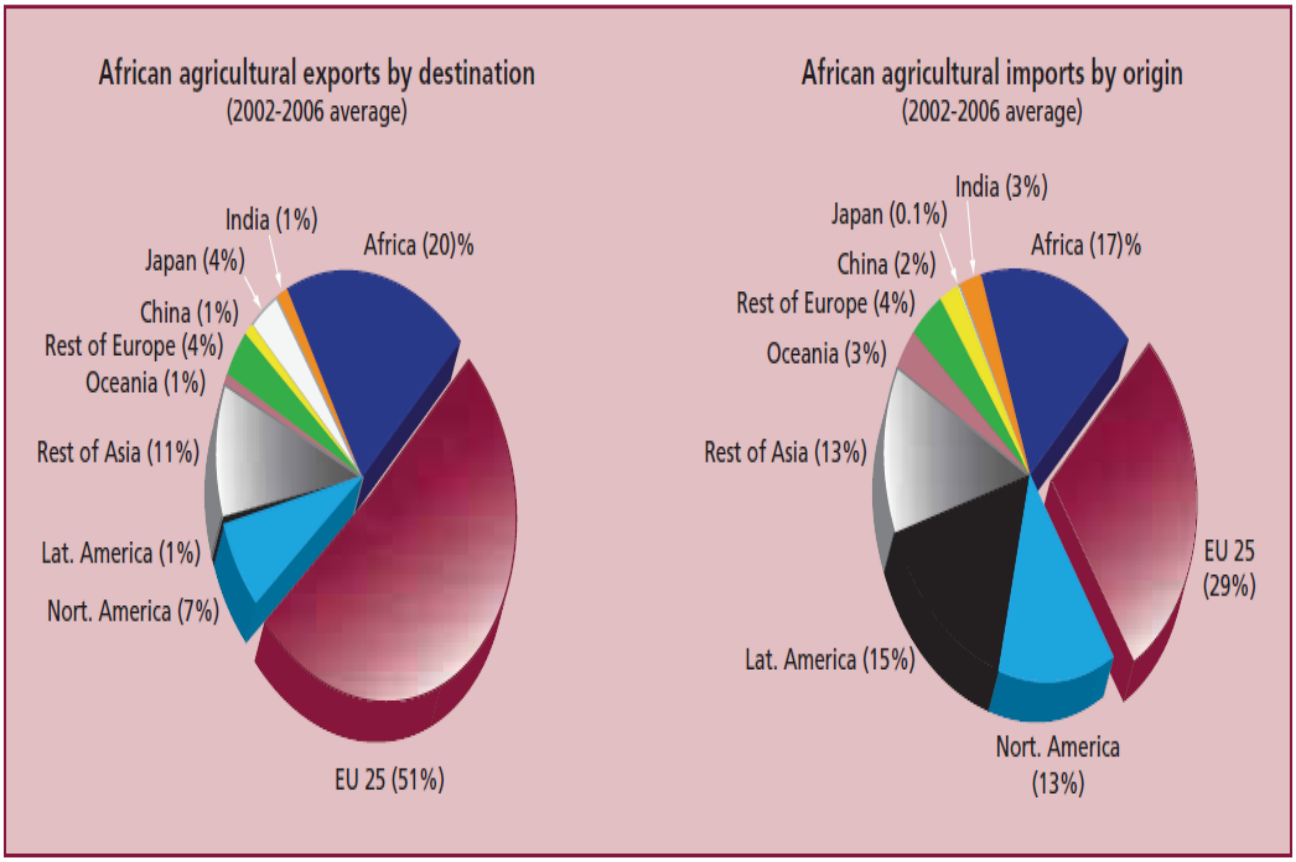

Figure 2-13 African agricultural imports by origin and exports by destination

Source: FAO (2012:10)

Similarly, an analysis of food trade (Table 3.1), which reflects value-added agri-products, shows that 19.5% of food exports and 11.9% of food imports are from within the continent. Expectedly, the trade in value-added products is slightly less than the trade in agricultural products mainly due to the manufacturing deficit on the continent. The comparative advantages in Africa remain in primary agrarian production, due to the relatively abundant arable land on the continent compared to the rest of the world.

Table 3.1 reflects that the continent has the potential to feed the world. However, the illustration therein shows that the export focus of the continent is on natural products such as cereals, live animals and minimally processed foods such as dairy and meat products. Contrastingly, highly processed foods such as coffee, tea and spices are imported mainly from outside the continent, even if the production is predominantly within the continent. Numerous factors (FAO, 2012, 2018a) are touted for this imbalance, and this needs to be addressed by studies such as this.

Table 2.7 Intra-Africa food trade vs rest of the world

	Africa's export to:			Africa's import from:		
	World*	Africa	% of intra-trade	World*	Africa	% of intra-trade
	million USD			million USD		
Cereals	975	656	67.3	10 546	643	6.1
Oils and Fats	82	34	42.0	409	46	11.3
Oilseeds	952	238	25.0	2 706	218	8.0
Dairy products	229	127	55.4	2 320	168	7.2
Meat and meat products	334	195	58.5	1 312	86	6.6
Sugar	1 364	506	37.1	1 830	367	20.0
Vegetables and fruits	4 599	365	7.9	1 864	428	23.0
Beverages	978	306	31.3	804	203	25.2
Live animals	347	212	61.1	196	54	27.8
Coffee, cocoa, tea	5 147	513	10.0	842	344	40.8
Spices	179	20	11.0	117	34	28.9
Miscellaneous food products	2 334	253	10.8	1 353	302	22.3
Total	17 520	3 423	19.5	24 299	2 892	11.9

Source: FAO (2012:10)

From the ongoing discourse, it is evident that intra-regional agri-trade and FDI have the potential to manage food insecurity by linking areas of surplus to areas of deficit, particularly in countries where integration with the rest of the world is challenging (Brooks & Matthews, 2015). The need for an efficient intra-regional trade system is more pronounced with climate change, where many regions on the continent have had overwhelming climatic effects on their agribusiness. Trade is a tool to manage food-related challenges and often sets the platform for OFDI (Goh et al., 2012). FAO (2018a:49) writes:

> Trade affects each of the four dimensions of food security through its impact on incomes, prices and inequality, the stability of supply, linking food-deficit areas with food-surplus areas, as well as food safety, variety and quality of food products, all of which help determine the food security and nutrition of individuals.

An analysis of intra-Africa trade in agri-products shows that most transactions happen within regions (Figures 3-3 to 3-6). The concept is valid for all areas except southern and eastern Africa that have utilised the Common Market for Eastern and Southern Africa (COMESA) to bridge the two regions (FAO, 2018). Infrastructural challenges when linking regions are still prevalent in Africa. Gilliam (2011) say that African infrastructure was designed to extract commodities from the continent, rather than the promotion of intra-Africa trade. Additionally, rail systems were the transport linkages that were initially installed. Rail systems can ferry bulk, but are slow and eventually need complete overhauls to compete with road transport (Gwilliam, 2011; Moyo, 2015), especially because of cost implications that make rail transportation more desirable.

Figure 3-3 shows that central African countries mostly trade with countries in the same region with some minimal trade with northern and to a lesser extent with western Africa. There is minimal trade with eastern and with southern Africa.

Relevantly, the minimal agri-trade with southern Africa and South Africa shows that there is relatively minimal interaction between central African and SA businesses and trading environments. Initiatives by SA agribusiness MNCs in this region were hence pioneering initiatives and prone to experimental and often unsuccessful endeavours.

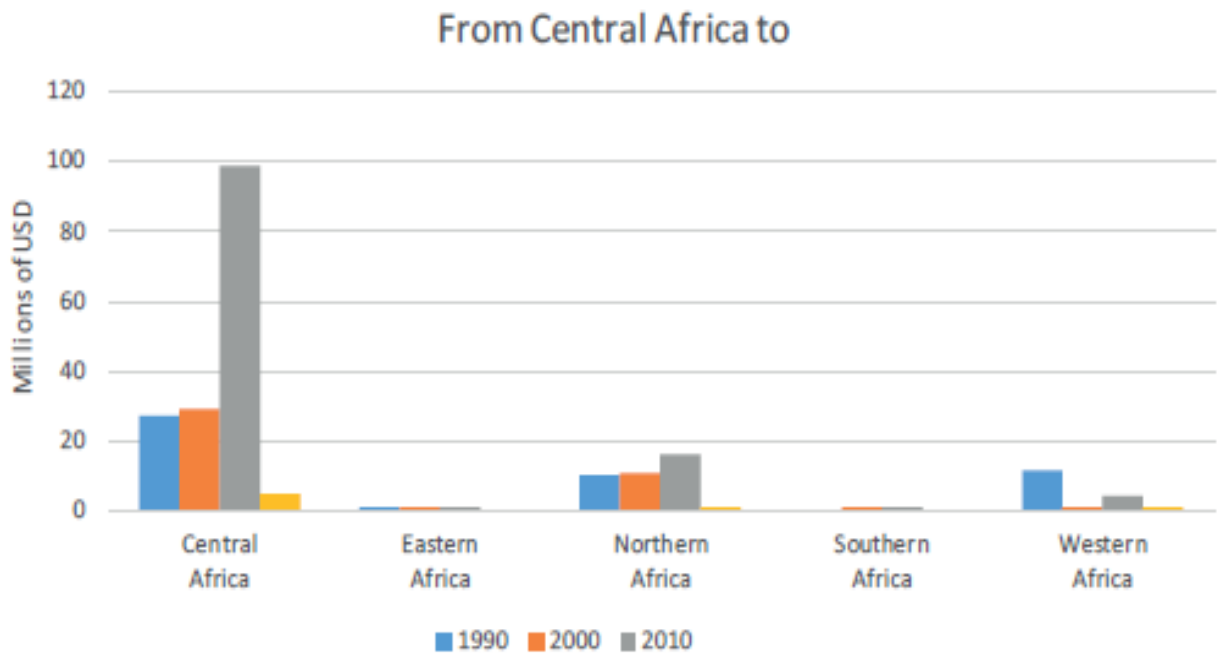

Figure 2-14 Intraregional exports of agricultural products - from Central Africa

Source: FAO (2018a:47)

Western Africa is an important region in Africa, as it houses major economies within the continent. The intra-regional trends in Figure 3-4 illustrate that agri-trade within western Africa is significant and on the increase.

In contrast, dealings with central and northern Africa are also on the increase. However, it is dwarfed when compared to intra-regional trade within west Africa. Agri-trade between west and east Africa, two of the most enterprising regions in Africa, is negligible.

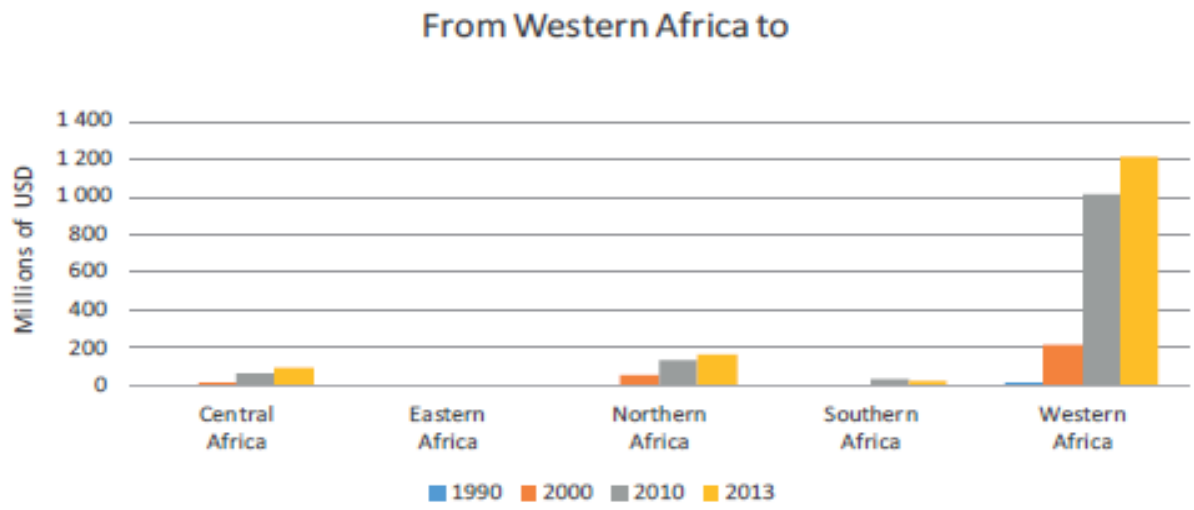

Figure 2-15 Intraregional exports of agricultural products - from western Africa

Source: FAO (2018a:47)

From Figure 3-4, it is evident that agri-trade between western and eastern Africa is almost non-existent. Although this form of trade relationships exists between western and southern Africa, it is negligible as compared to those of west and north Africa. Although western Africa is geographically far from southern Africa, there are numerous linkages between the two regions. This distance also becomes less relevant when noting that there is more trade between African countries and other continents.

As discussed above, trade is often a prelude to FDI as it assists in better understanding of markets and strengthening of intra-regional relationships, which is important to the choice of home and host nations in FDI market selection. It is noteworthy that SA MNCs have invested in western Africa, predominantly in Nigeria and Ghana. However, these investments were predominantly in retail and service-related sectors, which has produced mixed results with success stories and some challenging investments that alluded to an under-appreciation of the environment.

Eastern Africa and southern Africa have stable relationships, as shown in Figure 3-5. There is significant trade between COMESA and SADC, which incorporates the second-largest eastern African economy of Tanzania. Eastern Africa is a popular destination for SA MNCs, attributable to the strong trade, business and historical relationships between the two regions (FAO, 2018a).

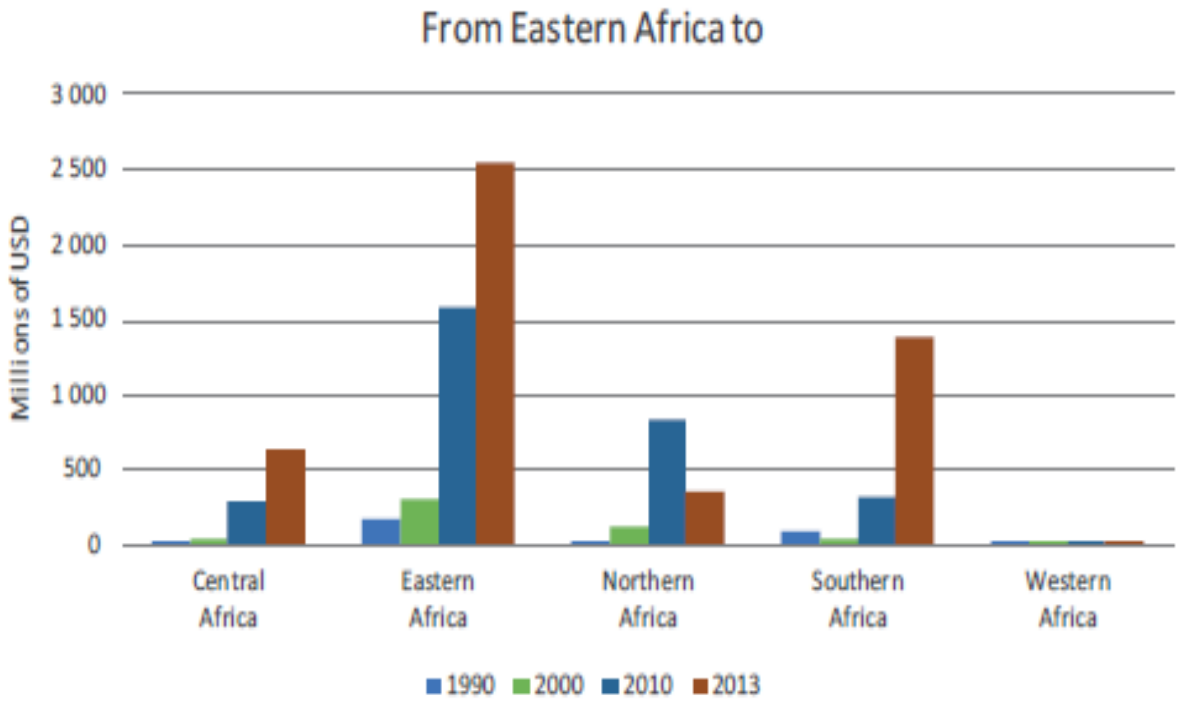

Figure 2-16 Intraregional exports of agricultural products – from eastern Africa

Source: FAO (2018a:47)

From Figure 3-5, the prevalence of SA MNCs in eastern Africa and the high level of agri-trade between the two areas substantiate the correlation between strong inter-regional relationships and preferred host nations in FDI location (Sauvant et al., 2013; Olsen & McCormick, 2017). In addition, the prominence of north Africa in agribusiness relationships across regional arrangements in Africa is conspicuous, which further negates the argument regarding the role of distance in this regard. It must also be pointed out that eastern Africa shares a good deal of agribusiness trade relationships with central Africa, but such relationships with west Africa is minimal.

Southern Africa is the home region for South Africa, under the auspices of the SADC. General relationships between South Africa and the rest of SADC are firm, and there are substantial business and trade dependencies on South Africa by the SADC countries (Egu & Aregbeshola, 2016; PwC, 2018). The SADC region is also the most popular destination for SA MNCs due to the proximity of the countries, historical relationships, and the influence of the SADC. Although the poor handling of political

instability in the SADC in the region has been criticised, it has performed relatively well in integrating and liberalising the area from a business and agri-trading point of view, as reflected in the graph below (FAO, 2018a).

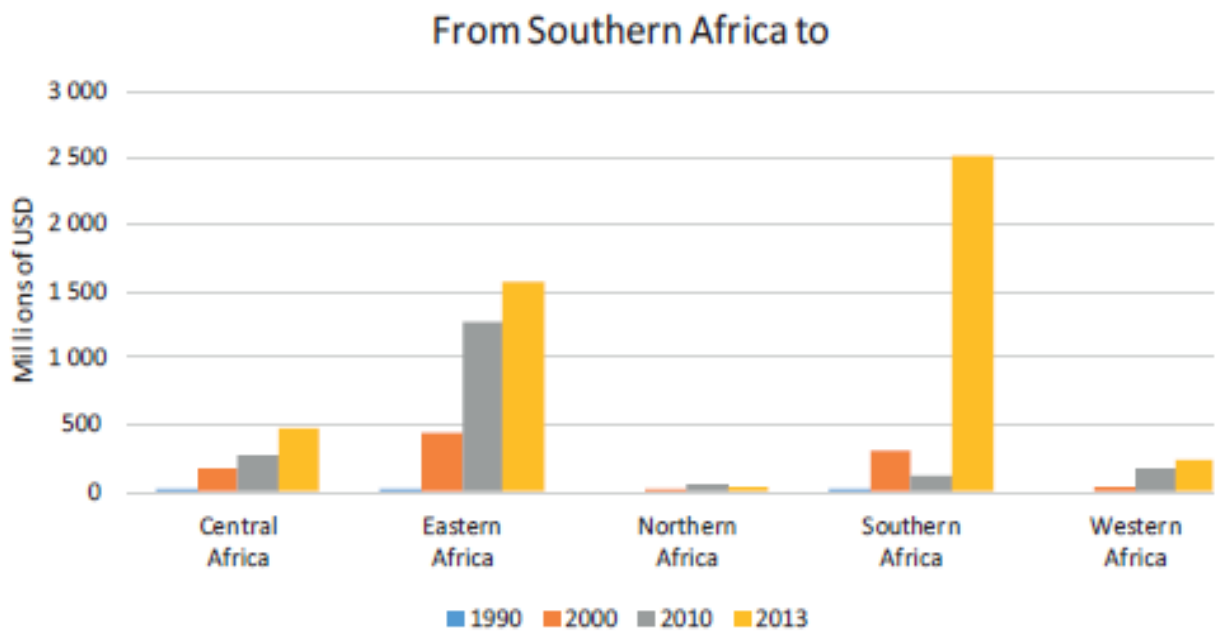

Figure 2-17 Intraregional exports of agricultural products – from southern Africa

Source: FAO (2018a:47)

According to Figure 3-6, intra-SADC trade has benefited SA MNCs who trade and invest in SADC countries due to their superior entrepreneurship and business expertise relative to the regional average (Aregbeshola, 2016; Egu & Aregbeshola, 2016; UNCTAD, 2017). The figure further suggests that the trade relationship between southern Africa and eastern Africa is robust and huge, while a similar relationship can be seen between southern Africa and central Africa, albeit smaller. It may be said that a smaller trade relationship also exists between southern Africa and western Africa, which is far better when compared to the north-African experience.

Although trade relationships exist between southern Africa and the rest of the continent, this is far less than the kind of trade volume exchanged with the other continents. According to Table 3.2, the only African countries in the top fifteen export destinations from South Africa are SADC countries. As discussed, the relationship

between trade and FDI is one that portrays different viewpoints in literature (Goh et al., 2012; Paul & Benito, 2018). However, the consistent position is that countries that engage in some business activity have a better degree of familiarity with, and by inference, understanding of the attributes of their business environments (Goh et al., 2012; Paul & Benito, 2018). Consequently, Table 3.2 reflects that SA MNCs are more familiar with the SADC region than any other parts of the continent.

Table 2.8 The top 15 export destinations for 2019 from South Africa ($ value)

1. China: US$9.6 billion (10.7% of total South Africa exports)
2. Germany: $7.5 billion (8.3%)
3. United States: $6.3 billion (7%)
4. United Kingdom: $4.7 billion (5.2%)
5. Japan: $4.3 billion (4.8%)
6. India: $4.1 billion (4.6%)
7. Botswana: $4.1 billion (4.5%)
8. Mozambique: $3.7 billion (4.1%)
9. Namibia: $3.6 billion (4%)
10. Netherlands: $2.9 billion (3.2%)
11. Belgium: $2.7 billion (3%)
12. Zambia: $2.1 billion (2.3%)
13. Zimbabwe: $2 billion (2.2%)
14. United Arab Emirates: $1.6 billion (1.8%)
15. South Korea: $1.5 billion (1.7%)

Source: Workman (2020)

According to Table 3.2, the largest importer of goods from South Africa is China, closely followed by Germany, the United States and the United Kingdom. The largest African importer of SA goods and services is Botswana, closely followed by Mozambique and Namibia, while Zambia and Zimbabwe complete the tally of the top-15 importers list from South Africa.

3.4 Informal intra-Africa agri-products trade

The statistics in the previous section refer to formal trade and hence must be analysed in the context that they only reflect a portion of the trade relationships that exist between the sampled sub-regions. It is important to note that a significant component of intra-Africa trade is in the form of informal, cross border trade (ICBT), and this is more pronounced in agricultural trade than any other industry (Afrika & Ajumbo, 2012).

As indicated earlier, agribusiness employs most of the citizens in Africa, and agricultural trade satisfies the basic needs of many rural communities around sub-Saharan African borders. The magnitude of agri-informal trade infers that formal organisations engaging in agribusiness need to compete with the substantial ICBT in agri-products. Although there are some benefits to informal trade, it brings challenges to governments in terms of regulation and planning as discussed earlier. The primary commercial beneficiaries of informal trade in agribusiness are usually informal traders (Afrika & Ajumbo, 2012; Rakotoarisoa et al., 2012). They capitalise on poor infrastructure and regulation to generate unproportionate margins that leave the producers impoverished and governments unable to improve infrastructure (Rakotoarisoa et al., 2012).

ICBT is noteworthy in agribusiness products as reflected in Table 3.3. The table reflects that informal trade in non-processed foods and semi-processed foods is significant in sub-Saharan Africa. As such, agribusiness MNCs involved in FDI in the rest of the continent need to factor in the effect of the informal trade into their strategies. Ignoring the significance of agri-ICBT or adopting strategies designed for a formal agri-environment, such as the one in South Africa, would certainly be problematic in the informal-dominated agri-environment in many parts of sub-Saharan Africa.

Table 2.9 ICBT product analysis sub-Saharan Africa

Classification	Products	Category
Non-Processed	Fruits, dried and fresh fish and other marine products, wild vegetables, roots/tubers, spices, poultry products, livestock, grains, pulses, unprocessed coffee beans.	Foodstuff
Manufactured/ Semi- Processed	Hides and skins, paintings and handicrafts, woven clothing (kenteh), iron implements, mortars etc.	Non-Foodstuff
	Sugar, edible oils, new and used clothing, dairy products, packaged beverages, soft drinks and juices, salt, agro-chemicals, cosmetics and toiletry products, confectionery and wheat products, plastic products, beer,	Industrial Products
	Hardwood, precious metals, jewelry, charcoal, gum Arabic, insects and insect products, rare poultry and game	Minerals and Forest Products
Re-Exports	Manufactured foodstuff, tobacco, petroleum products, electronic appliances, shoes, apparel, tools, spare parts, and simple machines	Re-Exports
Sub-standard and counterfeits	Fuels, precious metals, dairy products, banned goods.	Miscellaneous

Source: Afrika & Ajumbo (2012:10)

ICBT is prevalent due to weaknesses in the institutional processes of border control, tax administration, business registration, barriers to trade, miseducation and misinformation, and hurdles to licencing (Lesser & Moise-Leeman, 2009; Hitimana et al., 2011; Afrika & Ajumbo, 2012; Brooks & Matthews 2015; FAO, 2018a).

The FAO (2018a:49) reports that in southern Africa, ICBT accounts to 30–40% of total intra-SADC trade, amounting to perhaps as much as USD 17,6 billion a year. For Uganda, according to this source, data indicates that informal exports to neighbours are about 86% of official exports and 19% of official imports, and informally traded agricultural products are about 75% of official agricultural exports. In eastern Africa, the informal cattle trade makes up of 85% of the total in 2011.

Similarly, in western Africa, for Mali and Burkina Faso, official statistics may account for only one-third of the actual value of intraregional livestock trade (Josserand, 2013). Informally traded maize accounts for about 40–45% of all officially sold maize – and 31% of all traded maize – between the Democratic Republic of the Congo, Malawi, Mozambique, the United Republic of Tanzania, Zambia, and Zimbabwe. Finally, ICBT accounts for between 20% of GDP in Nigeria to 75% in Benin. Indeed, 15% of Nigerian imports are informal and arrive through the Benin–Nigeria border.

SA agribusiness MNCs that have invested or intend to invest in the rest of the continent need to contend with the same institutional weaknesses that promote ICBT, according to Figure 3-7. It is also important to note that MNCs have to craft strategies that are capable of countering the competencies of ICBT, which include lower transaction and quality requirements (PwC, 2018).

Figure 2-18 Enablers of ICBT in Africa

Source: Afrika and Ajumbo (2012:11)

SA MNCs need to pay corporate tax in host countries, in addition to border fees and transactional taxes. Quality control of foodstuffs for formal trade is meticulous at borders and costs involved in processes such as aflatoxin testing are relatively expensive and time-consuming (Lesser & Moise-Leeman, 2009; Hitimana et al., 2011; Brooks & Matthews, 2015). Finally, transaction speed is vital in business competitiveness, especially in agribusiness, where perishable goods have a short life span. The formal process at the borders profoundly affects the efficiency and competitiveness of conventional organisations such as SA agribusiness MNCs (PwC, 2018).

Table 3.4 gives an illustration of the direct and indirect costs linked to ICBT. Agribusiness is predominantly the business of perishable goods with minimal margins (especially unprocessed goods). Official cross border trade is affected by direct costs such as documentation, border fees, transportation, and other regulatory charges. Further, there is an indirect effect of delays and bureaucracy. Whereas the direct costs affect the thin margins, the indirect costs can have catastrophic cost implications on the perishability of goods. Regardless of the quality of production and internal operations of an agribusiness MNC, the mismanagement of the border process can destabilise the value chain and must be integrated into the business model (PwC, 2018).

Table 2.10 Activities contributing to costs arising from official import- and export-related regulations

Direct costs	Indirect costs
• Complete and supply documents to the relevant authorities (e.g., customs declaration, certificate of origin, phytosanitary certificate, bill of lading etc.)	• Long delays at the border causing depreciation costs (e.g., due to spoilage of perishable food products)
• Payment of border agency fees and charges (e.g., administrative and inspection fees, license fees, consular fees, terminal handling charges, etc.)	• Unreliable customs clearance and arbitrary application of regulations, leading to lack of predictability in the trading environment
• Compliance with other formalities which bear additional expenses (e.g., conformity assessments with technical regulations, insurance, pre-shipment inspections, customs brokers, etc.)	• Loss of business and foreign investment opportunities (e.g., for goods that need to be delivered just-in-time), leading to loss of international competitiveness
• Transportation and storage costs	

Source: Lesser and Moise-Leeman (2009:19)

3.5 Food security in Africa

Agribusiness plays a vital role in curbing food insecurity in Africa (Rakotoarisoa et al., 2012; FAO, 2018a; SA Government, 2018). However, as per Rakotoarisoa, et al., (2012) and the FAO (2018a), food security in Africa has been declining since the 1960s, while net food imports of basic food commodities have been increasing steadily.

Figure 3-8 illustrates the changing trend. Food imports into the continent surpassed food exports in 1980 with the trend becoming sharper in the 21st century. The trend is attributed mainly to other parts of the world aggressively adopting technology and increasing productivity. In contrast, most of the continent has shown stunted progress in this regard due to institutional and socio-political challenges (FAO, 2018a).

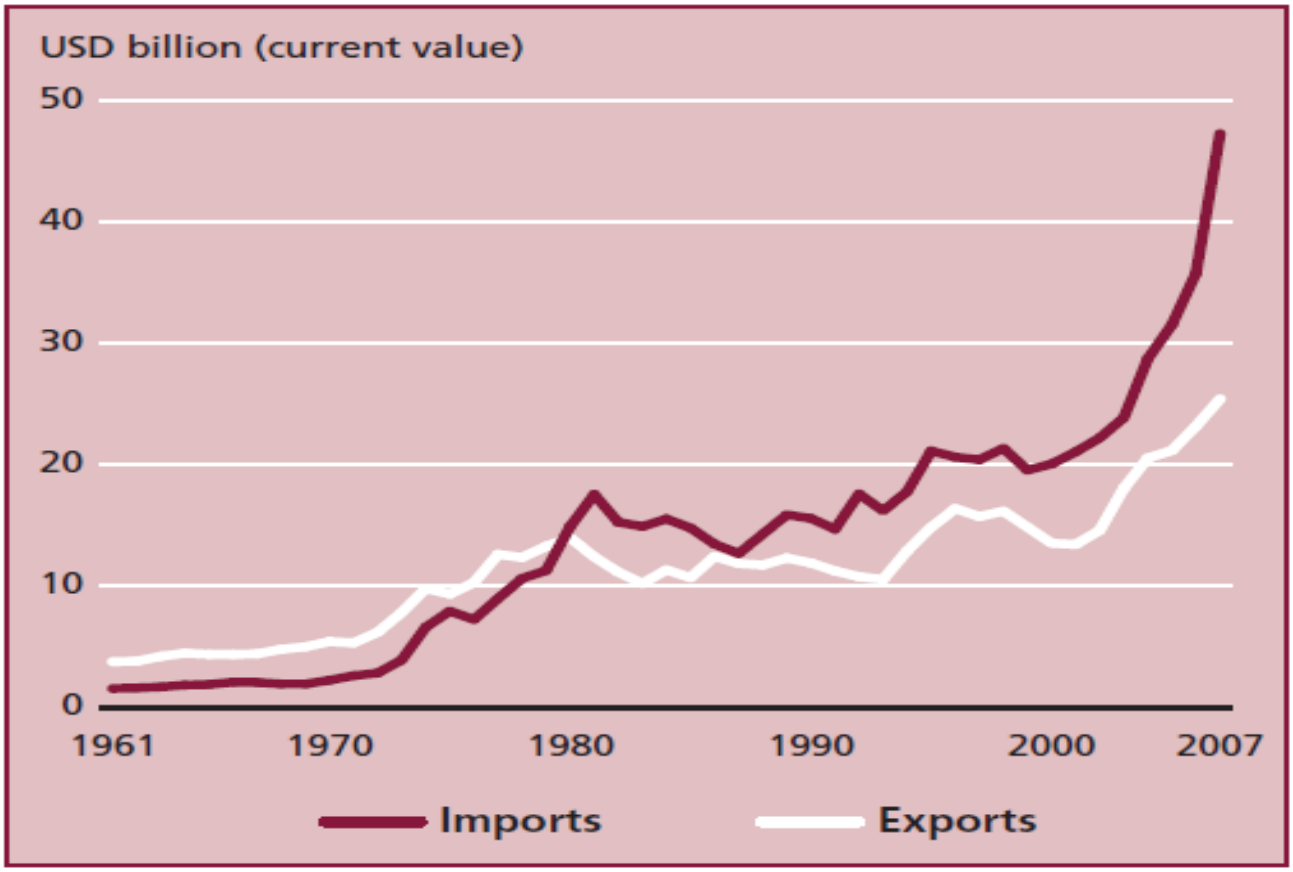

Figure 2-8 African imports and exports of agricultural products

Source: FAO (2012:14)

The rise of food imports into sub-Saharan Africa is attributed to institutional issues of low productivity, inconsistent government policies, civil unrest, high population growth, weak institutions, poor intra-Africa integration and poor infrastructure mentioned above. Global economic conditions, weak commodity prices and insufficient preparedness for climate change exacerbate these challenges (Thurow & Kilman, 2009).

As briefly discussed earlier, net food importation alone does not necessarily imply food insecurity, as some countries alleviate this with exports in other industries (Rakotoarisoa et al., 2012; Greyling, 2015; FAO, 2018a). However, Table 3.6 below reflects that all regions of Africa have had declining food security indices measured according to the food insecurity experience scale (FIES).

The FIES index is a measure developed by the FAO. It is a questionnaire method that seeks answers to the following questions:

Was there any time over the past 12 months, where due to money or other resources:

1. You were worried you would not have enough food to eat?
2. You were unable to eat healthy and nutritious food?
3. You ate only a few kinds of foods?
4. You had to skip a meal?
5. You ate less than you thought you should?
6. Your household ran out of food?
7. You were hungry, but did not eat?
8. You went without eating for a whole day?

Table 2.11 Prevalence of severe food insecurity (measured using FIES) in the world, Africa, and its subregions, 2014–2017

	Prevalence of severe food insecurity			
Region	2014	2015	2016	2017
World	8.9	8.4	8.9	10.2
Africa	22.3	22.4	25.4	29.8
Northern Africa	11.2	10.0	11.7	12.4
Sub-Saharan Africa	25.0	25.2	28.6	33.8
Central Africa	33.9	34.3	35.6	48.5
Eastern Africa	25.9	25.4	29.7	32.4
Southern Africa	21.3	20.4	30.8	30.9
Western Africa	20.7	21.9	23.8	29.5

Source: FAO (2018a:7)

The apprehension with rising food insecurity in Africa is that the continent has immense potential in agribusiness due to its large areas of arable land and a relatively young population. However, Africa is a net importer of food, mainly due to low productivity, slow adoption of technology, inconsistent government policies, high population growth, weak institutions, poor intra-Africa integration and inadequate

infrastructure (Thurow & Kilman, 2009; Rakotoarisoa et al., 2012; Brooks & Matthews, 2015; Shaban, 2017; FAO, 2018a).

The net importation of food into Africa by 2017 was $35 billion (African Development Bank, 2017), up from $20 billion in 2010 (FAO, 2018a:45). Furthermore, Rakotoarisoa et al., (2012) state that this net food importation of basic commodities also affects more affluent countries on the continent such as South Africa, although export earnings from other industries mitigate this deficit in the wealthier countries as highlighted. It is concerning that food imports cover all aspects of agribusiness. It includes basic foodstuffs such as cereals, meat and meat products, edible oil and fats, sugars, and dairy products which substantiates that food security in Africa is dependent on other continents (Rakotoarisoa et al., 2012; FAO, 2018a). OFDI is recognised as one of the solutions to food insecurity in Africa, as it is an avenue to commercialise agribusiness operations in Africa and provide much-needed deficiencies in knowledge, skills, technology and agricultural infrastructure (Cheru & Modi, 2013). Skills from leading agribusiness countries on the continent, such as South Africa, are recognised as a channel to achieve food security in Africa, albeit with significant management of socio-economic and political dynamics within host countries. There is a clear agricultural production, value-addition and services gap within the African food value chain, and some SA MNCs have ventured into the rest of Africa to capitalise on these gaps.

3.6 Agriculture

Newman et al. (2016) explain the African business model to be one mainly based in agriculture and natural resource extraction. Newman et al. (2016), and Christiaensen and Demery (2018) add that agriculture is the leading industry in Africa in terms of influence on the economy, employment, and the general socio-economic landscape of the continent. The agricultural component of agribusiness plays many roles in the agri-industry, including food producer, foreign exchange earner, employer, capital source, buyer of the input industry and supplier to the agri-processing industry (Greyling, 2015).

Therefore, agriculture is the substratum of agribusiness, and its functionality and development are crucial for the advancement of other aspects of agribusiness. Agriculture is also critical in alleviating the high youth unemployment and related

challenges in Africa as the performance in agriculture in most countries mirrors the performance of the entire economy (Rakotoarisoa et al., 2012; Newman et al., 2016; FAO, 2018a; SA Government, 2018).

As per Figure 3-9 below, the FAO (2018a) states that due to rising populations, agriculture will continue to employ the most people in many sub-Saharan countries. However, the youth are rapidly leaving agriculture as they find agricultural work hard with low rewards. They also suffer from a lack of land, financial services, access to markets, access to policy dialogue and skills (Christiaensen & Demery, 2018; FAO, 2018a).

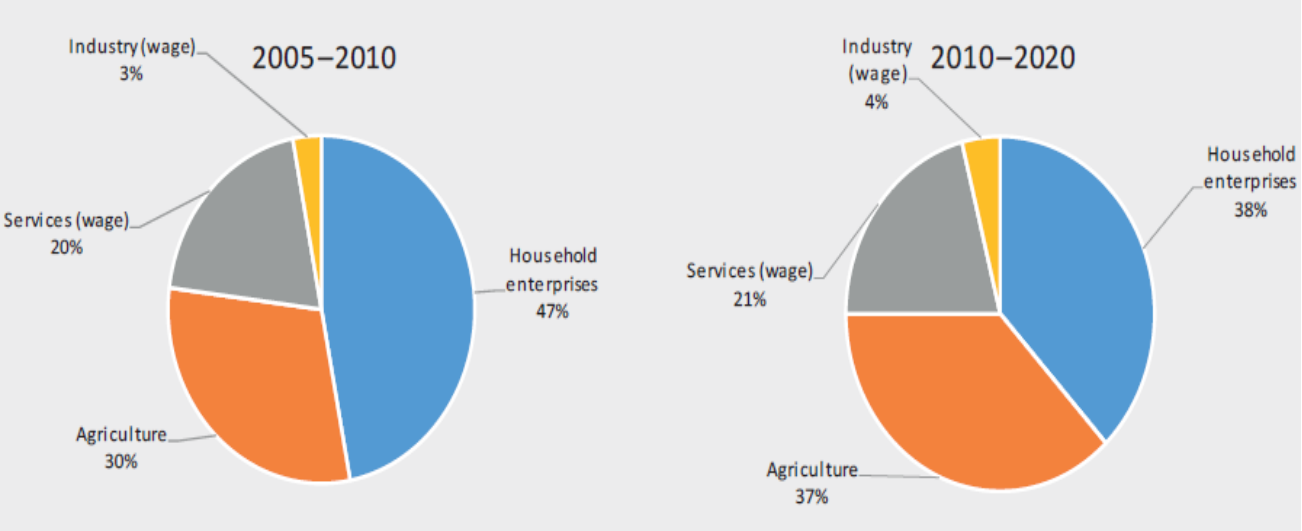

Figure 2-9 Estimates of the current and future structure of employment in sub-Saharan Africa: 2005–2010 and 2010–2020

Source: FAO (2018a:33)

It has been stated that sub-Saharan Africa has some of the most fertile land in the world, but still relies on food aid. The irony is that food aid is persistent, regardless of the climatic conditions (Thurow & Kilman, 2009). As noted by Thurow and Kilmann (2009), when the harvests are good, prices collapse, and when yields are minimal, there are food shortages throughout the continent.

Despite its importance to many economies in Africa, agriculture has remained archaic in its adoption. Farming methods have remained the same or marginally improved over generations, as evidenced by yields when compared to the rest of the world (Webber & Labaste, 2010; Whitfield, 2016).

An examination of the productivity of selected staples done by the FAO (2012) illustrates that there has been little progress in growing this industry from a subsistence-farming base. Issues such as land tenure, slow adoption of mechanisation and other technologies, the informal markets, civil unrest, and other political challenges, among other issues, agonise the mostly small-scale farmer element of farming in Africa. Whereas the rest of the world has doubled productivity from the 1960s to the 2000s, that in Africa has risen by 59.6% (FAO, 2012:31).

Land tenure has had devastating effects in Zimbabwe and other parts of the continent (Cheru & Modi, 2013). Nonetheless, it is essential to emphasise that information and statistics in Africa must always be examined responsibly. For instance, there are often breaks in employment that may affect productivity (Christiaensen & Demery, 2018).

Beierlein et al. (2014) write that increased agricultural productivity has commercialised farmers in the developed world. The domino effect of the increased specialisation of farmers has created an even more specialised agri-processing industry, which in turn has led to more affordable food for consumers. As agriculture is the foundation of agribusiness, its development is crucial for the agribusiness value chain to evolve.

Concerningly, innovations such as improved seed and fertiliser are still perceived as luxuries by many small-scale farmers in Africa (Rakotoarisoa et al., 2012), with fertiliser uptake on the continent at an average of 11.2 kg per hectare, compared to a world average of 123.6 kg per hectare (FAO, 2012). The low fertiliser uptake has a direct bearing on the production yields on the continent, which subsequently influences food security and its related challenges. The institutional challenges experienced on the continent contribute to low fertiliser uptake (Rakotoarisoa et al., 2012; FAO, 2018a).

Nevertheless, like numerous scholars, Christiaensen and Demery (2018) warn that the information available on Africa is not accurate and has often led to misinformation. For instance, Christiaensen and Demery (2018) challenge common assertions across the continent, such as perceptions that farmers lose more than 30% of their production after the harvest and that women form most of the labour force in farming, are unproven and debatable. However, there are consistent positions, such as that agriculture in most of Africa is conducted by small scale farmers, and uptake of

technology is slow, although exact statistics will often be unavailable. It is also generally accepted that most challenges in the continent are policy driven (Thurow & Kilman, 2009; FAO, 2018a).

Contrastingly, the SA agricultural industry is widely commercialised, having benefited from progressive policies over centuries. The advancement of the SA agribusiness industry provides opportunities for SA agribusiness MNCs to transfer this model to the rest of the continent. However, it also poses potential challenges as SA agribusiness MNCs have developed competencies and skills in a vastly different environment from the rest of the continent, which can cause a misalignment in terms of OFDI planning and implementation (Newman et al., 2016; Bijaoui, 2017; Lopes, 2019).

3.7 Agri-processing

Beierlein et al. (2014) write that the production of food on a global scale is higher than the demand, primarily driven by developed countries. Developed countries have managed to achieve this through specialisation and technology, where advancements in agri-processing and input supplies have allowed the farmers to focus on primary production development. However, Africa is a net importer of food, and this is more pronounced in processed food (Rakotoarisoa et al., 2012. The processed food deficit in Africa is a consequence of the lag in agri-processing technological advancement, resulting in the production and export of raw, low-value products (Rakotoarisoa et al., 2012; Moyo, 2015 Newman et al., 2016; Bijaoui, 2017; Lopes, 2019). The deficiency in agri-processing echoes the processing and manufacturing deficit of the continent in all industries.

Agri-processing and agri-value addition have been a challenge for Africa. It is one aspect of agribusiness that could transform agribusiness in Africa into a high-value venture, completing the agri-value chain and addressing issues such as creating wealth and attracting youth to agribusiness (Brooks & Matthews, 2015; FAO, 2018a). The low skill set in this field compounds the challenges of Africa with agri-processing. The FAO (2018a:34) states:

> Only 2% of African university graduates specialize in agriculture, and only 4% of graduates study engineering, manufacturing, and construction. Nearly 80% of youth

aged 25–34 working in agriculture have primary schooling or less, including 40% with no education at all.

Furthermore, research has shown that the initial stages of developing an agri-processing industry benefit from direct government policies and intervention to protect the industries from market challenges and shocks that are usually calamitous on new participants (Rakotoarisoa et al., 2012). Developed countries have managed to lead in agri-processing with the support of their governments directly and indirectly through measures such as subsidies and tariff protection. For instance, import tariffs in OECD countries are significantly higher for processed foods (Rakotoarisoa et al., 2012). In addition to tariffs, other barriers include stringent testing and certification, customs procedures, quotas, quantitative restrictions, and labelling and branding requirements.

King and Ortmann (2007) note that co-operatives have been effective in North America and Europe in providing reliable avenues for governments to influence agribusiness development directly. In Africa, government intervention has often failed due to weak farmer institutions such as co-operatives. King and Ortmann (2007) add that South Africa is the exception. In South Africa, the Native Land Acts (No. 27 of 1913) (see Republic of South Africa, 1913) and (No. 18 of 1936) (see Republic of South Africa, 1936), removed native black people from prime arable land. Further, SA (white-owned) agribusinesses received government subsidies through co-operatives from the early 1900s to the 1990s, through the various legislated and legislative arms. For instance, the Land Bank (established in 1912) gave subsidised credit, the Co-operative Societies Acts (No. 28 of 1922) (see Republic of South Africa, 1922) and (No. 29 of 1939) (see Republic of South Africa, 1939) controlled input supplies and other agri-services, and the Marketing Act (No. 26 of 1937) (see Republic of South Africa, 1937) oversaw the marketing of agri-products. These measures, implemented for nearly a century, essentially created and formalised agribusiness monopolies for co-operatives that enabled them to become competitive and sustainable locally, regionally, and internationally.

South Africa is a leading agricultural country on the continent, being a net exporter of agricultural products and having a relatively developed agri-processing industry. In 2017, South Africa exported R126,82 billion compared to imports of R86,86 billion (SA

Government, 2018), though high-value products such as wine were the main contributors to the exports (Greyling, 2015).

However, the relative maturity of the SA agri-processing industry has not translated into agri-processing OFDI in sub-Saharan Africa (PwC, 2018). Figure 3-10 below lists the most prevalent challenges experienced by the SA agri-processing MNCs in the rest of Africa. The most pervasive are institutional challenges that include access to technology, access to finance, labour unrest, and inadequacy of necessary infrastructure.

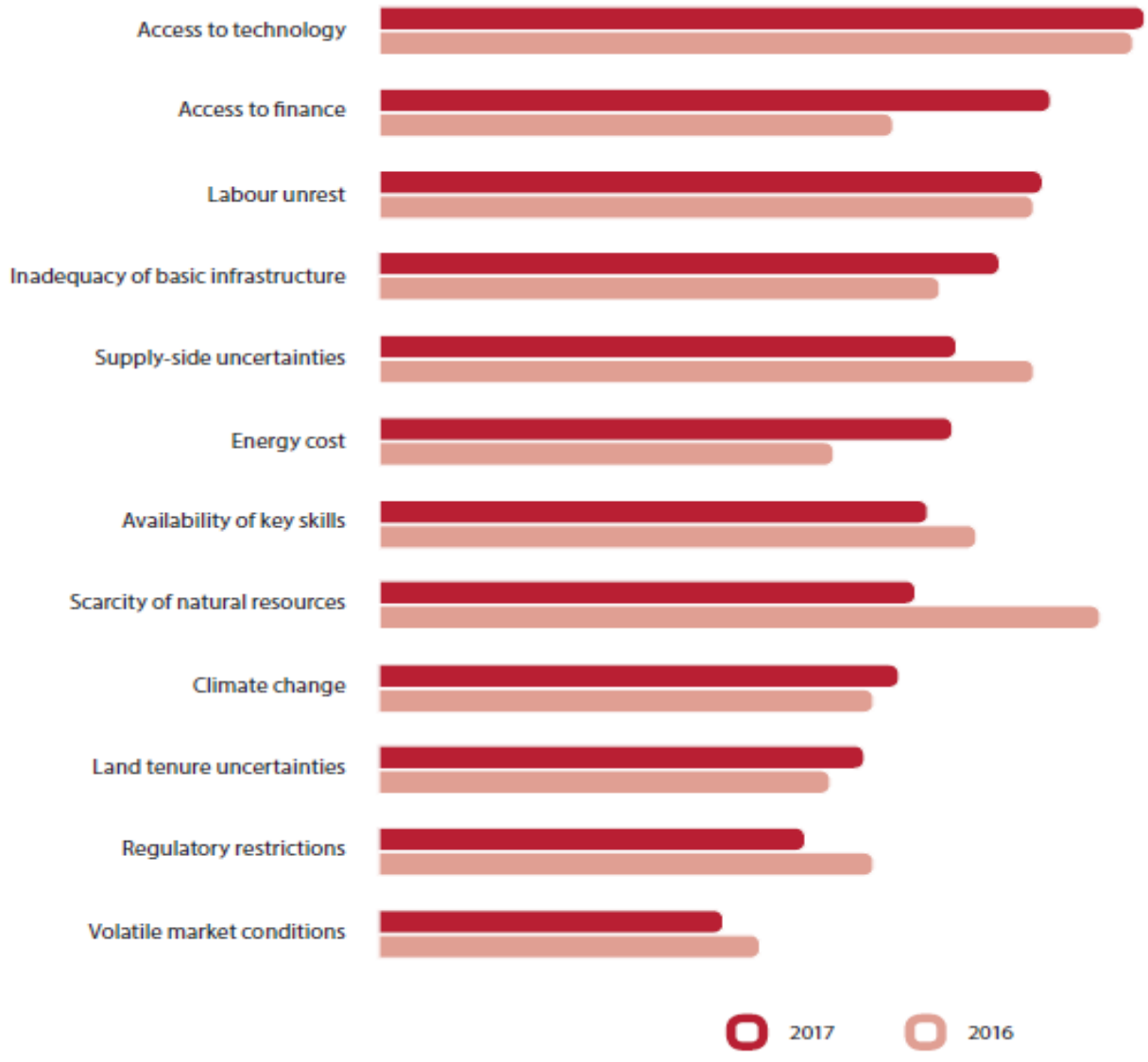

Figure 2-10 SA MNCs' biggest challenges to agri-processing investment in Africa according to agribusiness CEOs

Source: PwC (2018:8)

These challenges place SA MNCs in the difficult position of having to solve these institutional challenges on behalf of host states, reducing their focus on business management, which is where their skills and competencies lie.

3.8 Agri-technology

Farming and farming technologies have been evolving for centuries. Beierlein et al. (2014) state that agri-technology has evolved into a high-paced global phenomenon that seeks to address the food requirements of a growing population. These advancements have included mechanisation, yield-enhancing genetically modified inputs and improvements in agri-processing.

Due to technology, developed countries such as the United States, have seen significant changes in the agribusiness landscape. These include productivity increases due to input advances (Figure 3-11) and the reduction of manual labour due to mechanisation (Figure 3-13 to 3.14).

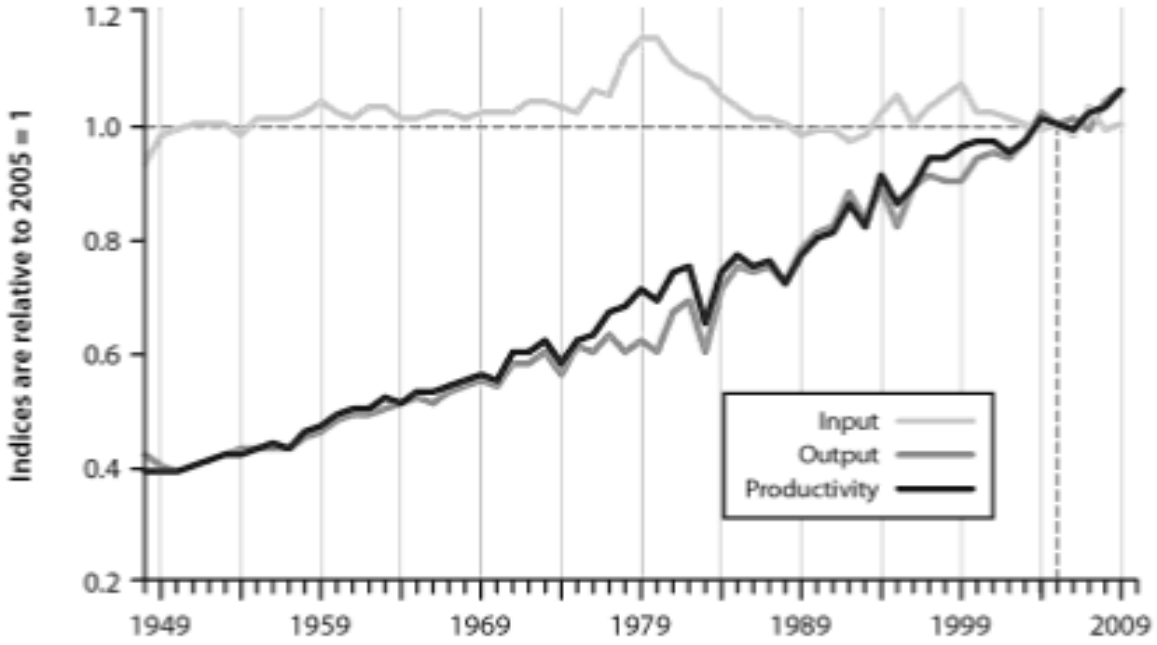

Figure 2-11 Farm productivity in the United States

Source: Beiernien et al. (2014:13)

The figure above shows that farm productivity in the United States more than doubled with similar input from 1949 to the turn of the century. The productivity increase is

attributable to the uptake of technology in all aspects of farming. Productivity increase with the same input in agribusiness means that there is more economic growth, increased exports, reduced imports, and reduced consumer prices for products.

Furthermore, increased productivity means the industry is less labour intensive as illustrated by Figure 3-12 below, subsequently leading to reduced costs.

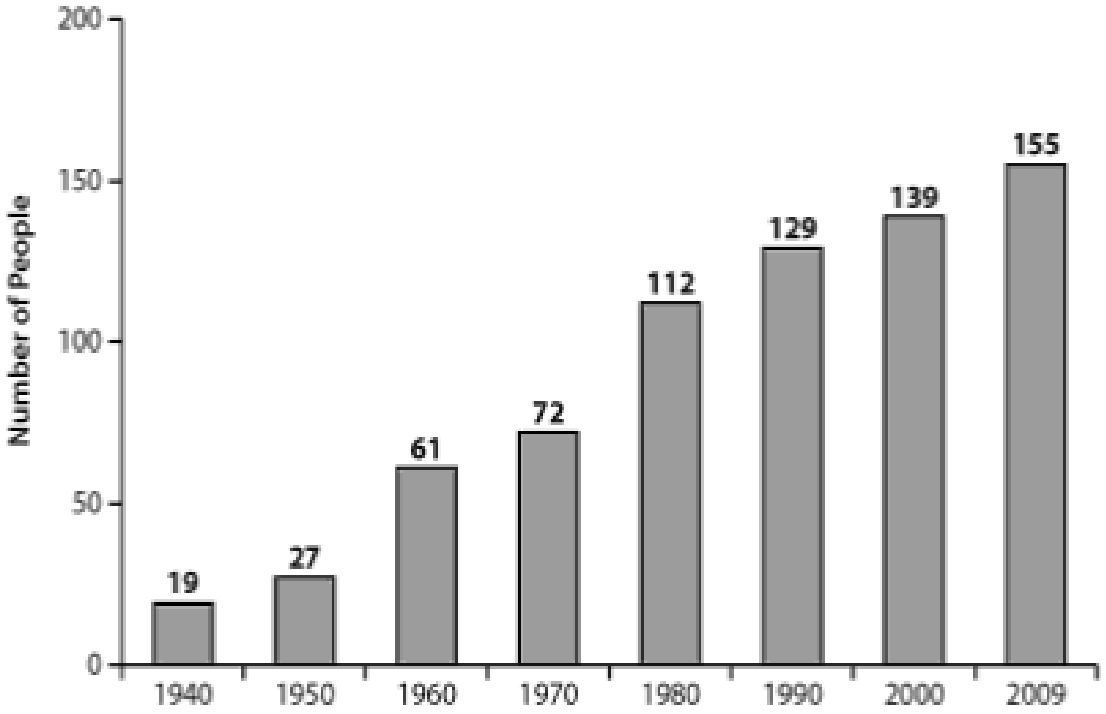

Figure 2-12 Number of people fed per farm worker in the United States

Source: Beiernien et al. (2014:13)

The oxymoron that faces the African continent has often been to foster the adoption of technology in agribusiness, without compromising employment. Beiernien et al. (2014), Ford (2015), and the World Economic Forum (WEF) (2012) concur that adoption of technology does not necessarily lead to job losses. Instead, the reduction of farm workers needed for the same output (Figure 3-13) through technology has led to the need for more skilled labour with better wages, working conditions and shorter working hours across the agribusiness value chain.

Ford (2015) warns that the transition from unskilled to skilled labour may be an uncomfortable process as the development in technology is often at a faster rate than

the skills development process, especially in developing economies such as sub-Saharan Africa. The inadequate skills development has rendered the continent incapable of absorbing the benefits of technological advancements in agri-equipment.

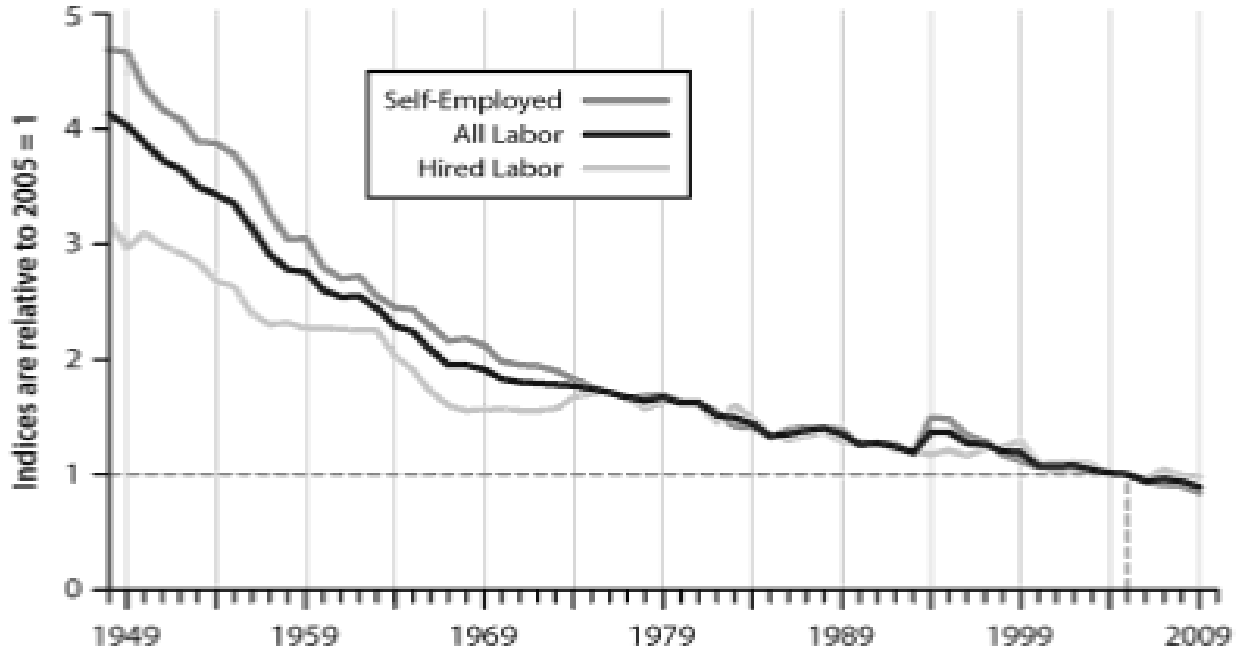

Figure 2-13 Hours of farm work per acre planted in the United States

Source: Beierlein et al. (2014:14)

Over the last seven decades, technology has achieved time efficiencies, especially in developed countries (Figure 3-14). However, agri-technology adoption in Africa is lagging (Larsen et al., 2009). One of the main challenges highlighted for the lag in adoption is that technology developed in developed countries is often inappropriate for the African environment (Juma, 2015; Leakey, 2017).

An analysis of food production in Africa per capita (Figure 3-14 below) shows stagnant productivity over a protracted period. Food production per capita compared to the rest of the world, is also illustrated in the graph. Whereas food productivity in Africa has stagnated as discussed above, the food production per capita in the world over the same period, shows a steady rise in productivity. The graph validates that the rest of the world has been improving food production with similar natural resources, reiterating the global improvement of farming methods.

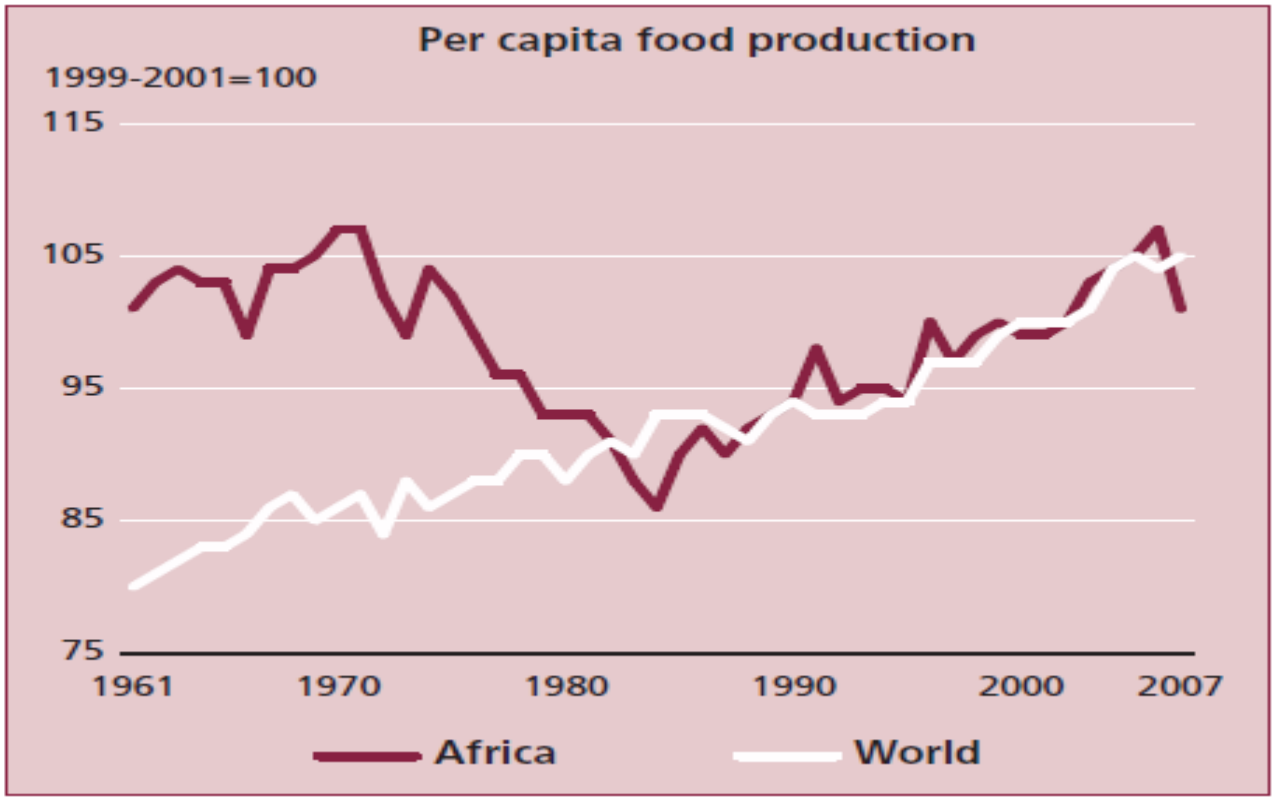

Figure 2-14 Africa per capita food production vs the world

Source: FAO (2012:31)

The fragmented small-scale farmer landscape, lack of education, slow uptake of or resistance to technology (such as in the case of genetically modified inputs), high costs of technology adoption, inappropriate technology, limited research initiatives and the general socio-political state of African countries over generations are all factors in the inadequate productivity improvements in Africa (Larsen et al., 2009; Rakotoarisoa et al., 2012; Ebi, Mearns & Nyenzi, 2018; FAO, 2018a).

Each generational evolution of farming is coupled with new challenges and has needed to develop technology to counter the challenges. Authors such as Dinar, Hassan, Mendelsohn, Benhin (2009) and more recently Leakey (2017), have been raising alarm bells regarding the need to modernise farming in Africa. Modernisation is highlighted as crucial to mitigate the effects of climate change, the subsequent effects on the ecosystem and other factors that may affect the evolving state of agriculture in Africa. These scholars observe that climate change, for instance, is a reality and will influence agriculture, but disclaim that the extent of the effect is a global

mystery. Whitfield (2016) adds to this notion by stating that farming takes place in an environment of changing climates, technologies, regulations, and markets. Though the future is not predictable, resilience to changes is possible. A myriad of unverified assumptions determines the future in agriculture and agribusiness at any given point. The uncertainty renders the industry challenging for agribusiness OFDI strategies, as they need to be well-grounded in both business management and technology (Beierlein et al., 2014).

3.8.1 Mechanisation

Research shows that mechanisation has revolutionised global agriculture and farming processes. Beierlein et al. (2014) highlight that agriculture in the United States benefited from the innovations of mechanisation initiatives from innovators like John Deere. However, Africa has also lagged in industrialisation, recording the lowest adoption of mechanisation in the world (see FAO, 2012). The FAO (2012) reports that tractors per 100 km of arable land in the world have risen from an average of 114.7 in the 1960s to 214 in the 2000s, with high income countries moving from 117 to 609.2 in the same period. Contrastingly, sub-Saharan Africa tractor adoption was 16.3 tractors in the 1960s and dropped to 13.4 in the 2000s. Further, most of the machinery produced is not conducive to the architecture of most African countries (Rakotoarisoa et al., 2012; Juma, 2015; Leakey, 2017).

The lack of appropriate machinery that is cost-effective and is aligned to the African landscape can be attributed to the African manufacturing deficit that has been highlighted in this study. The continent is reliant on developments in mechanisation from other parts of the world which may not fully grasp the mechanisation requirements of the continent. This deficiency is an opportunity for the more industrialised countries on the continent, such as South Africa, to unravel the manufacturing deficit in Africa.

Agri-technology has become pertinent with the challenges of climate variability and climate change, with continents, countries and companies that have embraced technology being more resilient to its effects than those who did not do so (Juma, 2015; Ebi et al., 2018). Although some technologies such as artificial intelligence, precision farming, robots and GPS will remain expensive for the average farmer in

Africa, new innovations such as drone technology seek to bring more affordable alternatives in the long term (PwC, 2018). Juma (2015) adds that considerable success has been achieved where African-appropriate technology is deployed on the continent. For instance, Juma (2015) exemplifies the EWallet seed system in Nigeria that enabled 14 million farmers to receive seed through the system over three years. The same method was also used to source $1 billion worth of fertiliser and $300 million worth of seed.

3.9 Climate variability and climate change

The terms climate variability and climate change are frequently used interchangeably. The World Meteorological Organisation (WMO) defines climate variability as changes in climate that may occur as an isolated, random, or irregular occurrence. Contrastingly, climate change is a changing trend in weather patterns that is of a long-term or even permanent nature (WMO, 2019). The WMO generally uses the yardstick 30 years as a period to assess and substantiate climate change trends.

Weather and climate are also often confused. Ebi et al. (2018:24) of The World Health Organisation (WHO) clarifies the difference in the following manner:

> The terms weather and climate often are used interchangeably, but they actually represent different parts of the same spectrum. Weather is the day-to-day changing atmospheric conditions. Climate is the average state of the atmosphere and the underlying land or water in a region over a timescale. Put more simply, climate is what you expect, and weather is what you get. Climate variability is the variation around the mean climate; this includes seasonal variations and rare events such as the El Niño/Southern Oscillation.

Climate variability is a growing threat to agribusiness and food security, particularly in sub-Saharan Africa where climate variability is aggravating rising levels of food insecurity (Brooks & Matthews, 2015; Whitfield, 2016; FAO, 2018a). As illustrated in Figure 3-15 below, climate changes are not a new phenomenon and are predictable with reasonable accuracy (Ebi et al., 2018). However, it is concerning that many world leaders are still ignorant of this substantiated and scientifically proven phenomenon.

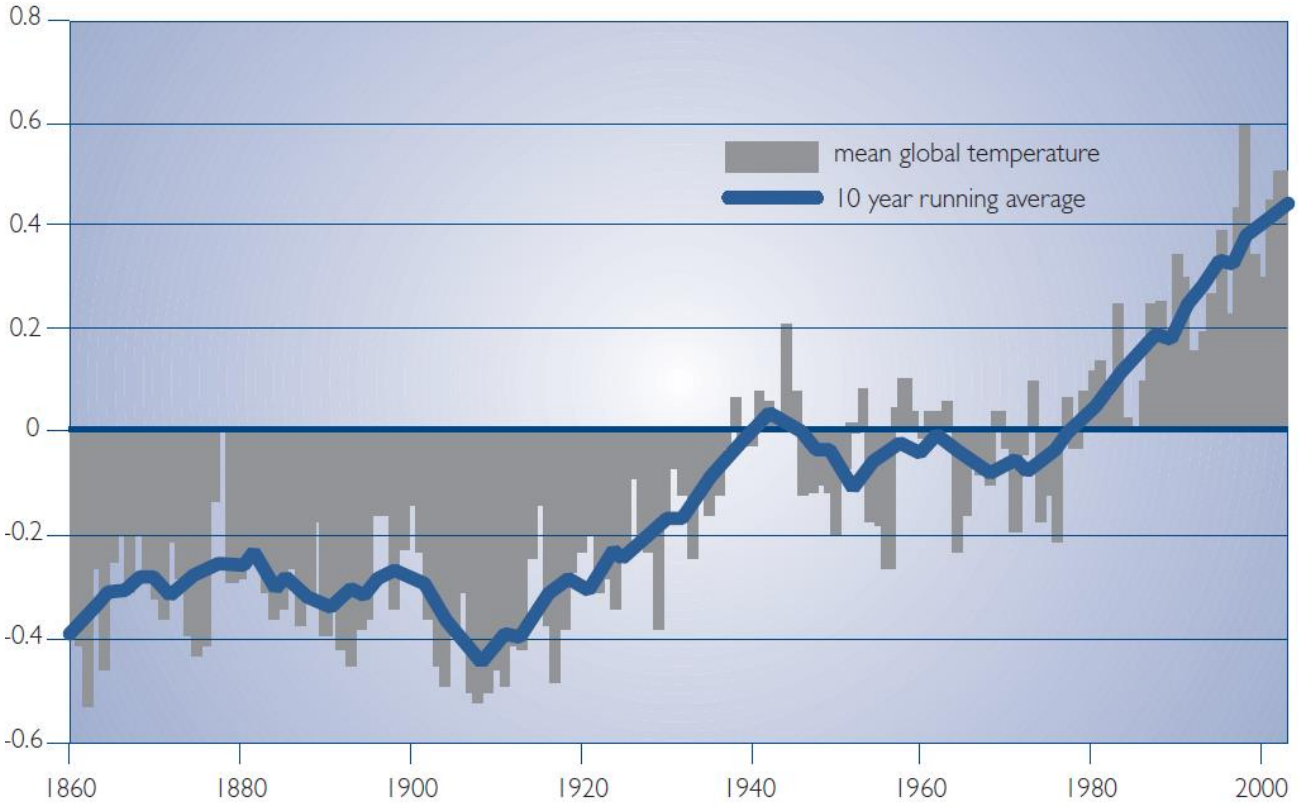

Figure 2-15 Global combined annual land-surface, air, and sea surface temperature anomalies (°C) from 1861–1990

Source: Ebi et al. (2018:28)

The WMO (2019) reports that the period between 2015 and 2019 was the hottest in history with low precipitation in Africa, particularly in southern and eastern Africa. 2016 and 2019 were the two hottest years in history (WMO, 2019). This trend, which has affected agriculture and agribusiness in Africa, was predicted in the previous decade and is forecasted to continue over the next decade (WMO, 2019). However, governments and regional organisations in Africa are moving slowly to pre-empt changes in climate resulting in a negative effect on agribusiness and economies, subsequently leading to food insecurity and other socio-economic ills (Brooks & Matthews, 2015; FAO, 2018a; SA Government, 2018). In many instances, climate information is available within countries or regions. Still, the challenge is often in managing the communication to farmers in a manner that will guarantee the implementation of climate variability mitigations (Whitfield, 2016). The crux of the matter in this illustration is that most tragedies were avoidable or could at least have been mitigated with proactive policies.

The effects of climate extremes are more pronounced in Africa where slow uptake in intra-regional trade, weak infrastructure, systems and planning make the continent prone to natural disasters (Rakotoarisoa, et al., 2012; Brooks & Matthews, 2015; Moyo, 2015; Whitfield, 2016). Extreme climatic events have affected many countries on the African continent negatively. In Africa, there has been economic damage of $670 million and 16 million people have been affected across the continent by extreme climatic events (FAO, 2018a:63). In addition to destabilising agribusiness, these extremities rob the continent of critical human resources required in agribusiness.

The FAO (2018a) reports that agricultural production yields have been directly affected by climate change, thereby affecting the whole agribusiness value chain. The El Nino effects alone have threatened the food security of 60 million people in Africa (FAO, 2018a:75). As agribusiness is the primary means of survival for the African population, the effects are catastrophic for agribusiness and the general population. Failure to plan proactively for climate change has led to the deteriorating viability of agribusiness within Africa where agriculture is mostly rain-fed and relies directly on climate.

Nonetheless, there have been isolated initiatives such as the efforts to introduce drought-resistant maize varieties or the expanding of conservation agriculture in Zambia and Malawi (Whitfield, 2016). Conservation Agriculture (CA) is a process where practices such as crop rotation promote soil preservation.

SA agribusiness MNCs have been affected by climate variability in South Africa and across the continent. However, MNCs that are proactive and invest in technology and innovation, have mitigated the impact.

3.10 FDI in agribusiness in Africa

As stated above, agriculture is the foundation of agribusiness. OFDI into other aspects of agribusiness is hence highly reliant on the success of OFDI into agriculture. In addition to general FDI attractiveness parameters discussed above, FDI inflows in agriculture in Africa have not kept up with the rest of the world due to a myriad of factors that are determinants of FDI inflows. These include land tenure, weak infrastructure, low adoption of technology, low productivity, limited research initiatives, insecurity and conflict, inadequate regulation of the industry and a lack of a committed young labour force (Pradhan, 2011; Ciesielska, 2012; Rakotoarisoa et al., 2012).

However, the scarcity of arable land and water globally means investment in agribusiness FDI has become more attractive in some instances (Lesser & Moise-Leeman, 2009).

Part of the literature-based hypothesis of this study states that infrastructural investment promotes FDI. The table below reflects that in 1980, agrarian infrastructural investment into other developing regions such as Asia and Latin America, were comparable to Africa in 1980. However, the disparity has increased since then due to the issues stated above. The reduced agri-infrastructural investment infers a reducing policy focus on agribusiness on the continent.

Table 2.12 Estimated gross capital formation in agriculture (1980–2007) millions of USD and percentage share in total

Region	Value (USD million)						Share in total gross capital formation (%)					
	1980	1990	1995	2000	2005	2007	1980	1990	1995	2000	2005	2007
World	**215 585.6**	**272 894.8**	**279 923.8**	**255 830.7**	**386 403.3**	**525 413.0**	**7.5**	**5.5**	**4.4**	**3.7**	**4.0**	**4.4**
Developed economies	77 677.0	112 885.7	112 177.9	97 233.8	122 049.5	145 681.1	3.9	2.9	2.3	1.9	1.8	1.9
Developing economies	104 336.1	115 161.8	155 359.5	150 929.7	248 042.7	354 478.2	16.8	14.0	11.5	9.8	9.2	9.3
Africa	**20 117.1**	**15 870.5**	**14 004.9**	**14 317.8**	**22 336.6**	**34 617.8**	**18.5**	**17.3**	**14.2**	**14.1**	**12.9**	**13.9**
N. Africa	4 757.1	6 115.4	5 375.6	5 836.2	7 525.8	11 754.8	12.1	15.1	11.7	11.8	10.3	11.6
W. Africa	10 119.6	3 317.9	2 711.5	2 697.2	5 732.2	10 157.4	30.2	31.8	31.5	27.6	30.6	31.5
Centr. Africa	1 260.3	1 458.0	1 177.8	1 058.1	1 899.6	2 589.3	22.0	24.6	25.7	20.5	16.4	15.7
E. Africa	1 751.2	2 796.1	2 512.9	3 030.8	4 654.8	6 630.7	37.3	40.7	36.2	34.4	33.1	32.0
S. Africa	2 228.9	2 183.1	2 227.3	1 695.5	2 524.2	3 485.6	8.7	7.8	6.9	5.9	4.6	4.5
LAC	**16 573.1**	**21 636.0**	**23 386.3**	**21 530.4**	**28 145.2**	**44 837.9**	**8.5**	**9.6**	**6.9**	**5.5**	**5.8**	**6.2**
S. America	10 600.1	15 683.6	18 669.2	13 771.3	19 390.0	33 620.3	8.4	10.1	7.0	6.1	6.7	7.1
Centr. America	4 850.0	4 432.5	3 839.7	6 663.3	7 620.6	9 767.7	8.9	8.5	6.8	4.8	4.6	4.6
Caribbean	1 122.9	1 520.0	877.5	1 095.7	1 134.6	1 449.9	8.8	7.8	4.6	3.8	3.3	3.4
Asia	**67 272.5**	**77 235.1**	**117 414.2**	**114 662.8**	**197 028.2**	**274 435.0**	**21.2**	**15.3**	**13.0**	**11.0**	**9.8**	**9.7**
West Asia	4 332.2	8 903.2	10 408.8	10 075.9	12 414.4	19 378.2	6.3	11.6	10.3	8.5	5.8	5.8
South, East and S.E. Asia	62 940.3	68 331.9	107 005.3	104 586.9	184 613.7	255 056.8	25.2	16.0	13.3	11.4	10.2	10.2
Oceania	373.4	420.1	554.1	418.8	532.7	587.5	20.1	15.4	16.3	14.7	10.8	10.1
S.E. Europe & the CIS	**33 572.5**	**44 847.3**	**12 386.4**	**7 667.1**	**10 311.2**	**25 253.7**	**11.4**	**19.0**	**10.5**	**10.6**	**7.4**	**6.2**
S.E. Europe	3 109.4	2 038.8	1 478.3	1 269.1	2 556.9	3 517.3	13.6	17.2	18.8	14.9	10.5	10.3
CIS	30 463.1	42 808.5	10 908.1	6 398.0	13 754.3	21 736.3	11.2	19.1	9.9	10.0	7.1	5.8

Source: FAO (2012:46)

Policies in home and host countries encompass most of the challenges in attracting FDI into the continent (Kononov, 2010; Pradhan, 2011; Ciesielska, 2012; Alcaraz et al., 2017). Although there have been some instances of progressive agricultural

policies, the governments on the continent are still prone to sporadic decisions such as border closures in food crisis periods that directly affect socio-political stability and FDI attractiveness (Li et al., 2015). Political instability or risk can be firm-specific (where a company has misalignments with the government of a host country), country-specific (where there is a misalignment between the home and host countries) and global (where global issues such as terrorism might affect the operations of an MNC) (Lu et al., 2017).

SA MNCs face similar challenges as other MNCs when investing in the rest of Africa. It is important to note that FDI in agribusiness by SA MNCs must transcend to be not just investment into extractive agriculture as this might not solve the greater challenge of solving the value addition or agri-processing challenges of the continent. Leakey (2017) adds that OFDI policies targeting sub-Saharan Africa should seek to address farmers' needs, build on local culture and traditions, provide appropriate skills, introduce suitable technology for the environment, encourage diversification, be sensitive to gender, race and age, promote tangible employment opportunities, curb real challenges of hunger and climate change and develop rural communities.

FDI only into agriculture, instead of the whole agribusiness value chain, will supplement the notion that most FDI is extractive. Diversified OFDI will ensure export diversification for host countries which will help with the food security challenges, as well as the total wellbeing of African economies. SA MNCs have been considering diversification options to manage strategic relevance objectives of agribusiness OFDI.

Figure 3-16 demonstrates a viewpoint of diversified agribusiness OFDI strategy initiatives of SA MNCs. The illustration in Figure 3-16 shows that the majority of SA agribusiness MNCs had solid intentions of expanding their product and service offerings within existing product lines. There was also a distinct opinion on MNCs moving into new commodity value chains, which is in most cases problematic and resource consuming. Whereas the majority of MNCs considered this approach as part of their strategy, a significant number had no intention of venturing outside existing value chains.

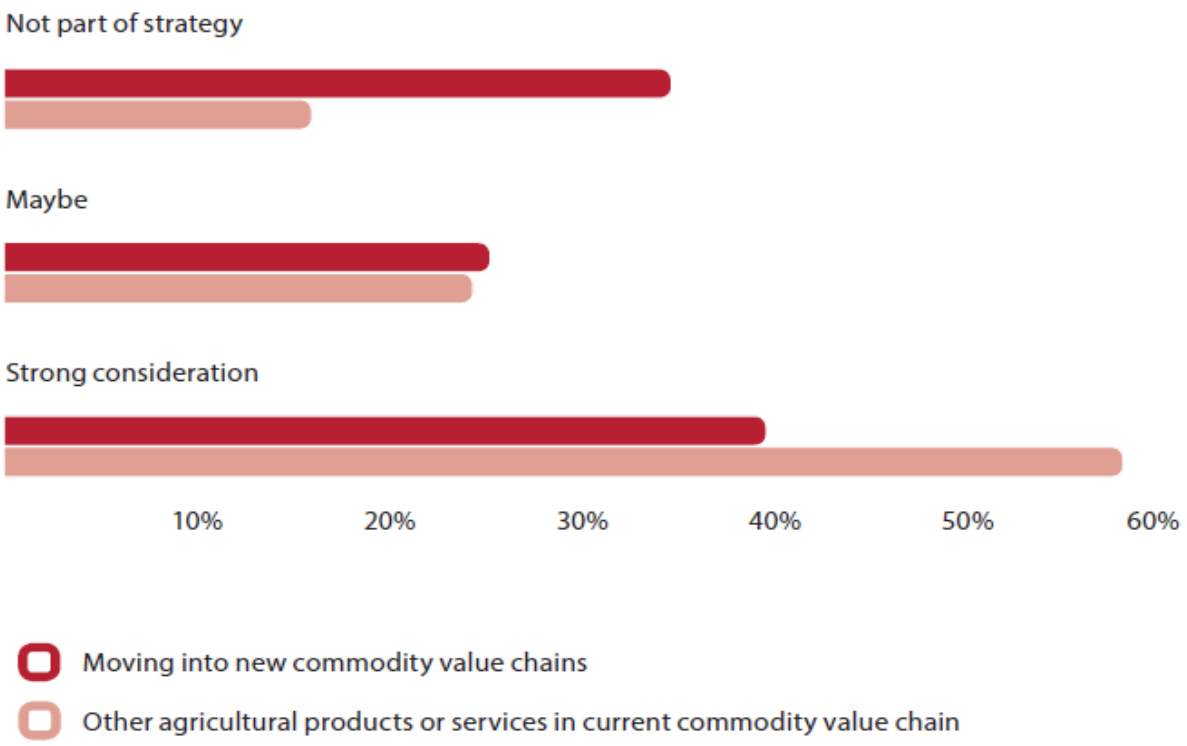

Figure 2-16 SA agribusiness MNCs options for diversification as a growth strategy

Source: PwC (2018:5)

Emerging and developing-market MNCs, such as SA MNCs, have had to build competencies in their OFDI strategies. One of the most difficult processes is the upskilling of human resources to adapt to the dynamics of their host countries (Sauvant et al., 2009). South Africa is relatively new to agribusiness OFDI on the rest of the continent and is prone to these challenges. SA MNCs, though optimistic about agribusiness FDI in the rest of Africa, have treaded cautiously as they have opted to invest in service areas of agribusiness (requiring lower capital injection) and paid less attention to agri-processing (PwC, 2018).

SA MNCs have cited uncertainty in the natural environment and government policies as the main driver for choosing safety and stability strategies, rather than exploratory capital-intensive strategies (PwC, 2018). The critical element of the trade substitution or complementary effect of OFDI as discussed by Goh et al. (2012), needs to be factored into the agribusiness OFDI analysis of SA MNCs. MNCs like Shoprite and Pick n Pay have exhibited elements of both complementing and substituting local trade with some degree of success (De Lonno, 2016).

3.11 SA agribusiness

The contribution of the agriculture industry in 2017 to the GDP in South Africa was 2.7%, and it employs 700 000 people or 4,6% of the total workforce (Greyling, 2015; SA Government, 2018). Although the agrarian percentage contribution to overall GDP is higher than the United States and developed world level of less than 1%, it has been declining (Greyling, 2015). The entire agribusiness sector contributes 10% to the GDP (Greyling, 2015). South Africa is one of the few net exporters of agri-products in Africa, mainly due to the high exportation of non-basic food and beverage products. Thus, as on the rest of the continent, South Africa is a net importer of the main food groups consumed in the country, that is meat, cereals, milk, eggs, and vegetables since the early 1990s (Greyling, 2015). Figure 3-17 below analyses the gradual decline of export of basic agri-commodities since the mid-1970s, showing that South Africa became a net importer of basic agri-commodities from the early-1990s.

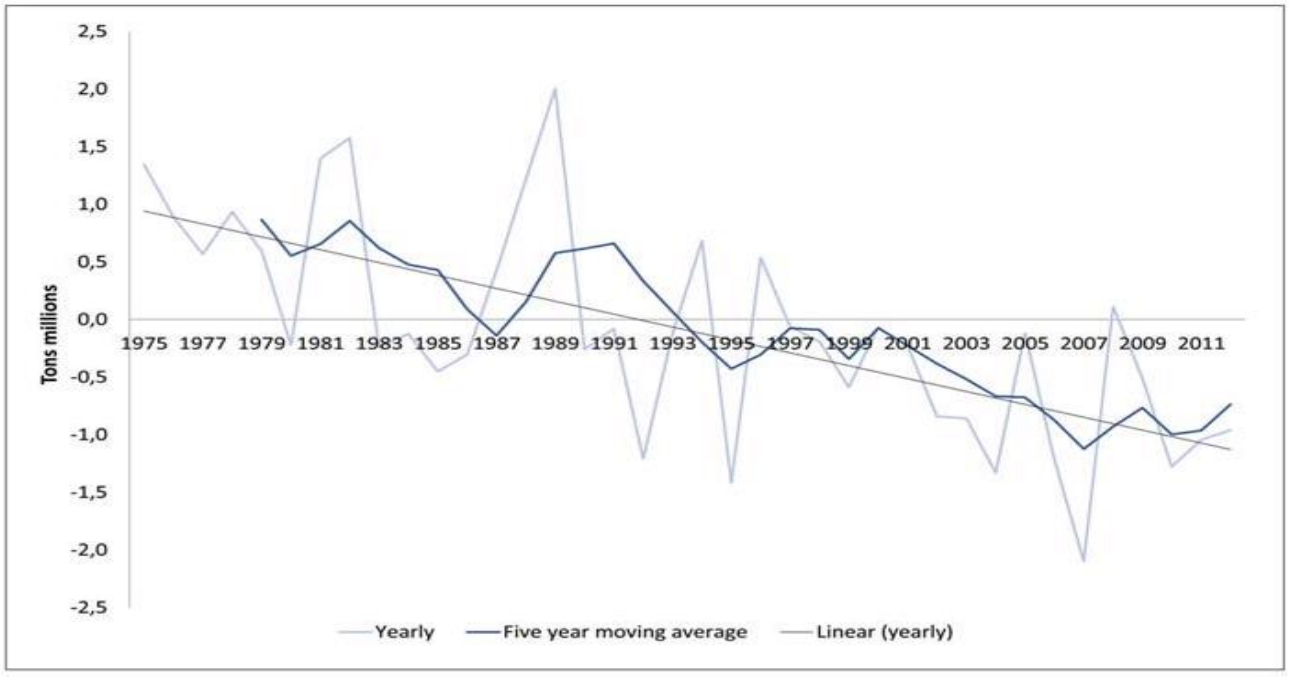

Figure 2-17 SA export quantities of meat, cereals, milk, cheese, eggs and vegetables

Source: Greyling (2015)

Greyling (2015) writes that in South Africa, the liberalisation of the agricultural industry and access to foreign markets has seen a gradual decline in grain prices. The declining grain prices have led to farmers diverting land and attention to exportable products

such as fruit, grapes and wines which now constitute 68% of all food exports from South Africa. The transition has ensured that South Africa remains a net exporter of food products by value due to these innovations.

The rising need for food, particularly basic food groups such as cereals, dairy products and vegetables in sub-Saharan Africa, provides an opportunity for SA MNCs to be innovative in grasping these opportunities. AfCFTA seeks to triple agricultural trade in Africa by 2023 (FAO, 2018a) and due to superior skills, experience and efficiencies, SA MNCs stand to benefit from the eradication of tariffs and harmonising of regulations across the continent. However, SA MNCs also face challenges with institutional inefficiencies in many African countries that affect their competitiveness, and these include informal trade, challenges in regulation, taxation, company registration and corruption, among others (Afrika & Ajumbo, 2012; Matsilele, 2015; FAO, 2018a). These challenges are more pronounced in agribusiness as agribusiness is the largest employer in Africa, rendering it the most difficult sector to regulate (Afrika & Ajumbo, 2012; Matsilele, 2015; FAO, 2018a; PwC, 2018).

The SA agribusiness environment is mostly formal and regulated (Matsilele, 2015; De Lonno, 2016). Furthermore, agri-trade in South Africa is relatively stable with prices in key staples such as maize somewhat stabilised by the free trade environment regulated by platforms such as the SA Futures Exchange (SAFEX). The mostly informal and underregulated setting in the rest of the continent hence makes it a different environment for SA agribusiness MNCs who have developed competencies in a significantly more formal and regulated agribusiness environment (Matsilele, 2015; De Lonno, 2016).

Moreover, challenges of integration with local communities, such as local employment at management level need to be managed as this has been a challenge to many emerging market MNCs such as SA MNCs (Sauvant et al., 2009). These challenges are compounded in agribusiness where the agricultural communities are rural and traditional and not swift in their uptake of new relationships or technologies. A case in point is that South Africa mainly produces and has developed competencies around genetically modified organism (GMO) agrarian products. In contrast, the rest of the continent still mostly favours non-GMO products, as they believe inadequate research has been conducted in the long-term effects of GMOs (SA Agency for Science and

Technology Advancement (SAASTA), 2014). These fundamental differences need to be addressed to foster agri-FDI between SA and the rest of the continent.

The importance of OFDI, especially in agribusiness, is imperative on a continent that has become more reliant on food aid and remittances from African expatriates for food security. An analysis of financial inflows into Africa reveals that FDI inflows are not the main driving force of African economies, as the inflow of OFDI into Africa is comparable to inflow from aid and private remittances (OECD, 2017). Aid and personal remittances are inflows that are more focused on the sustenance of the population than the development of the economy, in many instances promoting the dependency of the continent on the economies of other continents.

3.12 Conclusion

The chapter evaluated the agribusiness environment of sub-Saharan Africa and its relationship to FDI and SA MNCs. Agribusiness was defined as the commercial aspect of the agri-food system that links producers to the consumers. The participants of the agribusiness system were subcategorised to input suppliers, farmers, processors, manufacturers, distributors, and retailers.

The relationship between intra-Africa trade and FDI was examined in the chapter, showing that trade and FDI have diverse associations. These relationships transcend from being those of substitution, complementary and combinations thereof. The importance of intra-Africa trade and FDI in agriculture was recognised as being important in the aspects of food security and economic progression of African countries. The challenges of intra-Africa trade that range from history, policy, infrastructure, trade barriers and poor regional integration were discussed. It was further noted that Africa mostly trades externally, more than within the continent, due to these institutional and infrastructural challenges. These challenges were also attributable to the significant informal trade sector in Africa.

Informal agribusiness in Africa was noted as having some positive effects on the population of the continent, employing a sizeable proportion of the citizens of the continent. It was further highlighted that informal trade was effective in alleviating food insecurity and other socio-economic challenges. However, ICBT also brings about challenges in regulation, depriving states of income, health challenges linked to poor

control of products and for promoting corruption. It hence poses a challenge for governments to control ICBT and policy deficiencies in managing ICBT were discussed.

Food insecurity was itemised as a significant challenge for the continent, and agribusiness as a channel to address this challenge. Africa is a net importer of food due to low production levels of food and numerous infrastructural and institutional challenges. These include, but are not limited to, inconsistent government policies, civil unrest, high population growth, weak institutions, and poor intra-Africa integration which have been compounded by global economic conditions, weak commodity prices and insufficient preparedness for climate change.

It was emphasised that agriculture is the most crucial industry in Africa, employing most of its inhabitants, contributing to food security and the overall socio-economic prosperity of most African countries. It was further noted that agriculture is the foundation for agribusiness and that improvement in agricultural practices was required for Africa to be food secure and influence the expansion of the agribusiness sector on the continent.

Agri-processing was underscored as being challenging for Africa, and this resulted in the agribusiness in Africa being largely extractive and focused on low-value products, depriving Africa of wealth creation and self-sustenance. The minimal agri-processing was linked to more significant manufacturing problems in Africa that has seen the continent lag globally. The agri-processing challenges were attributed to policy initiatives that did not prioritise agrarian research and development.

Technology has been employed in the rest of the world, leading to increased food production and economic growth in those nations. Concerns were raised in the chapter about the slow adoption of and resistance to technology in Africa. The technology lag and its impact on development and preparedness for a natural phenomenon such as climate change, was also discussed. Climate change is a concept that was explained as having had an impact on agribusiness. Further, it was stated that African governments did not prioritise climate change preparedness, leading to Africa being highly exposed to climate variability. It was recognised that technology was critical for

Africa to improve its deficiencies in agriculture and agribusiness. Still, there was a need for solutions that were aligned to the African environment.

FDI policies followed by host countries were analysed in the chapter. The weaknesses in FDI attractiveness parameters and possible effects on investing MNCs were discussed. The main drawbacks of land tenure, weak infrastructure, low adoption of technology, low productivity, limited research initiatives, insecurity and conflict, insufficient regulation of the industry and lack of a young labour force were highlighted as the major challenges to FDI inflows into the host countries.

The impact of host nation institutional challenges on SA MNC OFDI was explained. The challenges that had an impact on SA agribusiness MNCs OFDI in order of importance or effect, included access to technology, access to finance, labour unrest, infrastructure, supply-side uncertainty, energy costs, skills shortages, scarcity of natural resources, climate change, land tenure uncertainties, regulatory restrictions and volatile market conditions. It was reiterated that SA MNCs are relatively new in the OFDI space and their need to build capacities, particularly human resources in the home and host countries, to manage their investments in the rest of Africa, was stressed.

The dynamics of the SA agribusiness landscape was described. Agribusiness in South Africa is an integral part of the SA economy, contributing about 10% to the GDP and employing three-quarters of a million people. It was highlighted that although South Africa is still a net exporter of food, it has transformed its agribusiness space over the past three decades. South African farmers and agri-producers have reallocated land and resources to high-value products such as fruits and grapes for wine production, resulting in South Africa being a net importer of basic foodstuffs such as cereals and meat.

Notably, the chapter critically evaluated African agribusiness in the rest of Africa as FDI hosts to South Africa and SA MNCs. Through all aspects of the chapter, South Africa and SA MNCs were touted as having opportunities to invest in the rest of Africa. OFDI strategies of SA MNCs in agribusiness and possible pitfalls were noted. Successful SA MNCs involved in agribusiness were exemplified in the chapter. The next chapter will be focus on the research methodology employed in the study.

Chapter 4

Research methodology

4.1 Introduction

In the previous three chapters, especially Chapters 2 and 3, the researcher advanced the conceptual ideologies of the study, through an extensive review of documented literature. While Chapter 2 was focused on investment and trade dynamics, Chapter 3 was focused specifically on agribusiness trade relationships among African countries. In this chapter, material is presented on the research approach and estimation methods. The model specification is presented and justified based on literature evidence. Importantly, in this section the researcher aligns the research effort to the research objectives and provides a path to resolve the subsequent research questions while the hypotheses are tested.

As indicated in Chapter 1, this researcher followed a quantitative econometric approach. The researcher approached the methodology by initially addressing the variables that were relevant and measurable in OFDI literature, as discussed in the previous chapters. The research hypotheses were formulated as per the existing literature. In the scope of the study, the researcher focused on the MNCs listed on the Johannesburg Stock Exchange (JSE) in the agribusiness industry that have invested in specific host countries in sub-Saharan Africa. The research hypotheses hence unveiled the specific effects of the investment environments that South African-originated agribusiness MNCs navigate within the African continent. In so doing, the study of OFDI in this regard was categorised according to firm-, industry-, and country-level dynamics of OFDI. The research hypothesis also informed the subsequent research methodology.

The researcher then addressed the data collection strategy that has been adopted in this research, encompassing the authenticity of the data sources. The relevance of variables, choice of countries and SA MNCs in the study, were justified in detail. Econometric techniques that were employed in this research were discussed and

justified. The estimation techniques were clarified, and the linkages between the MNC, the agribusiness industry and general host country attributes in the context of FDI were analysed. The causality between the different variables and the models that were formulated, were also highlighted in the chapter. In addition, the researcher highlighted the challenges posed by endogeneity as an important shortcoming in econometric approaches. Approaches deployed to ameliorate this challenge were discussed, as highlighted in literature and previous studies. The endogeneity management techniques in the methodology were explained and assessed as per adoption in previous studies and relevance to the study. Finally, the effect of omitted and over-specification of variables and the preventative approach were discussed. The chapter was summarised with a chapter conclusion that encapsulated the research methodology of this study.

4.2 Research hypothesis and models

The research methodology was premised on the research hypotheses and selection of the research variables to formulate the regression models. Arkes (2019:14) defines a regression analysis as “an equation that represents how a set of factors explains an outcome and how the outcome moves with each factor”. There were three segments in the model specification progression of this research. In section A (firm-level assessment) the researcher considered MNC heterogeneity and its effect on its OFDI strategy and capabilities. The second section, section B, was the industry-level perspective and the researcher evaluated the relationship of the agribusiness industry of a host country and OFDI. Finally, in section C, the researcher considered the relationship between the attractiveness of the host country at a macro socio-economic level, interacting with the sovereign, institutional and macroeconomic characteristics of the host country and OFDI inflows.

4.2.1 Research hypothesis

The research questions informed the formulation of the research objectives. Subsequently, the literature reviewed in Chapters 2 and 3 formed the basis for the calibration of the research hypotheses. As per the literature reviewed in these chapters and corroborated by reliable publications such as the Standard Bank Africa Expansion Monitor and other authors, the level of investments of MNCs was an indication of the

success of previous investments as determined by profitability and influenced by other intra-company factors, such as company balance sheets, ownership and investment strategies, experience and general management expertise. The World Investment Reports discussed in Chapter 2, explain overall FDI inflows at national levels, linking the inflows to macro socio-economic conditions favouring hosts. Similarly, the industry FDI inflow favourability was determined by industry-FDI inflows and affected by agribusiness factors as stated by the FAO, agribusiness MNCs, and other related agribusiness sources, as indicated in Chapter 3. Therefore, the researcher aimed to test the research hypothesis with the following variables. Tables 4.1 to 4.3 reflected the variables at firm, industry and country levels and their hypothesised effects, respectively.

Table 2.13 Proposed research hypothesis – section A – Firm level

Model specification	Abbreviation	Firm-level aspect (Section A)	Hypothesised effects
Dependant variable (INVVAL)	ASSLIAB	Leverage (assets/liabilities) (ratio)	Positive
	DERATIO	Gearing (debt/equity) (ratio)	Negative
	EPS	Earnings per share (SA cents)	Positive
	FOREXGAIN	Foreign exchange gains or losses (vs US$ and Rand) (R m)	Positive
	INDEXP	Experience (industry) (years)	Positive
	INVVAL	Value of investment (R m)	Dependant
	JV	Ownership (control) (%)	Positive
	OFDIEXP	Experience (OFDI and international business) (years)	Positive
	OPPROF	Operating profit (R m)	Positive
	PROBT	Profit before tax (PBT) (R m)	Positive

Table 2.14 Proposed research hypothesis – section B – Sector level (in the host country)

Model specification	Abbreviation	Industry-level aspect (Section B)	Hypothesised effects
Dependent variable (AGDEV)	AGDEV	Agricultural development inflows (value)	Dependant
	AGFCF	Agri-gross fixed capital formation (% of overall)	Positive
	AGGDP	Agriculture GDP (% of overall GDP)	Positive
	AGVAL	Agri-value add (% of overall)	Positive
	ARLAND	Arable land (% of overall)	Positive
	CEREAL	Cereal yield (kg per hectare)	Positive
	CLIMATE	Climate change (temp)	Negative
	CROPPI	Food production index)	Positive
	DFUND	Donor funding (value)	Positive

	EMP	Employment in agriculture (% of overall)	Positive
	FERTILISER	Fertiliser uptake (kg per hectare)	Positive
	FOOD SECURITY	Food security (%)	Positive
	LIVESTOCK	Livestock production index	Positive

Table 2.15 Proposed research hypothesis – section C – Country level

Model specification	**Abbreviation**	**Country-level aspect (Section C)**	**Hypothesised effects**
Dependent Variables (AGDEVINFLOWS; FDIINFLOWS)	AGDEVINFLOWS	Agricultural development inflows (US$)	Dependant
	FDIINFLOWS	Overall FDI net inflows in US$	Dependant
	GDP	Economic growth (GDP% growth)	Positive
	GFCF	Infrastructure development index Gross fixed capital formation (% of GDP)	Positive
	UNEMP	Unemployment (% of total labour force)	Negative
	POLITICAL	Political stability (index) – absence of violence, terrorism, and related events.	Positive
	TECH	Technology (index) – development of technology	Positive

In the framework of the literature reviewed and the variables listed in Tables 4.1 to 4.3, the following hypotheses were proposed.

1. There is a positive direct relationship between the investment value of an MNC and firm-level aspects, including the following measurable indicators:
    - operating profit;
    - profit before tax;
    - leverage (assets/liabilities);
    - earnings per share;
    - foreign exchange gains;
    - experience in the industry;
    - experience in OFDI and international business; and
    - ownership and control.

Only one variable (gearing or debt/equity) was expected, based on an a priori basis, to be a negative factor at the firm level.

2. There is a positive direct relationship between growth in inflow of agribusiness and aspects of the agribusiness industry that attracts the participation of MNCs in the host country. The identified measurable indicators include the following:
    - agriculture as a percentage of GDP;
    - agri-gross fixed capital formation;
    - agricultural value add;
    - arable land;
    - cereal yield;
    - donor funding in agribusiness;
    - employment in agriculture;
    - fertiliser uptake;
    - food productivity;
    - food security; and
    - livestock productivity.

In the estimation, the a priori expectation was that climate change would have a negative effect in the industry-level analysis.

3. There is a positive direct relationship between FDI inflows (agricultural and overall) and measurable indicators of country attractiveness, which include:
    - economic growth;
    - infrastructure development;
    - political stability; and
    - technology development.

In this estimation, there was an a priori expectation that unemployment would exert a negative hypothesised effect on the country level analysis.

Adeleye et al. (2016), Aregbeshola (2016), Vukanovic (2016), Bijaoui (2017), Paul and Benito (2018), and Pavlinek (2017) concur that MNCs adopt different investment strategies when engaging in OFDI. These authors add that the synthesis between the firm- and host country-factors determine the investment strategies adopted by MNCs in the host markets, and the sustainability and success of these investments. This relationship underpins the linkages between the firm, host markets, and host countries in OFDI.

Furthermore, existing literature advocates that OFDI complements the macro-economies of both home and host countries, making it imperative for host countries to formulate policies and institutions that are robust and can accommodate and manage FDI inflows (Aregbeshola, 2014b, 2016; Paul & Benito, 2018; Karelis 2019).

Although the position as per literature, is that host country attractiveness and market size are the major determinants of OFDI, factors such as proximity to the host country, home and host country cordiality of relations, language, border controls and regional linkages are also crucial in determining OFDI (Lu et al., 2017; Karelis, 2019). It must be admitted however, that these variables were often qualitative and challenging to measure concisely, and they justified the introduction of regional effects in the study.

4.2.2 Empirical approach

The empirical approach deployed in this study follows the conventional approaches as done in previous studies, with the aim of achieving robust results that are valid, reliable and generalizable. To that extent, the analysis began with the deployment of various diagnostic approaches, proceeded to model specifications and the ultimate estimation

of the models. To conclude the analysis, post estimation diagnostics or tests of robustness were conducted.

4.2.2.1 Initial diagnostics of dataset

Initial diagnostics of the dataset was done in two phases. The first phase involved probing for longitudinal trends in the dataset. The enquiry included a visual inspection of the relationship between OFDI and host-country attributes, descriptive statistics and pairwise correlation analysis. The scatter diagram portrayed an initial impression of how the two key variables in this study, OFDI and host-country attributes, were likely to trend together. The descriptive statistics showed the mean, minimum and maximum levels of each variable, what factors were driving such trends and the implications of such movements for this study.

Thereafter, a cross-correlation analysis was conducted to depict the direction and strength of the relationship between OFDI and host-county agribusiness-related attributes, as well as the other host-country variables, and how consistent that was with expectations emanating from the theoretical framework. A positive correlation would imply a direct relationship between variables, while a negative correlation would suggest an inverse relationship. The magnitude of the correlation coefficient would depict the strength of the relationship. Outcomes from the first phase of the initial diagnostics informed our a priori expectations, directing how the variables were likely to relate to each other in the estimation result.

In the second phase, initial diagnostics that tested for the panel data characteristics of the dataset were conducted. The process included testing for the validity of individual country effects and any time-specific experiences that were unique to any of the countries in the dataset. Although the countries in the datasets used in this study were representative of their respective regions, specifically Central, Eastern, Southern and Western Africa, each of the countries might have had a unique experience that might not apply to the other countries in the region. These individual unique experiences may also have happened at specific times. Furthermore, regional protocols, language, common cultural and religious practices, and spillover effects from both endogenous and exogenous shocks translated empirically into cross-sectional dependence of the error term. The error term also needed to be tested for and controlled for in the

estimation approach used. Additionally, as was consistent with dynamic panel data econometric models, the researcher also tested for the existence of endogeneity. Further tests were conducted to ensure that there was no multicollinearity between the lag of the dependent variable on the right-hand side of the model or any other explanatory variable and the fixed effect or idiosyncratic error term in the specified model.

4.2.2.2 Model specification and estimation technique

Two types of models could be specified, either a one-way or a two-way error component model. A one-way error component model was established if only country-specific or time-specific effects were valid, but not both. In a one-way error component model, the following mathematical specification applied, with the assumption of a basic dynamic model:

$$Y_{it} = \delta Y_{it-1} + \beta' X'_{it} + \varepsilon_{it} \quad (1)$$

where Y_{it} was an *NT x 1* vector of dependent and endogenous variables, X'_{it} represented an *NT x k* vector of independent variables other than the lag of the dependent variable, β denoted a *k x m* vector of slope coefficients, and ε_{it} was the error term.

In a one-way component model where only country-specific effects were valid, the error term took the form of:

$$\varepsilon_{it} = \mu_i + v_{it} \quad (2)$$

where μ_i represented country-specific effects and v_{it} the idiosyncratic error term. In case only time-specific effects were valid, the error term took the form of:

$$\varepsilon_{it} = \lambda_t + v_{it} \quad (3)$$

where λ_t represented time-specific effects. If both country-specific experiences and time-specific effects needed to be controlled for, then a two-way error component model was specified, in which case the error term took the form of:

$$\varepsilon_{it} = \mu_i + \lambda_t + v_{it} \quad (4)$$

The initial diagnostics finding of the datasets determined the model type to be specified, and the estimation methodology employed, based on which characteristics of the dataset needed to be addressed in the estimation of the dataset. In the estimation process, other assumptions of the classical linear regression model, such as heteroscedasticity and serial correlation, were also addressed. Stationarity tests were done using Pesaran (2004) cross-sectional augmented Dickey-Fuller (CADF) unit root test that was applicable to panel data series, especially if the cross-sections in the dataset were interdependent and heterogeneous (Pesaran, 2004).

4.2.3 Model specification on firm level – section A

One of the primary motivations of this study was to add to the existing literature on OFDI strategies in general and particularly OFDI by SA-originated agribusiness MNCs in the rest of sub-Saharan Africa. Relatively low overall FDI into Africa initiated another objective of the study, which was, to increase intra-Africa FDI to alleviate this challenge. The task of formulating a model was, however, constrained by minimal studies and data on FDI in Africa. Extensive investigation of similar studies came up with models such as the model used by Pradhan (2011), and Xia, Ma, Lu and Yiu (2013).

These authors concur that firm-level attributes were critical in OFDI strategies, in that they provide the push factor in OFDI aligned to MNC heterogeneity. The model that Xia et al. (2013) use focuses on the interdependence of MNCs with foreign firms in their home countries on their OFDI strategies. Moreover, the model delves further into the impact of state ownership in MNC OFDI strategies. Nevertheless, the models have relevant components of this study and have been modified to ensure that they accommodate the firm heterogeneity impact on OFDI.

Analysis of the variables at firm level revealed that the consequent or dependent variable that reflected the success of an MNC was the value of its investments in the rest of Africa *(INVVAL)*. This variable was therefore the product of one equation at firm level that determined the role of the company attributes and OFDI push factors. In the model, the relationship between the dependent variable and the independent variables of the firm *(FIRM)* were proxied as determinants of the performance of the MNC in OFDI. This model thus enabled the research effort to resolve the first and third

research objectives and contribute to the resolution of the sixth research objective. The equation was formulated as below:

$$LnINVAL_{it} = Lnprobt_{it} + LnFIRM_{it} + \mu_i + v_{it} \quad (5)$$

In the equation above (equation 5), $LnINVAL_{it}$ was the value of investments of the MNC in the rest of Africa. $FIRM_{it}$ was a consolidation of the independent firm variables, μ_i was the country effects, while $\boldsymbol{v_{it}}$ was the error term.

4.2.4 Model specification on industry level – section B

As discussed above and corroborated by previous studies, there was a conjectured direct relationship between agribusiness FDI inflows and agribusiness market factors in the host country. Authors of previous studies propose that there is a direct relationship between the maturity and development of a host market, and FDI inflows into the specialised market (Tadesse & Ryan, 2011; Aregbeshola, 2014a). Nakamura and Zhang (2018) add that market maturity complements parent-firm OFDI strategies.

However, due to the limited data on agri-FDI, agri-developmental inflows were used as a proxy for agri-FDI inflows. Agri-FDI and agri-developmental inflows were intricately linked (Bhavan, 2011; Amusa, Monkam & Viegi, 2016; Anetor, Esho & Verhoef, 2020), which justified the choice of the proxy variables. The relationship was explained further in the findings on sector analysis (Chapter 6). The final element of the model considered the quality of the host country industries from a macro- and institutional perspective. The model that Rashid et al. (2015) use, though focuses on agricultural FDI as the dependent variable, and utilises non-agricultural independent variables. Instead, the model uses only generic macro-economic variables to explain agri-FDI, which can be problematic. Aregbeshola (2016) focuses on capital market development and its impact on FDI inflows. The models that Rashied et al. (2015) and Aregbeshola (2016) use were appropriate for this study.

However, the models were revised to substitute capital market variables and macro-economic variables, respectively, with agribusiness variables in this study. The model that Aregbeshola (2014b) uses has further relevance as it focuses on the African continent. The remodelling of the Aregbeshola (2014b) equation, as adopted in this study, hence sought to test the sector element of FDI and its relationship to firm and

country, thereby resolving the second and fourth research objectives and contributing to the resolution of the sixth research objective. Consistent with previous studies, the model had agri-FDI, proxied by *AGDEV*, as the dependent variable. The independent variables have been categorised under economic *(AGECO)*, productivity *(AGPROD)* and investment *(AGINVEST)* of the industry. The model was reconstructed as below:

Economic model

$$LnAGDEV_{it}=LnAGECO_{it}+\lambda_t+\mu_i+v_{it} \quad (6)$$

Productivity model

$$LnAGDEV_{it}=LnAGPROD_{it}+\lambda_t+\mu_i+v_{it} \quad (7)$$

Investment support model

$$LnAGDEV_{it}=LnAGINVEST_{it}+\lambda_t+\mu_i+v_{it} \quad (8)$$

In the equation above, $\boldsymbol{AGDEV_{it}}$ was the inflow of agribusiness developmental inflows. $\boldsymbol{LnAGECO_{it}}, \boldsymbol{LnAGPROD_{it}}$ and $\boldsymbol{LnAGINVEST_{it}}$ were the categorised host country agribusiness-related factors, $\boldsymbol{\mu_i}$ was the individual country effects, $\boldsymbol{\lambda_t}$ and $\boldsymbol{v_{it}}$ were the error terms. The equations were the summarised versions of the complete equations. In the full equations, the researcher identified numerous independent variables to ensure a comprehensive understanding of the relationships. It was however important to note that there were similarities between the industry-level model and the country-level model, as highlighted by previous researchers (see Tadesse & Ryan, 2011; Aregbeshola, 2014a; 2014b; Nakamura & Zhang, 2018). These similarities were discussed further at country-level model specification (see section 3.2.5).

4.2.5 Model specification on country level – section C

Several authors analyse the overall host country attractiveness and the inflow of FDI. These authors suggest that the stability, development and quality of the institutions and macroeconomy of a host country have direct bearing on the attractiveness of a host country, leading to increased FDI inflows (Pradhan, 2011; Buchanan, Le & Rishi, 2012; Aregbeshola, 2014a; Hayat, 2019; Owusu-Nantwi, 2019). However, Aregbeshola, (2014a), Lu et al. (2017), and Sabir, Rafique and Abbas (2019) advocate

in their studies that institutional sturdiness *(INSTHOST)* does not always have a causal and cointegrated effect on FDI inflows, particularly in sub-Saharan Africa. These authors expand on the macro-economic institutional-related factors such as GDP per capita and inflation, which they say have adverse effects on FDI into developed countries and a positive effect on FDI inflow into developing countries.

Mahmood, Shakil, Akinlaso and Tasnia (2019) argue that in the long term, FDI inflows and *INSTHOST* are cointegrated with a reciprocal effect. The assertion reiterates the unique conditions of sub-Saharan Africa, as discussed in the literature. Nevertheless, the model that they use in their studies is consistent and appropriate for this study at country level. Furthermore, challenges to the institutional and FDI-inflow relationship were that there were some variables, such as the effect of historical links and informal markets, that were not measurable.

Nevertheless, as per previous studies highlighted in the previous paragraph, the model incorporated numerous macroeconomic factors such as economic growth *(GDP)* and unemployment *(UNEMP),* infused with social variables such as the political stability index *(POLITICAL)* and the technology development index *(TECH)* for a comprehensive analysis of this relationship. The gravity model that related studies by Aregbeshola (2014b) and Sabir et al. (2019) use is therefore deemed effective to address the effect of institutional quality on FDI inflows.

Previous similar studies use either agri-FDI (proxied in this study with agri-developmental inflows *[AGDEVINFLOWS]*) or overall FDI inflows *(FDIINFLOWS)*. This researcher used both as the dependent variables. The models were remodelled to accommodate the analysis of the SSA context and modified to emphasise the macro socio-economic variables that reflected the robustness of the institutions of the host countries and the macroeconomy in sub-Saharan Africa. The revised equations sought to resolve the third, fifth and sixth research objectives.

Hence, with the equations at country level (equations 9 and 10), the researcher investigated the hypothesis that agri- and overall net FDI inflows in a host country were directly linked to institutional sturdiness and macro socio-economic strength. The equations were presented as follows:

$$LnAGDEVINFLOWS_{it}=LnAGDEVINFLOWS_{it-1} + LnINSTHOST_{it} + \lambda_t + \mu_i + v_{it} \qquad (9)$$

$$LnFDIINFLOWS_{it}=LnFDIINFLOWS_{it-1} + LnINSTHOST_{it} + \lambda_t + \mu_i + v_{it} \quad (10)$$

In equations 9 and 10 above, $AGDEVINFLOWS_{it}$ was the agri-developmental inflows into the country, $FDIINFLOWS_{it}$ was the overall FDI inflow into the host country, $INSTHOST_{it}$ was the host country institutional and macro socio-economic indicators, $\boldsymbol{\mu_i}$ was the individual country effects, $\boldsymbol{\lambda_t}$ and $\boldsymbol{v_{it}}$ were the error terms.

The independent variables that constitute the *INSTHOST* were described in detail in the hypothesis and were individualised in the model. As highlighted in model construction, the independent variables chosen had a hypothesised direct effect on FDI inflows.

4.3 Choice of variables

The choice of variables for this study was influenced by the existing literature, and related studies as reviewed in Chapters 2 and 3. As stated above, the challenge posed by limited literature in this field required an extensive effort in formulating appropriate variables for the study. Some variables might have been of some relevance to the research, but posed the challenge of immeasurability or data challenges.

4.3.1 Firm variables

Firm-level variables in this study were categorised into dependent and independent variables. The dependent variable measured the success of the MNC and influenced the subsequent appetite of the businesses in carrying out OFDI, as influenced by independent variables.

4.3.1.1 Firm variables – dependent

The dependent variable in this study was determined by literature, as discussed in the previous three chapters. The choice of the dependent firm-level variable (investment value) was aligned with the hypothesis that the success of MNC OFDI would be reflected in the value of investments in the host market.

4.3.1.2 Firm variables – independent

The independent variables at the MNC-level included experience in the industry, experience in OFDI and internationalisation, foreign exchange gains or losses,

financial leverage (net assets), ownership and control, and gearing. Although some of these variables were selected as per previous studies with a firm focus in OFDI (Pradhan, 2011; Xia et al., 2013; Alcaraz, Zamilpa & Torres, 2017), these studies omit variables relevant in achieving research inference.

Moreover, these studies are primarily not premised on the SA MNC context. As such, additional variables highlighted in literature were incorporated to ensure full analysis. In this study, hence, the researcher sought to bridge the knowledge gap that could be provided by the additional variables.

Table 4.4 below reflected a detailed description of the variables at firm level and their respective sources.

Table 2.16 Description and source of firm-level variables

Variable	Variable description	Source of Data
ASSLIAB	The financial leverage ratio of the MNC as calculated by the value of assets over all liabilities	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
DERATIO	The financial gearing ratio of the MNC gearing as calculated by debt over equity	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
EPS	Earnings per share of MNC in SA cents per share	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
FOREXGAIN	Foreign exchange gains or losses in the income statement against the SA Rand or other funding currency	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
INDEXP	The number of years the MNC has been in the agribusiness industry	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
INVVAL	Value of investment of MNC in RoA	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
JV	The ownership or percentage of the MNC in the investments in sub-Saharan Africa	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
OFDIEXP	The number of years the MNC has been involved in OFDI in sub-Saharan Africa	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
OPPROF	The overall operating profit of the MNC in SA Rand	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
PROBT	The overall profit before tax of the MNC in SA Rand	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)

4.3.2 Industry variables

The agribusiness industry variables were also formulated from the literature in the previous chapters, as well as similar studies on market dynamics and FDI. It was important to reiterate that quite a few studies have been conducted on FDI, but a number of the authors mainly focused on developed countries. Hence sensitivity to the African environment was considered in formulating the list of variables adopted in this study.

4.3.2.1 Industry variable – dependent

Previous industry FDI studies indicate that FDI inflows into an industry of a host country is a reliable indicator to explain the FDI dynamics as a dependent variable. Agribusiness developmental inflows were chosen as a proxy for agri-FDI inflows due to the unavailability of data on agri-FDI.

4.3.2.1 Industry variables – independent

There are limited studies into agribusiness FDI. Hence, the formulation of independent variables also proved problematic. However, independent variables, as adopted in similar studies on other industries, were very suitable for this study (Tadesse & Ryan, 2011; Aregbeshola, 2014b; Rashid et al., 2015; Nakamura & Zhang, 2018). To that extent, the independent variables deployed in the studies identified above, were incorporated into the study and aligned to agribusiness. Additional variables, as proposed by literature, were assimilated in the study to ensure a comprehensive analysis of FDI in agribusiness. The variables that were utilised in the study included agriculture GDP, agri-gross fixed capital formation, agri-value add, arable land, cereal yield, donor funding in agribusiness, employment in agriculture, fertiliser uptake, food productivity, food security, livestock productivity and climate change. Table 4.5 reflected a detailed description of the industry-level variables that were deployed in this study, and their respective sources.

Table 2.17 - Description and source of industry-level variables

Variable	Variable Description	Source of Data
AGDEV	Agricultural development inflows (value)	(Food and Agriculture Organisation [FAOSTAT], 2020a)
AGFCF	Agri-infrastructure investment measured as agri-gross fixed capital formation (% of overall government budget)	(Food and Agriculture Organisation [FAOSTAT], 2020b)
AGGDP	Agriculture GDP (% of overall GDP)	(World Bank Data [WBD], 2020a)
AGVAL	Valued added in agri-products in the host country (% of overall value added)	(Food and Agriculture Organisation [FAOSTAT], 2020c)
ARLAND	Arable land usable for agriculture (% of overall)	(World Bank Data [WBD], 2020b)
CEREAL	Cereal yield (kg per hectare)	(World Bank Data [WBD], 2020c)
CLIMATE	Climate change (temperature)	(Food and Agriculture Organisation [FAOSTAT], 2020d)
CROPPI	Food productivity in comparison to other countries (index)	(World Bank Data [WBD], 2020d)
DFUND	Donor funding to agribusiness measured in US$	(Food and Agriculture Organisation [FAOSTAT], 2020e)
EMP	Employment in agriculture (% of overall)	(World Bank Data [WBD], 2020e)
FERTILISER	Fertiliser uptake (kg per hectare)	(World Bank Data [WBD], 2020f)
FOOD SECURITY	Food security (% of population)	(Food and Agriculture Organisation [FAOSTAT], 2020f)
LIVESTOCK	Livestock productivity in comparison to other counties (index)	(World Bank Data [WBD], 2020g)

4.3.3 Country variables

Numerous studies have been done on the attractiveness of host countries in overall FDI inflows (Buchanan et al., 2012; Aregbeshola, 2014b; Li et al., 2015; Lu et al., 2017; Owusu-Nantwi, 2018; Hayat, 2019; Sabir et al., 2019). However, sub-Saharan Africa has not been the focus of most of the studies. The choice of variables aligned to these studies, but the researcher was cognisant of the variables that would capture the uniqueness of the continent.

4.3.3.1 Country variable – dependent

The previous studies conducted with a focus on FDI are consistent in the assertion that net FDI inflows into a host country are the dependent and reliable variable when evaluating host country attractiveness. In this study the researcher followed the same concept and identified agri- and overall net inflows in US dollars as the dependent variable.

4.3.2.1 Country variables – independent

The independent macro socio-economic variables of the country utilised in this study were economic growth, infrastructure development, political stability, technology development, and unemployment. The researcher sought to employ the chosen variables to ensure a comprehensive appreciation of FDI inflows and the attractiveness of a host country. Different studies apportion diverse weights to the effect of independent variables on FDI inflows, but base their studies on the non-African perspective. This researcher also aimed to introduce a sub-Saharan perspective at country level to manage this shortcoming. Table 4.6 reflected a detailed description of the variables at the country level and their respective sources.

Table 2.18 - Description and source of country-level variables

Variable	Variable Description	Source of Data
AGDEVINFLOWS	Agricultural development inflows (value)	(Food and Agriculture Organisation [(FAOSTAT]), 2020a)
GDP	Economic growth (GDP% growth)	(World Bank Data [WBD], 2020h)
FDIINFLOWS	Overall FDI net inflows in US$	(World Bank Data [WBD], 2020i)
GFCF	Infrastructure development index measured as gross fixed capital formation (% of GDP)	(World Bank Data [WBD], 2020j)
POLITICAL	Political stability (index) – absence of violence, terrorism, and related events	The Global Economy, 2020
TECH	Technology (index) – development of technology	(World Bank Data [WBD], 2020k)
UNEMP	Unemployment (% of total labour force)	(World Bank Data [WBD], 2020l)

4.4 Source of data

Company annual financial statements, annual reports, and integrated reports were the sources of the data applied at firm level. The MNCs in this study were all JSE-listed MNCs or were listed for the time-series of the survey. JSE-listed MNCs were chosen because of the large, reliably quantifiable size of investments in other parts of the continent. Furthermore, utilising JSE-listed MNCs ensured that the data for this research was reliable as the JSE has stringent listing requirements and reporting standards for its listed entities (JSE, 2018). The JSE frequently monitored the operations and reporting of these entities and took remedial action where irregularities were unearthed. Activities such as the restatement of reports in subsequent years helped to ameliorate minor reporting misstatements and transgressions. Major transgressions often resulted in the suspension of such entities from registration on the JSE. For instance, one of the sampled MNCs in this study (Tongaat-Hulett) was suspended from the JSE for six months in 2019 for material accounting irregularities. The MNC was subsequently reinstated after the resolution of the anomalies (M&A Community, 2020).

However, sourcing company data introduced other challenges and limitations. Although JSE-listed MNCs were legally obligated to publish information on their annual financial and business performance, they were not obliged to retain specific periods of historical details (JSE, 2018). The problem resulted in missing data for some of the MNCs in the time-series. Moreover, MNCs were continually reviewing their reporting for internal purposes or to align the reporting approach to changes in accounting and industry standards. This resulted in inconsistent time-series data in some cases. For example, the international financial reporting standards (IFRS) standard number 8 only required listed entities to report on geographical and other segments separately from 2009 (Deloitte, 2020). This standard, which covers reporting on SA MNCs OFDI investments, was modified in 2013, which resulted in further changes to the reporting.

Additionally, firms were required to report on only certain aspects of the segment. The challenges with information at the firm level were compounded by the fact that corporate and ownership structures were continually changing through mergers and acquisitions. The changes sometimes resulted in a shift in reported variables or different modes of reporting of the same variable over time. As such, missing

information from the time series might pose instability and sensitivity issues in equations. Nonetheless, care was taken in ensuring that time-series information was reliable, consistent, and comparable. Where information was restated, the restated data was utilised to ensure accuracy. Five-year averages (forward and backward) were applied to estimate the missing data.

The agribusiness industry variables were sourced primarily from world development indicators (World Bank Data), the FAO and some data from the UNCTAD. As stated, the industry data collection in sub-Saharan Africa was cumbersome and data was often unavailable. Consequently, there were some data omissions in the time series for some variables or in some host countries. Besides, some variables have become relevant to the recording sources in more recent times, whereas recording authorities have ceased to record some variables. However, some of these variables were still relevant to the attractiveness of host markets for FDI inflows and essential for this study. For instance, agricultural credit was relevant to agribusiness and attraction of agribusiness FDI over the past few decades (FAO, 2018a). However, it has only been recorded by the FAO since 2009, with information on the Republic of Congo unavailable, making it inadequate for this study that commenced in 2000. Likewise, research and development financed by governments have proven to be paramount in the overall development of the agribusiness sector, with countries that have invested in this field showing positive agribusiness performance (Rakotoarisoa et al., 2012; FAO, 2018a). Amongst our sampled host countries, Nigeria did not have records of agri-research and development, so the variable could not be used for the study. As per the firm variables, missing information in time series industry data has been mitigated by applying five-year rolling averages to maintain the integrity of the industry equations.

The country-level variables have been sourced from authentic and reliable sources within multi-governmental world governing bodies. The world governing body institutions that were utilised for macro-level information, included the World Bank Database, the IMF, ILO, UNCTAD and the FAO. Further information was sourced from reputable non-governmental organisations such as Transparency International and the Institute of Economics and Peace. Continental body websites such as the African Union and its regional bodies across sub-Saharan Africa were also used. Relevant

variables from quasi-government institutions such as the University of Oxford and the Federal Reserve Economic Data were sought to add integrity to the research. Finally, globally recognised, and reliable private databases such as The Global Economy were employed in their respective areas of expertise. The country-level variables and sources above ensured a comprehensive analysis of the agribusiness-related FDI inflows for a macroeconomic and institutional representation of the host country.

The host country pull factors were prioritised in this study. However, home country factors were discussed in this research in so far as they were relevant to the choice of the host country. Limitations in data sourcing at country level were consistent with challenges at industry level. These challenges included unavailability of data, breaks in time series data, new or discontinued variables. The same measures of sanitising the data were employed at country-level data arrangement, including utilisation of five-year rolling averages. Some variables were dropped due to inadequate data. For instance, capital account openness was measured by the IMF until 2013. Information on this matrix was also not available for the Republic of Congo. It was also important in establishing the prosperity of a country, and subsequently its attractiveness to MNCs.

The ease of doing business ranking became an important metric that incorporated numerous variables that were relevant to MNC FDI decisions. However, this metric was only recorded since 2006 and were refined every year. The economic complexity index measured the economic diversity and vulnerability to global forces of a country. In the selected countries, information for Uganda was only available for 2015 to 2017. Furthermore, the IMF measured labour costs as a component of all operational expenses. Labour costs were one of the most critical factors in globalisation and FDI decisions.

However, information availability was a challenge in this regard mainly due to the informal nature of employment in sub-Saharan Africa. For the time series dataset, information for Nigeria was unavailable. Information for Uganda was available from 2015, and Mozambican information was available from 2010 to 2012 and again from 2016 to 2018. Literacy was another variable linked to the aptitude of labour forces in host countries and hence relevant to FDI decisions. It was a complex variable that was difficult to measure. Information on this variable was prone to data gaps in all sampled

countries as per the world development indicators (see World Bank Data, 2020m). The logistics performance index was a relatively new index measured since 2007 (see World Bank Data, 2020n). Moreover, there were gaps in the information of all the host countries under review.

Total taxation paid was another relevant variable for FDI decisions. SA MNCs highlighted tax as one of the significant regulatory challenges in sub-Saharan Africa. It was measured as a world development indicator since 2005, but only recorded in Nigeria since 2013 (see World Bank Data, 2020o). As stated above, the research effort anticipated data sourcing challenges from the onset and developed data estimation and sanitisation techniques to mitigate the unavailability of data or limitations in data.

4.5 Population

The research population is the entire group of targeted members of interest for a research project. That is, the sum total of the components for which a conclusion is desired (Arkes, 2019). Arkes (2019) adds that the research population is the focal point of a regression analysis for which a conclusive outcome is envisaged. Carlberg (2016) introduces the concept of an accessible and target population and defines this group as the subset of the population for which the desired conclusion can be drawn.

The population of this research consisted of all publicly listed SA-originated MNCs that were involved in agribusiness in the rest of sub-Saharan Africa. Hence, the attributes of the population incorporated the following:

- publicly listed – the MNCs should be listed in a stock exchange where their reported information was tested;
- SA originated – the MNCs should be headquartered in South Africa by origination. Hence, their primary listing should be on the JSE;
- MNCs – the organisation must have an investment in a territory outside of South Africa;
- agribusiness – agribusiness is the business of agriculture and food, incorporating the direct value chain of agribusiness, including input suppliers, farmers, processors, manufacturers, distributors, and retailers; and

- sub-Saharan Africa – Eastern, Western, Southern and Central Africa (excluding North Africa).

Additionally, it was essential to note that FDI was defined as 10% of the interest in the form of assets or control in a foreign entity, not necessarily by a citizen, but by a resident of the home country (Blonigen, 2019; Patterson, Montanjees, Motala & Cardillo, 2004). Therefore, the MNCs that formed the population were the ten companies that complied with all the attributes above. Table 4.7 below reflected a list of companies that formed the population of the study.

Table 2.19 JSE-listed SA agribusiness MNCs

Company name	**JSE symbol**	**JSE sector**	**Primary listing**	**Agribusiness**	**FDI in sub-Saharan Africa**
Astral Foods Limited	ARL	Food producers	Yes	Yes	Yes
Clover Industries Limited	CLR	Food producers	No	Yes	Yes
Illovo Sugar	ILV	Food producers	No	Yes	Yes
Pick n Pay Stores Limited	PIK	Food and drug retailers	Yes	Yes	Yes
Pioneer Food Group Limited	PFG	Food producers	Yes	Yes	Yes
Quantum Food Holdings Limited	QFH	Food producers	Yes	Yes	Yes
RCL Foods Limited	RCL	Food producers	Yes	Yes	Yes
Shoprite Holdings Limited	SHP	Food and drug retailers	Yes	Yes	Yes
Tiger Brands Limited	TBS	Food producers	Yes	Yes	Yes
Tongaat-Hulett Limited	TON	Food producers	Yes	Yes	Yes

Source: Astral Foods (2020); JSE (2020); Illovo (2020a, b); Pick n Pay (2020); Quantum Foods (2020); RCL Foods (2020); Shoprite (2020); Tiger Brands (2020); Tongaat Hulett (2020)

4.6 Sample size

The component of the population that is sufficiently representative of the population to draw conclusive inferences is the research sample (Harkiolakis, 2018 Creswell & Creswell, 2018; Nardi, 2018). The sample of this research effort was all the companies in the population, except Clover Industries and Pioneer Foods. Clover Industries and Illovo Sugar do not have a primary listing on the JSE as of 2020, due to takeovers by other foreign-based MNCs. However, they had a JSE primary listing during the

research time-series and were therefore initially included in the population. Clover Industries was subsequently omitted from the sample as their annual financial statements, and integrated reports were removed from their website on de-listing. Quantum Foods and Pioneer foods were previously one entity and underwent a restructuring process during the research period, splitting them into two companies. Quantum Foods was included in the study as it was representative of the former consolidated company and conducted most of the FDI in sub-Saharan Africa for the group.

4.7 Choice of countries

The researcher focused on the operations of SA MNCs in other parts of sub-Saharan Africa. The regions of sub-Saharan Africa were categorised as Central, Eastern, Southern and Western Africa, according to Table 4.8, and guided by previous studies, as well as the researcher's own research efforts. The choice of host countries to be reviewed ensured relevance for SA MNCs and the host region under review, based on the following criteria:

- the prevalence of SA MNC investments in the host countries;
- the region within sub-Saharan Africa (West, East, Central and South);
- the economic relevance of the host nation in the region; and
- the socio-economic background of the host nation (anglophone, francophone, or lusophone).

Table 2.20 Choice of host countries based on the investments of the 10 SA MNCs in sub-Saharan Africa (reason for selection highlighted)

Country	Prevalence of MNCs in host country	Largest economy in region	Language	Region in sub-Saharan Africa
Zambia	6	Y (Excluding SA)	English	Southern
Mozambique	6	N	Portuguese	Southern
Uganda	3	N	English	Eastern
Nigeria	2	Y	English	Western
Angola	1	Y	Portuguese	Central
The Republic of Congo	1	N	French	Central

Source: Astral Foods (2020); JSE (2020); Illovo (2020a, b); Pick n Pay (2020); Quantum Foods (2020); RCL Foods (2020); Shoprite (2020); Tiger Brands (2020); Tongaat Hulett (2020)

In the final choice of host countries, Southern Africa had Zambia (the largest economy in the region outside of South Africa) and Mozambique, chosen for its linguistic and socio-economic diversity. Both economies were the most prevalent for SA MNCs. The third and fourth most pervasive destinations were Uganda and Nigeria, which represented East and West Africa, respectively. Nigeria was also the largest economy in West Africa. Angola and the Republic of Congo were the least popular destinations for SA MNCs. However, Angola was chosen as the largest economy of Central Africa, and the Republic of Congo was selected as the only francophone country in the study.

4.8 Estimation techniques

The hypothesis of the study proposed that the explanatory variables discussed above included:

- the OFDI of the MNC;
- the host market attractiveness and inflow of agribusiness FDI; and
- the attractiveness of the host country and inflow of overall FDI.

The period of the study covered almost two decades (from 2000 to 2018), and hence a panel approach was recommended for this study. The method had been used effectively in similar studies by Aregbeshola (2014b) and Sabir et al. (2019).

The panel approach had the advantage of amassing the numerous variables to ensure a comprehensive and concise analysis of the research hypothesis. Furthermore, the time series of two decades increased the observations of the study, provided that the integrity of the information was accurate (Arkes, 2019).

Each estimation approach had checks and balances that proved whether the results were robust and authentic enough to be accepted. These mostly included post-estimation diagnostics that confirmed whether the results were acceptable or not. The estimation approaches included the LSDV as adopted in a similar study by Sabir et al. (2019). The initial estimation was strengthened by the feasible generalised least

squares (FGLS). These will be further explained based on which estimation approaches were used to estimate the dataset.

4.8.1 Endogeneity challenges

Previous similar studies highlight endogeneity challenges (Goh et al., 2012; Xia et al., 2013; Li et al., 2015; Weilei et al., 2017; Mahmood et al., 2019). Researchers widely adopt the Hausman Test (Furtan & Holzman, 2004; Bhavan, 2011; Slimane, Huchet & Zitouna, 2016; Sabir et al., 2019) to mitigate the effects of autocorrelation, heteroscedasticity, and endogeneity.

In this study, the researcher initially eliminated the fixed effects as adopted by Wiredu, Nketiah and Adjei (2020). The fixed effects (FE) model is used in time series analysis such as this one, specifically because it investigates the correlation between the indirect and direct variables over time. FE eliminates effects that are not affected by time, facilitating the evaluation of the net impact of independent variables. Subsequently, the Hausman Test (see Furtan & Holzman, 2004; Bhavan, 2010, 2011; Slimane, Huchet & Zitouna, 2016; Sabir et al., 2019) was utilised to alleviate endogeneity, as adopted by Furtan and Holzman (2004), Bhavan (2011), Slimane et al. (2016) Sabir et al. (2019), and ensured a robust regression model. Additionally, cross-sectional dependence of variables were tested by deploying the Pesaran test (see Pesaran, 2004) as adopted in a similar study by Mahmood et al. (2018).

4.9 Conclusion

The researcher commenced the chapter with an introduction that established the platform for the research methodology of this study. The research hypotheses and the subsequent models were the point of departure for the methodology. The research hypotheses were divided into firm, industry and country levels as informed by previous studies and were modified to achieve the research objectives of this study. The model specification that was premised on the first hypothesis introduced one equation at the firm level, where investment value was estimated as the dependent variable. The industry-level model had three equations based on agribusiness-FDI inflows as the dependent variable and the independent variables *(AGECO, AGPROD, AGINVEST)*. Finally, the country-level model was premised on the agri- and overall FDI inflows and the independent variables *(INSTHOST)*.

The choice of variables was informed by previous literature, studies, and further investigation by the researcher. Previous studies include different variables in their research. However, these studies often adopt limited models (firm, industry or country) or they omit variables that were considered relevant to investigating FDI-related dynamics with unique African considerations. This researcher then introduced numerous variables under *FIRM, AGECO, AGPROD, AGINVEST* and *INSTHOST* to ensure a thorough number of variables. In addition, the calibration of the variable was matched with the achievement of a specific objective of the study, as well as the research hypotheses.

Company annual reports were the main source of the dataset for the firm level analysis. The integrity of the data at the firm-level was ringfenced by the MNCs being JSE-listed firms that were accountable to stringent JSE reporting standards. The data sources for industry and country levels were sourced from reputable world governing body sources, as well as other independent and reliable platforms. Challenges of unavailable data and data gaps were mitigated by introducing suitable proxies and by deploying time-series averages as appropriate.

In this chapter, it was reiterated that the population of this study was JSE-listed SA-originated MNCs that were involved in agribusiness and have embarked on OFDI strategies in other parts of sub-Saharan Africa. Ten MNCs fitted the criteria of the population. It was then discussed that the population was small enough for all companies to form the sample size, apart from the companies that did not have information available. The choice of countries was highlighted, as being based on the presence of SA MNCs in host countries and ensuring the representation of all regions and other relevant socio-economic diversities within sub-Saharan Africa.

Finally, the researcher evaluated the econometric techniques employed by previous studies and their subsequent modifications as relevant to this research. The researcher utilised a panel multiple regression analysis. A fixed effects model and Hausman tests were adopted to address endogeneity challenges. Cross-sectional dependence was addressed through the Pesaran test. The chapter was a prelude to the presentation of the findings of the study, which will be presented in Chapters 5 to 7. To ensure a thorough analysis of the results, in Chapter 5 the researcher will demonstrate the firm-level findings, in Chapter 6 the sector level, and in Chapter 7 the

country level. The three chapters will be followed by Chapter 8, in which the researcher will consolidate the results into a summary, and present a conclusion and recommendations emanating from the study.

Chapter 5

Empirical estimation and analysis – Firm level

5.1 Introduction

This chapter is the first of three chapters in which the researcher presented the results of the findings as a product of the data analysis and diagnostics. The focus of the researcher was on the firm-level analysis of the study. At the onset, the researcher discussed the data that has been utilised. The data was analysed in three steps: the time series, the model specification and finally, the post-estimation checks to ensure the robustness of the model.

The data was sourced from the firm-level variables initially listed in the previous chapter. These variables were carefully selected to ensure an extensive analysis of firm attributes in OFDI. In the characteristics of the dataset, the variables of the sampled firms were compared to enable a full understanding of each firm individually and relative to the other sampled MNCs. A cross-correlation analysis was then conducted to ascertain the relationship and intensity of the relationship between the independent variables. The panel data was then tested for robustness using the F-test, the Hausman test and the Pesaran test.

Consequently, the model specification and approach were clarified. The first equation of the study (firm analysis) was specified. The methodologies used also controlled for country-specific effects and addressed serial correlation and heteroscedasticity, as was clarified in the chapter. The methodologies employed to correct standard errors were illustrated. Further methods utilised to add to the robustness of the model were also explained.

Finally, the empirical results of the firm-level estimation were tabulated and discussed. The researcher placed the estimation in context the findings of the cross-correlation analysis and this enabled a conclusive assessment of the research objectives at the firm level. This estimation also facilitated the evaluation of the hypothesis discussed in the previous chapter. Some of the empirical results produced some expected results

that were consistent with the theory and previous studies. Other results were inconsistent with the hypothesis and previous studies, providing a unique view of the study, which was then explained.

Furthermore, the strength of hypothesised relationships was analysed in detail. The empirical results were also tested, and the impact of the independent variables on the dependant variable (investment value or outward FDI) was evaluated. The researcher ended the chapter with a conclusion that contextualised the chapter.

5.2 Data

This study utilised annual data from the financial statements of the sampled MNCs. Due to data limitations, the sample for the firm analysis covered the period from 2005 to 2018. The dependant variable used in this study was the value of outward FDI into Africa by each of the firms.

The choice of the dependant firm variable was aligned with the hypothesis that the OFDI success of MNCs would be reflected in the level of investments in the host market. Sustainability in the said markets was viewed to be directly dependent on the profitability of the investments as reflected by the earnings and profitability.

As described in the previous chapter, the data was processed, estimated and analysed in three stages.

a) Firstly, the time series characteristics of the dataset were explored.

b) The dataset characteristics then determined the type of model to be specified, as well as the estimation approach used to estimate the model.

c) Post-estimation checks and balances were explored to ensure that the results were robust, acceptable and reliable.

The variables used in the firm-level analysis were described in Table 4.4 in the previous chapter, repeated below for easy reference. The independent variables at the MNC level included experience in the industry, experience in OFDI and international business, foreign exchange gains or losses, leverage (net assets), ownership and control, and gearing. The MNCs included in this study were Astral Foods, Illovo, Pick n Pay, RCL Foods, Shoprite, Tiger Brands, and Tongaat-Hulett.

Table 2.21 Description and source of firm-level variables (repeated from Chapter 4)

Variable	Variable description	Source of Data
ASSLIAB	The financial leverage ratio of the MNC as calculated by the value of assets over all liabilities	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
DERATIO	The financial gearing ratio of the MNC gearing as calculated by debt over equity	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
EPS	Earnings per share of MNC in SA cents per share	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
FOREXGAIN	Foreign exchange gains or losses in the income statement against the SA Rand or other funding currency	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
INDEXP	The number of years the MNC has been in the agribusiness industry	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
INVVAL	Value of investment of MNC in RoA	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
JV	The ownership or percentage of the MNC in the investments in sub-Saharan Africa	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
OFDIEXP	The number of years the MNC has been involved in OFDI in sub-Saharan Africa	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
OPPROF	The overall operating profit of the MNC in SA Rand	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)
PROBT	The overall profit before tax of the MNC in SA Rand	(Astral Foods, 2020; Illovo, 2020a, b; Pick n Pay, 2020; Quantum Foods, 2020; RCL Foods, 2020; Shoprite, 2020; Tiger Brands, 2020; Tongaat Hulett, 2020)

5.3 Characteristics of the dataset

Table 5.2 reflected the descriptive statistics per firm. It can be observed that Shoprite had the highest mean investment value across the continent. At the same time, Illovo registered the highest level of profit after tax, followed by Shoprite and Tiger Brands in that order.

Table 2.22 Mean of variables per firm

Firm	Invval R'm	Probt R'm	Opprof R'm	Ofdiexp R'm	AssLiab Ratio	Indexp Years	Deratio Ratio	Forexgain R'm	Eps Cents	Jv (% 100=1)
Illovo	123,033	5,065	5,392	16	2,25	121	0,88	(42,89)	554,71	0,88
Shoprite	3,535,074	4,645	4,774	22	1,65	33	1,64	(1,56)	598,36	0,97
Tiger brands	528,940	3,329	3,234	6	2,59	91	1,78	30,53	1 314,93	0,62
Tongaat Hulett	3,768	1,422	1,958	14	1,71	120	21,12	(295,47)	466,27	0,85
Pick n Pay	671,721	747	1,466	18	2,05	45	5,31	(9,57)	198,60	0,12
Astral	4,644	530	776	12	1,98	34	1,08	(1,50)	1 362,34	0,88
RCL	116,216	524	570	3	2,33	121	1,29	(8,00)	87,08	0,44

Source: Researcher's compilation using STATA 13

Shoprite had the highest mean investment value in the region (R3,5 bn), with 22 years of outward FDI and overall industry experience of 33 years. Shoprite also had the highest control over subsidiaries, with 97% of control. The high investment value is commensurate with the goal of Shoprite to retain its status as the largest retailer in Africa (Shoprite, 2019). The elevated investments, OFDI experience and high level of control positively correlated with the relatively high profitability of Shoprite when compared to its peers, with an average PBT of R4,6 bn. However, debt had mostly financed Shoprite expansion as per their financial statements. The debt-based growth had resulted in the retailer having the lowest leverage (1,65) and the 4th highest gearing ratio (1,64) compared to its peers. Pick n Pay had the second-highest mean investment value in RoA of R671 m, as well as the second-longest OFDI experience (18 years).

However, this did not translate into the same level of profitability, as it had the 6th highest profitability (R474 m) when compared to its peers. Pick n Pay also had the 4th

highest leverage (2,05), as well as one of the lowest gearing ratios at 5,31 (only better than Tongaat-Hulett at 21,12), as it also financed most of its expansions primarily with debt (Pick n Pay, 2019). A further explanation for the low asset base was that Pick n Pay, like Shoprite and other retailers, preferred to rent premises instead of acquiring them. Pick n Pay also had the least control over its subsidiaries in the sample, with 12% overall control. Unlike Shoprite, the Pick n Pay expansion tactic was focused on joint ventures and franchises, resulting in low levels of control (Pick n Pay, 2019). The low level of control exposed the MNC to the controlling management practices of its partners, save for the franchise conditions.

Tiger Brands had the third-highest average mean investment valued at R528,9 m. Subsequently, the profitability of Tiger Brands (R3,3 bn) was the third-highest compared to its peers. Notably, it had one of the lowest OFDI experiences at six years (only RCL had a shorter period at three years). Also, Tiger Brands was the only company in the sample with a positive mean forex gain, although Shoprite and Astral forex losses were minimal. Forex management positively affected the profitability of the MNCs. Tiger Brands was a manufacturing company and had expanded through a capital-intensive plan, although highly financed by debt (Tiger Brands, 2019). Hence, the leverage of Tiger Brands was the strongest in the sample at 2,59. However, the MNC had the 5th highest gearing level of 1,78.

Illovo had 16 years of OFDI experience (the third highest), and the fourth-highest mean investment value of R123 m. However, Illovo had the highest PBT of R5 bn in this sample. Illovo was acquired by Associated British Foods in 2016, with the latter having been a shareholder since 2006. Associated British Foods had influenced Illovo in terms of minimising debt build-up (Illovo [Associated British Foods], 2020). Hence, the company did not have a high exposure to debt as evidenced by the lowest gearing ratio in the sample (0,88) and which positively affected its PBT with reduced interest payments.

Further, Illovo as a manufacturing company, had expanded through capital expansion, resulting in the third-highest asset leverage ratio in the sample. However, Illovo was negatively affected by a high mean forex loss (R42,9 m) attributable to higher forex exposure in their host markets. Only Tongaat-Hulett had a worse forex loss mean (R295 m).

RCL had the fifth-highest investment value (R116 m) in RoA with only three years of OFDI experience. However, RCL had the lowest PBT in the sample (R524 m) and the least OFDI experience. Nevertheless, the company was strongly leveraged at 2.33 (only second to Tiger Brands) and strongly debt-averse with a gearing ratio of 1.20 (only Illovo and Astral were better). Also, RCL was the only other company (in addition to Pick n Pay) that had an overall minority stake in its RoA subsidiaries. The expansion approach of RCL was to minimise debt exposure and initially they preferred a minority stake in investments as a risk mitigation measure (RCL Foods, 2020).

However, the minority shareholding rendered the MNC susceptible to dominant business decisions of the majority shareholders. Astral Foods was an SA MNC that had approached expansion into RoA cautiously, as evidenced by the financial indicators (Astral Foods, 2020). In the sample, Astral Foods had the second-lowest mean investment value of R4,6 m in the RoA. Astral also had the second-lowest PBT (R530 m), the third lowest OFDI experience (12 years) and the third lowest asset leverage ratio (1,98).

Contrastingly, Astral was debt-averse with a gearing ratio of 1,08, which was only second to Illovo. Finally, Tongaat Hulett had the lowest investment in the RoA. Although it had the fourth-highest PBT (R1,42 bn), Tongaat-Hulett had the worst gearing (21,12), the worst exposure to foreign exchange losses (R295 m) and the second-worst leverage at 1,71. As highlighted earlier, the company was cited for mismanagement and financial irregularities during the research period. The figures utilised in this study were restated figures and reflected the correct position of the company.

Table 2.23 Cross-correlation analysis of variables

	Invval	**Probt**	**Opprof**	**Ofdiexp**	**Assliab**	**Indexp**	**Deratio**	**For' gain**	**Eps**	**Jv**
Invval	1									
Probt	0,32***	1								
Opprof	0,32***	0,99***	1							
Ofdiexp	0,55***	0,26	0,32***	1						
Assliab	-0,05	0,15	0,17	-0,08	1					
Indexp	-0,38*****	0,05	0,04	-0,29	0,19	1				
Deratio	-0,05	-0,1	-0,07	0,1	-0,16	0,1	1			
Forexgain	0,04	-0,02	-0,05	-0,08	0,17	-0,1	-0,18	1		

Eps	0,05	0,49***	0,48***	-0,12	0,32***	-0,19	-0,25	0,16	1	
Jv	0,17	0,24	0,21	0,11	-0,11	0,12	-0,003	-0,02	0,28	1

*Note: */**/*** significant at 10%, 5% and 1% respectively*

Table 5.3 reflects the cross-correlation analysis of outward FDI as measured by the value of investments by SA MNCs in other African countries, and other variables in the model. A positive correlation coefficient denoted a direct relationship, while a negative correlation coefficient denoted an inverse relationship between the variables. Outward FDI was positively correlated with profit before tax, operating profit, and the level of the OFDI experience of the firm in the region. The correlation gave an initial impression that firms that were profitable and already had some degree of expertise extending their operations into other countries, were likely to invest further internationally. On the contrary, there was a negative correlation coefficient between domestic industry experience and outward FDI. The negative relationship implied that domestic industry experience did not necessarily lead to MNCs investing externally, but rather profitability and some level of OFDI experience as well. The positive correlation coefficient between profit before tax (0,26), operating profit (0,49) and OFDI experience supported this assertion.

Further, the negative relationship (–0,29) between industry experience in the home market and OFDI experience would conjecture that companies that had been successful in the home market for longer, had less impetus to explore OFDI initiatives. As expected, profit before tax and operating profit were positively correlated with earnings per share of the MNCs in the panel. The asset/liability ratio was also positively correlated with earnings per share due to the lower debt and liability exposure, which in turn inferred a lesser interest burden and increased overall net profit. For the same reason, but to a lesser extent, the asset/liability ratio was positively correlated to operating profit and profit before tax.

On the contrary, the debt/equity ratio, forex gain, earnings per share, and the structure of ownership did not have a direct or strong relationship with the outward FDI. However, earnings per share and the system of ownership, by virtue of their positive correlation with the profitability variables (profit before tax and operating profit), which directly affected the level of outward FDI by SA MNCs, were included in the model. Earnings per share and the structure of ownership also had a positive correlation (0,28) with each

other. Forex gain (which had a negligible relationship with OFDI values and the two profit variables) and debt to equity ratio (which had an insignificant correlation with OFDI and operating profit, but had a negative correlation with profit before tax), might be dropped based on their performance in the model. The negative correlation of the debt/equity ratio and operating profit was expected, as a high debt/equity ratio inferred a relatively high interest expenditure. Consequently, the high interest outlay would affect financing charges and in turn, profit before tax and earnings per share may be inflated. The correlation was substantiated by a strong negative relationship (–0,25) between the debt/equity ratio and earnings per share. Table 5.4 reflected the panel data characteristics of the dataset.

Table 2.24 Panel data characteristics of the dataset – firm-level analysis

Test	**Test Static**	**Critical/Prob. Value**	**Inference**
Joint validity of cross-sectional individual effects H_0: $\mu_1 = \mu_2 \ldots \mu_{N-1} = 0$ H_A: *Not all equal to 0*	F Stat = 10.91	F(0.05, 6, 60) = 2,25	F stat > F critical: There are firm-specific effects.
Joint validity of time (period) fixed effects $H_0 : \lambda_1 = \ldots \lambda_{T-1} = 0$ H_A: *Not all equal to 0*	F-Stat = 0,78	F (0.05, 3, 46) = 1,89	F stat < F critical: There are no time-specific effects.
Hausman test: Nickel (1981) Bias H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ^2_3 = 3,15	Prob = 0,53	We fail to reject the H_A that there is no endogeneity between the lag of the dependent variable and the error term.
Hausman test: Other: H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ^2_3 = 10,26	Prob = 0,07	We fail to reject the H_0 that there is no endogeneity from other regressors and the idiosyncratic error term
Pesaran (2004) CD Test for Cross sectional dependence H_0: *corr* $(\mu i, t, \mu j, t) = 0$ *for* $i \neq j$ H_A: *corr* $(\mu i, t, \mu j, t) \neq 0$ *for some* $i \neq j$	CD = 1,89 (0,63)	Prob = 0,06	Cross-sections are interdependent

Results of the F-test for the validity of individual effects showed that we rejected the null hypothesis that there were no firm-specific effects, and failed to reject the alternative hypothesis, that each firm must have had a unique experience in outward FDI that was not common to the other firms in the dataset. The test result was denoted by the F-stat value of 10,91 being higher than the F-critical value of 2,25. With similar logic, we failed to reject the null hypothesis that there were no time-specific effects, since in the test for time-specific effects, the F-critical value of 1,89, exceeded the F-stat value of 0,78.

Furthermore, the results of the Hausman test for endogeneity showed the absence of a Nickle (1981) bias, since the probability value of 0,53 was not statistically significant. However, the Hausman test for endogeneity on the static model tested positive for endogeneity, at a 10% level of significance, indicating the presence of endogeneity from other independent variables in the model, albeit weakly. In addition, the results of the Pesaran (2004) test for cross-sectional dependence showed that the cross-sections were interdependent.

The interdependence was denoted by the p-value of 0,06, which was statistically significant at the 10% level. Hence, we rejected the null hypothesis that the cross-sections were not interdependent and failed to reject the alternative hypothesis that the cross-sections were interdependent. Based on the time series characteristics of the dataset, we needed to specify a one-way error component model and estimated the model with a methodology that controlled for firm-specific effects, endogeneity, and cross-sectional dependence of the error term.

5.4 Model specification and estimation approach

The results of the diagnostics tests conducted on the dataset inferred the need to specify a one-way error component model. The baseline equation (equation 1) was remodelled into equation 5 in the previous chapter. Here, equation 5 was now remodelled into equation 11:

$$Lninvval_{it} = Lnprobt_{it} + Lnopprof_{it} + Lnassliab_{it} + Lnindexp_{it} + Lneps_{it} + LnJv + \mu_i + v_{it} \quad (11)$$

where, μ_i represented individual country effects and v_{it} the idiosyncratic error term. In line with the panel data characteristics of the dataset at the firm level, this researcher

employed methodologies that control for country-specific effects, endogeneity and cross-sectional dependence of the error term. In the process, other assumptions of the classical linear regression model such as serial correlation and heteroscedasticity were also addressed.

Several estimation approaches addressed these characteristics of the dataset. The least square dummy variable (LSDV) with Driscoll and Kraay (1998), corrected standard errors controls for the individual effects and the moderate levels of cross-sectional dependence of the error term, as well as heteroscedasticity and serial correlation within and between cross-sections.

To further strengthen robustness, the feasible generalised least squares (FGLS) of Parks (1967) and Kmenta (1986) was employed in the estimation process. The Parks and Kmenta FGLS estimation technique is ideally suited to data with country-specific effects, time-specific effects, heteroscedasticity, cross-sectional dependence and serial correlation (Kmenta, 1986; Janoski & Hicks, 1994). These were the characteristics of the dataset in this study. It is also important to note that the FGLS estimation technique is suitable whether the individual effects are time-specific, cross-sectional specific or normally distributed random variables.

5.5 Empirical results

Results of the empirical estimation of the firm level dataset were reflected in Table 5.5. The results contained in Table 5.5 was composed of the estimates of equation 11, using the LSDV with Driscoll and Kraay (1998) corrected standard errors, while model 2 used the FGLS of Parks (1967) and Kmenta (1986).

Beginning with the model fitness, the R^2 figure of 0,68 indicated a good fit of the model to the data estimated. The F-stat probability figure in model 1 and the Wald X^2 in model 2 were both statistically significant at 1%, indicating that the independent variables did play a role in changes in the dependent variable, which was outward FDI.

Table 2.25 Results of firm-level empirical data estimation [dependent variable outward FDI (Lninvval)]

Dep. var. *Lninvval*	**Model 1**	**Model 2**
Lnprobt	0,42* [0,19]	0,03 [0,19]
Lnopprof	1,85*** [0,26]	2,61*** [0,25]
Lnassliab	2,19*** [0,42]	1,31*** [0,38]
Lnindex	-2,21*** [0,16]	-2,09*** [0,30]
Lneps	-1,46*** [0,32]	-1,90*** [0,17]
Lnjv	-0,57** [0,20]	0,08*** [0,18]
Constant	10,96*** [2,64]	11,78*** [1,96]
R squared	0,68	
F Stat prob.	0,00	
Wald $X^2_{(6)}$		0,00

*Note: */**/*** denote 10%/5%/1% level of statistical significance. Standard errors in [ ]. Model 1 uses LSDV with Driscoll and Kraay (1998) corrected standard errors; Model 2 uses Feasible Generalised Least Squares by Parks (1967) and Kmenta (1986).*

According to Table 5.5 and consistent with the results of the cross-correlation analysis, profit before tax, operating profit, and asset to liability ratio were found to enhance outward FDI investments. The impact was denoted by the positive and statistically significant coefficients of these three variables in relation to the dependent variable.

The coefficients of industry experience and earnings per share were negative and statistically significant at a 1% level. The minimal impact of industry experience was expected as home, or other market experiences did not necessarily translate into good performance in a unique host country (Tvedten et al., 2014; Bright & Hruby, 2015). Earnings per share were linked to profit after taxation and the capital raised in home stock exchanges through share issues. The negative correlation of OFDI and earnings

per share could hence be attributed to high levels of total taxation in SSA economies, as well as the issuing of stock in MNC home countries to raise capital, which diminished the earnings of each share (Afrika & Ajumbo, 2012; Business Day, 2013; Brooks & Matthews, 2015; Matsilele, 2015; Aregbeshola, 2016; Gebrehiwot, 2016; FAO, 2018a; PwC, 2018).

The results of the ownership structure in relation to OFDI was inconclusive, in line with the low correlation between ownership structures and investment values in the cross-correlation analysis. Model 1 gave a negative coefficient that was statistically significant at 5%, while in model 2, the coefficient of ownership structure was positive and statistically significant at a 1% level. It must be explained, though, that each scenario was possible due to other underlying circumstances linked to the type of business or the structure of the MNC. The results were not surprising as the choice of internationalisation ownership levels varied across the MNCs and host countries. The ownership and control of subsidiaries varied even within MNCs, as evidenced by the annual reports of the sampled organisations.

5.6 Triangulation of research objectives, previous literature or studies and empirical results (firm level)

The research objectives at firm-level were to analyse the investment strategies of SA agribusiness MNCs in the rest of Africa and to investigate the causes of the challenges faced by the MNCs. Further, the objective was to link firm heterogeneity to the entire FDI process. The analysis in the firm analysis focused on the attributes of the firm that drove investment decisions. The determinants of investment decisions were linked to the performance of key firm variables that subsequently influenced strategic decisions.

The empirical results found that profit before tax, operating profit, and the asset to liability ratio augmented the influence of outward FDI initiatives. The product aligned with earlier findings by Ciesielska (2012), Alcaraz et al. (2017), Weilei et al. (2017) and Paul and Benito (2018), who say that profitability remained the ultimate priority and influencer for OFDI. Weilei et al. (2017) and Paul and Benito (2018), however, note that investment sustainability was equally essential in the promotion of further FDI. They add that a substantial MNC capital and asset base mitigated debt exposure and risk, particularly at the onset, allowing MNCs further to build the asset base before

servicing debt. The asset base assertion corroborated the positive relationship between investments and the asset/liability ratio substantiated by this study.

The researcher found that earnings per share were negatively correlated with investments (OFDI). The result was inconsistent with numerous findings, as earnings per share had been a positive enhancer of FDI in previous studies (Ciesielska, 2012; Weilei et al., 2017; Paul & Benito, 2018). However, these studies were not based on African markets, supporting the unique conditions on the continent and the importance of Africa-centric studies. The reason for earnings per share diminishing with increased OFDI was explained in the findings as being linked to capital raising and taxation, which decreased the value and earnings of each share. The inability to raise capital in many African markets was consistent with the findings of Aregbeshola (2016) and those of Gebrehiwot (2016). The taxation burden and adverse effect on MNC profitability and further FDI, were also compatible with previous results of Afrika and Ajumbo (2012), Matsilele (2015), and Janský and Palanský (2019). The study of Janský and Palanský (2019) was a global study which highlighted the benefits of tax haven countries for those countries and MNC OFDI projects.

The empirical results on ownership and the level of control showed inconsistent results. The varied results were relatable to previous studies as the earlier studies had not established a consistent conclusion regarding the ideal ownership structures. Nevertheless, some studies have argued that higher levels of ownership were relatable to higher levels of OFDI as the MNC would have the propensity to invest where they had a controlling interest and had direct control over their investment (Xia et al. 2013; Nakamura & Zhang, 2018). However, Xia et al. (2013), as well as Nakamura and Zhang (2018), add that low levels of ownership can lead to increased OFDI where the contribution of the MNC was predominantly capital instead of intangible assets. Accordingly, the success of each preference and success of one ownership structure over another, could be linked to other underlying characteristics as evidenced by the results of this study and corroborated by earlier FDI entry mode comparative studies of Sun, Peng, Ren and Yan (2010), Xia et al. (2013), and Nakamura and Zhang (2018). Sun et al. (2010) say that entry modes were linked to the intellectual property of MNCs, in that MNCs with a lot of intellectual property, were

comfortable with joint ventures (JVs) and franchises where they had low levels of control (and lower OFDI), as they maintained the rights to the intellectual property.

Sun et al. (2010) add that emerging country MNCs with little intellectual property were more aligned to high levels of control and needed higher capital injections. Xia et al. (2013) say that entry modes (and FDI inflows) were often determined by government policy (in the home or host countries) directly or indirectly. Sun et al. (2010), as well as Nakamura and Zhang (2018) conclude that in many investments, the ownership levels may alter as the MNC matures in OFDI and reiterate that underlying circumstances were relevant to ownership approaches of MNCs, which ultimately influenced the structure of OFDI investments.

This researcher found that experience in the home market had a negative relationship with OFDI. The finding was inconsistent with the hypothesised position emanating from literature and the relatively few studies on the matter. Xia et al. (2014), in their research of OFDI by Chinese MNCs, found a strong positive relationship between industry or group experience and OFDI, arguing that home experience was essential for building a comparative advantage before OFDI. In a previous study, Deseatnicov and Kucheryavyy (2018) argue that MNCs relied on export experience to host countries, as well as the prospects of intercompany trade, as the primary determinant for FDI decisions. Generic FDI attractiveness factors, such as the ease of doing business, were secondarily considered. The study by Paul and Benito (2018) concur on the export experience concept. Buckley, Chen, Clegg and Vossa (2016) say that experience was insignificant regarding FDI decisions. Buckley et al. (2016) argue that FDI decisions were mainly based on organisational capability and the psychology of the management, regardless of the experience level in the home country. Many studies (such as Sun et al., 2010; Weilei et al., 2017; Paul & Benito, 2018) focus on the FDI experience, which was confirmed by this study, to have had a direct bearing on OFDI success.

Nevertheless, most previous studies on experience and FDI were not based on African MNCs and hardly was any (if at all) on African MNCs investing in Africa. The strong negative relationship between home experience by SA MNCs and OFDI was an interesting conclusion which had been unpacked in the findings of the estimation

above. The result challenged existing literature and again supported the unique conditions of SA MNCs and their investments in the rest of Africa.

5.7 Conclusion

The researcher presented the results of firm-level estimations in this chapter. Firm-level data was explored in a cross-sectional time series analysis, and the models were re-calibrated. To ensure reliability and validity of results, robustness checks were done. OFDI of selected MNCs was used as the dependant variable. Numerous hypotheses of the relationship between the independent variables and the dependant variables, and notary variables were tested to establish their effects on the MNCs OFDI initiatives and vice versa.

Cross-correlation of variables showed that OFDI was positively related to profit before tax, operating profit and the level of experience in OFDI, as expected from the hypothesis. Interestingly, there was a negative relationship between home industry experience and outward FDI, inferring that the decision to invest outside of the country was taken more readily by less inexperienced firms which were possibly more adventurous and adaptable to change. The companies with less home experience showed more relative probability than ones with more home experience, to venture into other countries. Therefore, the results concluded that profitability and OFDI inexperience led to more foreign investment. In contrast, companies that had been more successful in the home market for longer, preferred to focus on the home market rather than OFDI. The study also found that gearing, forex management, earnings per share and ownership interest did not have a significant bearing on OFDI, contrary to the hypothesised position. However, earnings per share did have a relationship with the profit variables, and hence an indirect relationship with OFDI.

Finally, the empirical results (which were triangulated with the research objectives, literature, and previous studies) confirmed that profit before tax, operating profit, and a strong asset cover positively enhanced OFDI at the firm level. The findings on profitability were consistent with previous studies, although previous scholars do not highly emphasise the asset cover. Still, some highlight the impact of a robust assets base on mitigating risks. The conflicting effect of ownership structures across the models was highlighted and substantiated the notion that ownership structures could

aid in the success or failure of MNCs. Finally, the negative correlation between home experience and OFDI, confirmed that foreign expansion inertia set in with the age of the MNC. It was thus suggested that a born-global ideology may be appropriate as a possible approach by the MNCs.

In conclusion, the findings at firm-level addressed MNC-related research objectives and assisted in aligning this set of objectives with the sector- and country-level analysis that are presented in subsequent chapters.

Chapter 6

Empirical estimation and analysis – sector level

6.1 Introduction

In this chapter the researcher focused on the sector level, empirical aspect of the research. This section was vital in that the researcher analysed the industry dynamics, which was the core of the study. The researcher commenced with a listing and analysis of the hypothesised independent variables that influenced the flow of OFDI in agribusiness. Due to the unavailability of data on agribusiness OFDI, the dependant variable was proxied by development in inflows for agribusiness.

The estimation and analysis were conducted similarly to the firm-level data and followed the route of exploration of the structure of the series, determination of the model fitness and post estimation checks. It was clarified in the chapter that the agribusiness data related to the six countries that were popular destinations for SA MNCs.

Analysis of agribusiness FDI into the host countries was looked at from an economic perspective, the productivity perspective and the investment support perspective. This approach enabled a closer analysis of critical aspects of the industry and avoided cross inferences of the variables. Also, the models were analysed from static and dynamic perspectives. This approach had been adopted as the independent variables to developmental inflows could have a fixed effect (events only affecting a certain period) or a dynamic effect (events having a recurring effect).

On the data analysis, cross-correlation and panel data characteristics were explored. Furthermore, country and time-specific effects were analysed in detail to ensure adequate understanding of each unique host-country agribusiness sector over specific periods. The empirical results were presented from the three viewpoints and from dynamic and static perspectives. The researcher ends the chapter with a conclusion of the findings at the sector level.

6.2 Data

Annual data on industry variables were used in this section of the study. As elaborated upon in Chapter 4, the variable selection was informed by existing literature. The dependent variable, inflow of agribusiness FDI, was informed by theoretical precedence in Rashid et al., and Abu Bakar and Razak (2015). However, data on this variable was not available, so agribusiness development inflows were used as a proxy dependent variable. The matrix of independent variables was derived from existing literature, own research, and studies such as that of Tadesse and Ryan (2011), Rashid et al. (2015) and Nakamura and Zhang (2018). These included agriculture as a percentage of GDP, agri-gross fixed capital formation, agri-imports and exports, agriculture value add, arable land, cereal yield, credit access for agriculture, donor funding in agribusiness, employment in agriculture, fertiliser uptake, food productivity, food security, livestock productivity, climate change and food price inflation. Table 6.1 reflected a detailed description of the variables at the industry level and their respective sources.

Table 2.26 Sources and definition of variables

Variable	Variable description	Source of Data
AGDEV	Agricultural development inflows	(Food and Agriculture Organisation [FAOSTAT], 2020a)
AGGDP	Agriculture GDP (% of overall GDP)	(Food and Agriculture Organisation [FAOSTAT], 2020b)
AGFCF	Agri-infrastructure investment measured as agri-gross fixed capital formation (% of overall government budget)	(World Bank Data [WBD], 2020a)
AGVAL	Value added in agri-products in the host country (% of overall value added)	(Food and Agriculture Organisation [FAOSTAT], 2020c)
ARLAND	Arable land usable for agriculture (% of overall)	(World Bank Data [WBD], 2020b)
CEREAL	Cereal yield (kg per hectare)	(World Bank Data [WBD], 2020c)
CLIMATE	Climate change (temperature)	(Food and Agriculture Organisation [FAOSTAT], 2020d)
DFUND	Donor funding to agribusiness measured in US$	(World Bank Data [WBD], 2020d)
EMP	Employment in agriculture (% of overall)	(Food and Agriculture Organisation [FAOSTAT], 2020e)
FERTILISER	Fertiliser uptake (kg per hectare)	(World Bank Data [WBD], 2020e)
CROPPI	Food productivity in comparison to other countries (index)	(World Bank Data [WBD], 2020f)
FOOD SECURITY	Food security (% of population)	(Food and Agriculture Organisation [FAOSTAT], 2020f)
LIVESTOCK	Livestock productivity in comparison to other counties (index)	(World Bank Data [WBD], 2020g)

Consistent with the estimation approach for this study, the data was estimated and analysed in three phases:

a) First, the time series characteristics of the dataset were explored;

b) The dataset characteristics then determine the type of model to be specified, as well as the estimation approach used to estimate the model; and

c) After estimation, checks and balances were explored to ensure that the results were robust, acceptable and reliable.

In the industry-level analysis, the emphasis was on countries that served as the primary destinations for SA outflow of FDI in agribusiness. These were Angola, the Republic of Congo, Mozambique, Nigeria, Uganda and Zambia.

The attractiveness of these foreign destinations for outflow of SA agribusiness was looked at from three different perspectives:

a) The economic perspective;

b) The productivity of the sector perspective; and

c) Investment support for the sector perspective.

The economic perspective entailed the structural variables that were likely to be drivers of South African agribusiness FDI outflows to the countries in this panel. The productivity model related to variables that defined the output and value addition of the sector, while the investment support model captured the physical and financial institutional investment drivers for the industry. Environmental considerations such as climate change were also captured in all the models since agriculture was still mostly climate-dependent in Africa, making it vulnerable to climate change and variability. These categorisations guided the processing, analysis and estimation of the dataset in this chapter.

Also, the models were estimated from both dynamic and static perspectives. The approach was due to the concept of agricultural development inflows (which was a proxy for SA agriculture FDI outflows) into these six countries, and its drivers, could be dynamic over time – hence the dynamic perspective. On the other hand, the drivers of these outflows themselves also had a static and discontinuous nature to them,

whereby what happened in the previous year was not necessarily an indication of what was likely to occur in the current or following year. The agriculture sector was a very unpredictable sector that was vulnerable to several drivers such as climate change and variability – hence the static perspective. This analytical positioning covered the two possible ways in which the data could be estimated. As introduced above, due to the unavailability of data on agribusiness FDI inflows into the sampled countries, developmental agribusiness inflows had been applied instead as the dependant variable. The behaviour of donor funders was very similar to the conduct of FDI in home countries. Authors of previous studies say that the determinants and flow of developmental funding are positively correlated with FDI and often precede or are directly linked to FDI strategies of home countries (UNCTAD, 1996; Bhavan, 2011; Amusa, Monkam & Viegi, 2016; Anetor, et al., 2020). These relationships substantiated the choice of the developmental flows into agribusiness as a proxy for agribusiness FDI.

6.3 Characteristics of the dataset

Descriptive statistics per variable, cross-correlation analysis and panel data characteristics of the dataset were looked at for the countries in the panel. This was done along the three models used to analyse the drivers of agricultural inflows to countries that were the preferred destinations of SA agribusiness OFDI. Panel data characteristics of the dataset looked at the individual country and time-specific effects attributable to each country, whether there was endogeneity present in the dataset or whether the countries were interdependent. Country- and time-specific attributes referred to specific country experiences that needed to be provided for in the estimation process. These included events such as the prolonged conflicts in Angola and Mozambique, and the effect it has had on the structure and productive resources of their economies. Uganda has had its share of internal conflicts driven by electoral processes (Kaka, 2016), as well as the religious and ethnic insurgency in Nigeria (Canci & Odukoya, 2016).

Endogeneity referred to the incidence of correlation between the independent variables and the fixed effect or idiosyncratic error term, which needed to be corrected for in the estimation process (Baltagi, 2008). The countries in the panel were similar in structure, in terms of being agri-producing or natural resource endowed and

therefore vulnerable to similar external shocks. Empirically, this translated into cross-sectional dependence of the error term. Empirical approaches used in the estimation process needed to be capable of addressing these characteristics of the dataset. Therefore, to specify the correct model and to determine the appropriate estimation technique, the data needed to be diagnosed to see which of these characteristics were prevalent to address them in the model specification and estimation technique used in this chapter.

6.3.1 Economic model

Table 6.2 reflected the mean of each variable for each country in the economic model. It could be observed from Table 6.2 that Uganda received the highest agricultural development inflows, followed by Mozambique and Nigeria in that order. This was consistent with the assertions of Bergo (2015), African Development Bank [ADB] (2018) and the FAO (2019b), and attributable to factors such as structural and economic reforms that have been aggressively pursued in those countries, as well as agribusiness potential, thereby attracting and maintaining the flow of agri-developmental inflows. However, these developmental inflows mainly targeted the lower end of the population, complementing FDI inflows into the more formalised section of agribusiness. In reality, the Republic of Congo received the least inflows, as the country had been increasingly reliant on the oil economy and less focused on agribusiness. The specific effects of the identified variables of interest on the models were unveiled by the descriptive statistics (Table 6.2).

Table 2.27: Descriptive statistics per country

Country	**Agricultural development inflows (Agdev)**	**Agriculture % of overall GDP (Aggdp)**	**Agri-products value added in the host country (Agval)**	**Employment in agriculture (Emp)**	**Food security**	**Arable land (Arland)**
Angola	20,57	6,85	5 268,95	44,75	91,74	3,2
The Republic of Congo	8,19	5,81	438,33	38,09	93	1,51
Mozambique	140,79	23,75	2 465,36	76,60	102,42	6,58
Nigeria	108,22	24,41	70 300,52	41,93	122,16	37,90
Uganda	173,21	24,64	4 398,45	69,44	104,32	31,91
Zambia	69,62	10,66	1 415,54	63,29	89,32	4,44

According to Table 6.2, as supported by literature, only 2% of the arable land in the Republic of Congo was utilised for agriculture in 2010 (Stads, Bani & Itoua-Ngaporo, 2010), rising to 10% in 2018 (World Food Programme [WFP], 2020). The prolonged war in Angola and the unipolar structure of its economy, dominated by oil, translated into little effort to develop other productive sectors of the economy, such as agriculture (FAO, 2012; US Department of Commerce, 2018). Angola, like the Republic of Congo, represented a typical example of the 'Dutch disease' effect of oil resources. Also noteworthy was the fact that Zambia had a vibrant and relatively independent agriculture sector which was actively developing after a long period of overdependence on copper and other mineral resources (World Bank Group, 2018).

Thus, Zambia received a relatively moderate level of agriculture development inflows compared to Mozambique and Uganda. Similar trends could be observed in terms of agriculture output as a percentage of GDP, with the highest among the countries being Uganda. Employment in agriculture as a percentage of total employment, was highest in Mozambique, closely followed by Uganda and Zambia. This further aligned closely with trends in development inflows, and agricultural output as a percentage of GDP. Employment in agriculture was again lowest in the Republic of Congo, followed by Angola.

Another important result from the descriptive statistics was the fact that trends in the food security index closely followed trends in agri-products value added, with the highest level of food security being experienced in Nigeria, followed by Uganda and Mozambique. However, Zambia registered the lowest level of food security, while the Republic of Congo recorded the lowest level of agri-products value added. As discussed in the literature, food security might be affected by the overall economy. This phenomenon might explain why countries with a developed agricultural base, like Zambia, suffered food insecurity issues. Also, this might translate into an explanatory property between value addition and food security, as local value-added products were easier to reach a larger portion of the population than imported value-added goods.

Having looked at the descriptive statistics, we proceeded to show the kind of correlational relationship that existed among the variables deployed in this section of the study. The result was reflected in Table 6.3.

Table 2.28 Cross-correlation analysis of variables

	Agdev	Aggdp	Agval	Emp	Food security	Arland
Agdev	1					
Aggdp	0,54***	1				
Agval	0,27***	0,35***	1			
Emp	0,39***	0,55***	-0,38***	1		
Food security	0,33***	0,69***	0,72***	-0,03	1	
Arland	0,48***	0,73***	0,66***	0,02	0,78***	1

*Note: */**/*** denote10%/5%/1% level of significance.*

From Table 6.3, which reflected the results of the correlation analysis of the variables, almost all the correlation coefficients were significant at a 1% level and positive, indicating a direct relationship between the variables and the dependent variable. It could be observed from the first column of Table 6.3 that agriculture development inflows into host countries were positively correlated with all the variables in this column. Although the direction of causality could be dual, this indicated that when nations attract development inflows for their agribusiness sector, the contribution of the industry to GDP, value added of the industry, the level of food security in the country and the level of jobs created by the sector might all improve.

In addition, the amount of arable land available for agriculture was also a positive factor for attracting development inflows for the industry. This was denoted by the positive correlation coefficient (0,48) between development inflows and the amount of arable land available, statistically significant at 1%. In the second column, the correlation between the amount of arable land available for agriculture purposes and the level of agriculture output as a percentage of GDP, was even stronger (0,73) and significant at a 1% level.

In addition, the level of agrarian GDP (Aggdp) as a percentage of GDP was positively correlated with the level of food security (0,69), the level of employment in the sector (0,55), and agriculture value added (0,35). All the correlation coefficients were statistically significant at a 1 % level. In column three, the level of arable land available had a positive effect on the value added of the sector. This was denoted by the positive correlation coefficient of 0,66, which was statistically significant at 1%. Agriculture value addition had a substantial impact on the level of food security in the countries in

the panel. This was signified by the positive correlation coefficient of 0,72, that was statistically significant at 1%.

However, agriculture value addition was negatively correlated (–0,38) with the level of employment in the sector. This spoke to the use of technological innovation in adding value in the sector and the adverse effect it was likely to have on jobs in an otherwise labour-intensive subsistence sector (Beiernien et al., 2014; Christiaensen, Rutledge & Taylor, 2019). The issue of job losses was compounded by the slow development of capacity in sub-Saharan Africa to absorb improved agricultural technology.

The panel data characteristics of the dataset were reflected in Table 6.4. Tests for the validity of individual effects showed that there was the need to control for country-specific effects and time-specific effects. The Hausman (1978) test for endogeneity showed multiple sources of endogeneity in the model. The Breusch-Pagan (1980) (see Breusch & Pagan, 1980) test for cross-sectional dependence of the error term when the $T > N$ indicated that the countries in the model were interdependent. In other words, their economies were similar in structure, being agri-based or natural resource-based economies, and they were vulnerable to standard external shocks.

Table 2.29 Panel data characteristics of the data – economic model

Test	**Test static**	**Critical/prob. value**	**Inference**
Joint validity of cross-sectional individual effects H_0: $\mu_1 = \mu_2 \ldots \mu_{N-1} = 0$ H_A: *Not all equal to 0*	F Stat = 26,47	F (0.05, 5, 103) = 2,30	F stat > F critical: There were country-specific effects.
Joint validity of time (period) fixed effects $H_0 : \lambda_1 = \ldots \lambda_{T-1} = 0$ H_A: *Not all equal to 0*	F-Stat = 4,95	F (0.05, 18, 90) = 1,72	F stat > F critical: There were time-specific effects.
Hausman test: Nickel (1981) bias H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ^2_6 = 21,18	Prob = 0,00	We failed to reject the H_A that there was endogeneity between the lag of the dependent variable and the error term.
Hausman test: Other: H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ^2_5 = 11,59	Prob = 0,00	We failed to reject the H_A that there was endogeneity from other regressors and the idiosyncratic error term
Breusch-Pagan (1980) test for cross-sectional dependence H_0: *corr* ($\mu i, t, \mu j, t$) *= 0 for i ≠j* H_A: *corr* ($\mu i, t, \mu j, t$) *≠ 0 for some i ≠j*	χ^2_{15} = 23,43	Prob = 0,08	Cross-sections were interdependent

Still on Table 6.4, the test implied that the estimation approach used to estimate the economic model should be suitable to data that exhibited individual effects, endogeneity and cross-sectional dependence of the error term. Several estimation approaches fitted this description. These approaches were explored, and the most suitable estimation approach was used to estimate the economic model.

6.3.2 Productivity model

Descriptive statistics of the variables in the productivity model were reflected in Table 6.5 per country. The mean of agricultural development inflows had already been discussed in the previous section.

Table 2.30 Descriptive statistics per country

Country	Agdev	Cereal	Fertiliser	Croppi	Arland	Climate	Livestock
Angola	20,57	679,16	6.03	145,75	3,21	0,74	118,88
Congo	8,19	793,58	2.98	110,11	1,51	0,79	130,89
Mozambique	140,79	783,68	4.67	123	6,58	0,67	113,00
Nigeria	108,22	1 402,66	6.64	101,58	37,90	1,03	109,71
Uganda	173,21	1 813,37	1,76	89,35	31,91	0,97	109,79
Zambia	69,62	2 202,88	43,11	132,63	4,44	0,89	139,84

The mean cereal yield per hectare, fertiliser use in kilograms per hectare and livestock production were highest in Zambia, compared to the other countries. The increased productivity was attributable to Zambian agriculture being one of the most commercialised in the whole of sub-Saharan Africa (World Bank Group, 2018). The agribusiness sector in the country had benefited from significant investments from SA MNCs, due to Zambia being a popular destination for SA agribusiness MNCs. Furthermore, its proximity to Zimbabwe had been beneficial as many experienced farmers who lost their land in Zimbabwe (due to land redistribution) relocated to Zambia.

As discussed earlier and corroborated by the WFP (2020), the Republic of Congo had relied mainly on its oil economy with minimal agribusiness, focused on less labour-intensive activities such as livestock production. The country had preferred to import most of its food needs from neighbouring countries and abroad. Therefore, the Republic of Congo came second to Zambia in livestock production. Although farming

in Uganda was mainly communal, the country had 34,4% arable and fertile land (World Bank, 2018). It was also a food-secure country and exported a significant portion of its crop production to other EAC countries. Ugandan cereal production per hectare was, hence, notable in the sampled countries and only second to Zambia.

Nigeria, by virtue of its sheer size, had the most considerable mean portion of arable land available among the countries in the panel, followed by Uganda. However, Nigeria is a major oil-producing country and had been consistent with the propensity of oil-producing countries to rely on its oil economy. Therefore, Nigeria had the third-highest mean level of cereal production per hectare. Nigeria also had the highest mean climate change temperature among the countries. The fertiliser uptake was expectedly the highest in Zambia due to the high level of commercialisation of the industry and the high level of adoption of technology. Nigeria and Angola were second and third, respectively in fertiliser uptake, and this can be attributable to the literacy of the populations in those countries. Ugandan fertiliser uptake was hampered by the low skill level of farmers and compounded by the high fertility of the soil in that country, which reduced the motivation to invest in fertiliser. Similarly, low skill levels and experience of farming in the Republic of Congo also led to relatively low uptake of fertiliser (only Uganda had a lower level).

Having looked at the descriptive statistics, the researcher presented the result of cross-correlation analysis in the next section, which is reflected in Table 6.6.

Table 2.31 Cross-correlation analysis of the variables in the productivity model

	Agdev	**Cereal**	**Fertiliser**	**Croppi**	**Arland**	**Climate**	**Livestock**
Agdev	1						
Cereal	0,35***	1					
Fertiliser	0,01	0,63***	1				
Croppi	-0,01	0,06	0,38***	1			
Arland	0,48***	0,37***	-0,24	-0,37***	1		
Climate	0,35***	0,42***	0,16	0,28***	0,32***	1	
Livestock	0,15	0,32***	0,51***	0,59***	-0,23**	0,45***	1

*Note: */**/*** denote10%/5%/1% level of significance.*

In the first column, there was a positive relationship between agricultural development inflows and cereal production per hectare, arable land available per hectare and

climate change temperature. This was denoted by the positive correlation coefficients that were statistically significant at a 1% level. The correlation implied that development inflows were channelled to countries that had the resources (arable land), skills (cereal production per hectare) and stable climate to absorb the developmental inflows. Furthermore, the implication was that development inflows might influence productivity positively.

According to Table 6.6, livestock production, use of fertiliser per hectare and crop production index had very low correlation with agricultural development inflows, indicating that these variables were not key drivers of agrarian development inflows. Climate change, amount of arable land per hectare, and fertiliser use per hectare were strongly positively correlated with cereal yield per hectare, and statistically significant at a 1% level. The relationship might be attributed to the fact that cereal production required a favourable combination of these three variables. All else being normal, it was logical and consistent with science that the more land that was available and the more fertiliser they utilised, the more productive output they would harvest.

Warmer temperatures might affect crop production positively on condition that the optimal temperature of the crop was not surpassed. Warmer temperatures allowed for faster growth and swifter harvests, assuming other conditions such as rainfall and crop life span timing were consistent. The increased temperatures also enabled farmers to move crops from other warmer areas and diversify their crop variety. It could also be observed that there was a positive correlation (0,32) between cereal production and livestock production, which was statistically significant at 1%.

Two scenarios could explain the correlation. Firstly, positive cereal production inferred that the composite structure of that land was favourable. In other words, if the conditions were favourable for crop production, they would also be favourable for natural or deliberate grazing pastures available for livestock. Secondly, the crops that were produced were also used for livestock feed. Hence the livestock and crop production may be positively correlated. Where there was a drought, for instance, it was generally accepted that both crops and livestock were negatively affected. There was a negative correlation between arable land and livestock production, indicating the resource constraint of arable land, especially when livestock farming was prevalent. Practically, land, like other natural resources, was limited in supply.

Therefore, farmers often chose between utilising the land available for crop production, livestock production or a combination thereof. The same concept would apply even within livestock or crop production, where the farmer needed to choose one crop or one breed of livestock over another. The eventual choice was influenced by numerous factors such as competencies, market prices, type of land, availability of supplementary resources, technology, culture and upbringing, among others.

This done, the panel characteristics of the dataset was analysed. The result of the analysis was reflected in Table 6.7.

Table 2.32 Panel data characteristics, the production model

Test	**Test static**	**Critical/prob. value**	**Inference**
Joint validity of cross-sectional individual effects H_0: $\mu_1 = \mu_2 \ldots \mu_{N-1} = 0$ H_A: *Not all equal to 0*	F Stat = 18,65	F (0.05, 5, 103) = 2,30	F stat > F critical: There were country-specific effects.
Joint validity of time (period) fixed effects H_0: $\lambda_1 = \ldots \lambda_{T-1} = 0$ H_A: *Not all equal to 0*	F-Stat = 3,91	F (0.05, 18, 90) = 1,72	F stat > F critical: There were time-specific effects.
Hausman test: Nickel (1981) bias H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ_6^2 = 14,63	Prob = 0,02	We failed to reject the H_A that there was endogeneity between the lag of the dependent variable and the error term.
Hausman test: Other: H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ_6^2 = 14,63	Prob = Result inconclusive	Inconclusive
Breusch-Pagan (1980) test for cross-sectional dependence H_0: *corr* $(\mu i, t, \mu j, t) = 0$ *for* $i \neq j$ H_A: *corr* $(\mu i, t, \mu j, t) \neq 0$ *for some* $i \neq j$	χ_{15}^2 = 71,28	Prob = 0,00	Cross-sections were interdependent

Accordingly, Table 6.7 reflected the results of the panel data characteristics of the dataset. Tests for the validity of individual effects showed that there was the need to make provision for country-specific and time-specific attributes of the countries in the dataset. The Hausman (1978) test for endogeneity showed multiple sources of endogeneity, while the Breusch-Pagan (1980) test showed that the countries in the dataset were interdependent. These characteristics of the dataset needed to be provided for in the model specification and empirical technique used to estimate the data.

6.3.3 Investment support model

The investment support model is introduced by the descriptive statistics. The results of this analysis were reflected in Table 6.8.

Table 2.33 Descriptive statistics of the variables – investment support model

Country	Agdev	Agfcf	Dfund	Arland	Climate
Angola	20,57	455,50	32,24	3,21	0,74
The Republic of Congo	8,19	58,66	8,07	1,51	0,79
Mozambique	140,79	120,65	211,87	6,58	0,67
Nigeria	108,22	2 785,91	185,04	37,90	1,03
Uganda	173,21	253,98	231,49	31,91	0,97
Zambia	69,62	253,98	106,84	4,44	0,89

From the results of the descriptive statistics of the variables in the investment support model that were presented in Table 6.8, it was evident that the mean levels of agricultural development inflows, arable land and climate, concurred with the discussion offered in the previous section. According to Table 6.8, it was shown that Nigeria registered the most infrastructure investment, followed by Angola, Uganda and Zambia in that order. The high level of agri-investments in Nigeria was due to the country embarking on efforts to mitigate the over-reliance on its oil economy. Investments had been promoted into mechanisation, food processing (including beef processing, juice processing, beverage processing), timber exploitation, horticulture, infrastructure, distribution and other aspects of the agribusiness value chain (Nigerian Investment Promotion Commission [NIPC], 2020). Angola, on the other hand, was

rebuilding its agribusiness sector after decades of war and a challenging political climate after the war.

Furthermore, Angola was also highly reliant on its oil economy with one-third of the economy and 90% of all exports attributable to the oil economy (World Bank Group, 2020a). Like Nigeria, Angola had the second-highest investment into agribusiness as it endeavoured to manage the issues mentioned above. Agribusiness investments in Angola were focused on reviving primary agriculture such as the production of sugar cane and coffee, but also value-added sectors of food processing and other aspects of the value chain. In Zambia and Uganda, there had been relatively less investment in agricultural production compared to Nigeria and Angola.

Besides being smaller countries than Nigeria and Angola, the relatively lower investments in Zambia and Uganda can be attributable to the fact that these countries had been agribusiness countries for more extended periods and would hence have invested less over the period under review. They were also focusing on improving farming methods with minimal infrastructural investments. For instance, as discussed above, Zambia had more focus on fertiliser usage than on infrastructural development and Uganda benefited from the high percentage of arable land. Also, Uganda placed emphasis on productivity with the same resources. The Republic of Congo registered the lowest level of infrastructure investment, followed by Mozambique. In the case of the Republic of Congo, this corroborated the fact that the country still had a minimal focus on agribusiness. Mozambique had a diversified economy dominated by services, which contributed 46,5% to the GDP (World Bank, 2020). The focus on a diversified economy, rather than an agri-economy, would explain the relatively low investment into agribusiness.

Along the same lines, Uganda had received the highest donor funding for agricultural development over the sample period among the six countries in this panel. Uganda had traditionally had a high component of donor funding in its budget in general and particularly for agriculture. As discussed above, donor funding was prevalent where the recipient country had challenges that it could not meet through its fiscus.

Furthermore, the recipient country must have good relations with the donor, exhibit policies and institutions that appeal to the donor country, as well as untapped or

developing potential. Uganda had been progressive in most of the above, thereby attracting significant donor funding, especially for agribusiness, where it had immense potential for the reasons mentioned above. Mozambique had the second-highest inflows of agribusiness donor funds. The inflow was attributable to the country being one of the fastest-growing economies in sub-Saharan Africa, averaging 5,62% (World Bank Data, 2020h). The nation had also shown immense potential in agribusiness, at least to the donor community. Nigeria and Zambia were the third and fourth highest recipients of agribusiness donor funding.

As discussed above, Nigeria had been embarking on reforms to diversify its economy over the past two decades. There had also been an improvement in transparency that was appealing to donors. Zambia had been growing its agribusiness sector commercially and had also gradually implemented reforms that were appealing to donors. During the period under review, Angola and the Republic of Congo had been the receiving the least agribusiness donor funds. The impact of the civil war and relatively high perceived incidences of corruption had affected donor appetite in Angola (Transparency International, 2020). There had also been a focus on oil, as discussed, with oil-related activities being the preferred destination of donor funds. The Republic of Congo was still not perceived as an agribusiness destination, explaining the low agribusiness developmental inflows.

After the presentation of the results of the descriptive statistics, we proceeded to look at the results of the cross-correlation statistics that was reflected in Table 6.9.

Table 2.34 Cross-correlation analysis of variables

	Agdev	**Agfcf**	**Dfund**	**Arland**	**Climate**
Agdev	1				
Agfcf	0,28***	1			
Dfund	0,94***	0,38***	1		
Arland	0,48***	0,62***	0,48***	1	
Climate	0,35***	0,33***	0,36***	0,32***	1

*Note: */**/*** denote10%/5%/1% level of significance.*

The cross-correlation analysis of the variables that were reflected in Table 6.9, especially the first column, suggested that infrastructure development had a positive relationship with agribusiness development inflows into the countries in this panel. This

was underlined by the positive correlation coefficient (0,28) that was statistically significant at a 1% level. Also, donor funding was highly positively correlated (0,94) with development inflows. The high correlation might be due to donor funding being a significant part of agribusiness development inflows.

In many cases, development inflows could be wholly donor-funded. However, in some cases, developmental inflows could be linked to FDI or precede FDI, as explained above. The availability of arable land and favourable climate fostered potential agricultural productivity. In turn, this positioned a country favourably for attracting agribusiness development inflows and agribusiness FDI. The positive correlation coefficients between arable land and climate confirmed this position. In column two, positive correlation coefficients could be observed between infrastructure development in agriculture, agri-donor funding and availability of arable land. The link was due to infrastructure development in agriculture that required financing and the availability of arable land for agriculture. Consistent with this thinking, donor funding for agriculture was positively correlated with the availability of arable land.

This done, we looked at the panel characteristics of the dataset. The result of the analysis was reflected in Table 6.10.

Table 2.35 Panel data characteristics of the dataset – investment support model

Test	**Test static**	**Critical/prob. value**	**Inference**
Joint validity of cross-sectional individual effects H_0: $\mu_1 = \mu_2 \ldots \mu_{N-1} = 0$ H_A: *Not all equal to 0*	F Stat = 2,35	F(0.05, 5, 105) = 2,30	F stat > F critical: There were country-specific effects.
Joint validity of time (period) fixed effects $H_0 : \lambda_1 = \ldots \lambda_{T-1} = 0$ H_A: *Not all equal to 0*	F-Stat = 0,92	F (0.05, 18, 92) = 1,72	F stat < F critical: There were no time-specific effects.
Hausman test: Nickel (1981) bias H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ_3^2 = 11,87	Prob = 0,01	We failed to reject the H_A that there was endogeneity between the lag of the dependent variable and the error term.
Hausman test: Other: H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ_3^2 = 11,89	Prob = 0,00	We failed to reject the H_A that there was endogeneity from other regressors and the idiosyncratic error term
Breusch-Pagan LM test for cross-sectional dependence H_0: *corr* $(\mu i, t, \mu j, t) = 0$ *for* $i \neq j$ H_A: *corr* $(\mu i, t, \mu j, t) \neq 0$ *for some* $i \neq j$	χ_{15}^2 = 39,83	Prob = 0,00	Cross-sections were interdependent

According to Table 6.10, the results of the F-test for individual effects showed the need to make provision for country-specific effects in the model specification and estimation technique. Also, multiple sources of endogeneity and cross-section dependence of the error term had to be controlled for. These results were similar to the panel data characteristics tests conducted earlier on the previous models.

6.4 Model specification and estimation technique

The results of initial diagnostics on the data for all three models indicated the need to specify a one- or two-way error component model, as well as to use estimation techniques that addressed panel data characteristics such as country- and time-specific effects, endogeneity and cross-sectional dependence of the error term. As informed by the initial diagnostics of the dataset, the three models used in this chapter were specified as follows.

Economic model

$$LnAgdev_{it}=LnAggdp_{it} + LnAgval_{it} + LnEmp_{it} + Lnfoodsecurity_{it} + Lnarland_{it} + \lambda_t + \mu_i + v_{it} \quad (12)$$

Productivity model

$$LnAgdev_{it}=LnCereal_{it} + LnCroppi_{it} + LnArland_{it} + LnClimate_{it} + LnLivestock_{it} + \lambda_t + \mu_i + v_{it} \quad (13)$$

Investment support model

$$LnAgdev_{it}=LnAgfcf_{it} + LnDfund_{it} + LnArland_{it} + \lambda_t + \mu_i + v_{it} \quad (14)$$

In the models above: $\boldsymbol{\mu_i}$ represented individual country effects and**,** $\boldsymbol{\lambda_t}$ and the $\boldsymbol{v_{it}}$ the idiosyncratic error term**.** Several estimation techniques addressed panel data characteristics of the dataset, such as country and time-specific effects, multiple sources of endogeneity and cross-sectional dependence of the error term. In this chapter, the best results were obtained from the Bruno (1995) correction for the endogeneity and the feasible generalised least square estimation approach (FGLS) of Park (1967), as improved upon by Kmenta (1986). The FGLS had already been described in the previous chapter as being suited to datasets with cross-sectional

dependence, serial correlation, heteroscedasticity and individual effects. However, the FGLS lost some efficiency when there was endogeneity. Hence, the Bruno (1995) correction was used to address the challenge of endogeneity, emanating from the Nickell (1981) bias.

The Nickell (1981) bias analyses the data with a dynamic outlook, whereas the FGLS analyses the data from a static perspective. Other estimation approaches that usually address multiple sources of endogeneity as characteristic of this dataset, did not yield meaningful results for the sector analyses, which prompted its elimination.

6.5 Empirical results

Table 6.11 reflected the results of the empirical estimations from both a dynamic and static standpoint, incorporating three perspectives to the sector level analysis, namely the economic perspective, productivity perspective and investment support perspective. Model 1 in each case was the dynamic model estimation using the Bruno (1995) correction, which corrected for endogeneity, and model 2 in each case was the results of the FGLS estimation from a static standpoint, which controlled for cross-sectional dependence of the error term, serial correlation and heteroscedasticity.

6.5.1 Analysis of empirical results from a dynamic standpoint

From Table 6.11 that contained the empirical results for the dynamic estimation, the results of model 1 estimations showed that from the economic model, agriculture value added, employment creation and previous levels of agricultural development inflows were the key drivers of agricultural development inflows into the countries in this panel.

Table 2.36 Empirical results of estimation models. Dependent variable agricultural development inflow (LnAgdev)

Variables	**Economic model**		Productivity model		Investment support model	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
LnlagAgdev	0,47***		0,61***		0,32***	
	[0,09]		[0,07]		[0,02]	
LnAgfcf					0,35*	0,06**
					[0,21]	[0,02]
LnAggdp	-0,35*	-0,51 ***				
	[0,20]	[0,16]				
LnAgval	0,77***	0,39***				
	[0,17]	[0,07]				
LnArland	-0,91	0,45***	-0,91	0,94***	-0,15	0,05
	[0,66]	[0,10]	[0,73]	[0,06]	[0,66]	[0,02]
LnCereal			-0,70**	-0,07		
			[0,07]	[0,12]		
LnClimate			0,16	-0,05		
			[0,12]	[0,15]		
LnCroppi			0,79**	0,57**		
			[0,30]	[0,21]		
LnDfund					0,42***	0,93***
					[0,07]	[0,03]
LnEmployment	0,13**	0,38***				
	[0,06]	[0,03]				
LnFertiliser						
LnFoodsecurity	0,18	-0,15**				
	[0,99]	[0,07]				
LnLivestock			0,99**	0,25**		
			[0,36]	[0,03]		
Wald X_5^2 Prob		0,00		0,00		0,00

*Note: */**/*** denote 10%/5%/1% level of statistical significance. Standard errors in [ ]. Model 1 uses Bruno (1995) correction of the Nickell (1981) bias. Model 2 uses feasible generalised least squares by Parks (1967) and Kmenta (1986).*

The information in Table 6.11 further suggested that agriculture GDP to overall GDP ratio was not necessarily a pull factor for agricultural development inflows. The negligible impact of the contribution of agriculture to overall GDP simply encapsulated the strategic importance of the agricultural sector of a country to the overall economy. This comparison would be useful for the host country, but would not necessarily affect

the OFDI decisions of the home country. For instance, whether agriculture was 20% or 40% of the economy in the host country, that alone would not necessarily attract FDI inflows into the agriculture sector. However, it might influence government policies which might, in turn, affect FDI inflows indirectly. From the productivity perspective in the dynamic models, previous levels of inflows, changes in the crop production index and livestock production were the key drivers of agriculture development inflows into the countries in this panel. Cereal production was not a key driver.

For the investment support model, infrastructure development in the agriculture sector, and donor funding were the primary pull factors of agricultural development inflows. In summary, from a dynamic estimation and analysis perspective, previous levels of inflows, agriculture value added, employment creation, crop production index, livestock production and infrastructure investment in the sector were the pull factors that attracted agriculture development inflows into the countries in this panel.

6.5.2 Analysis of empirical results from a static standpoint

The results of model 2 estimations from a static standpoint were consistent with the results of the dynamic models. From the results of the economic model, agriculture value added, employment, and arable land were the drivers of development inflows into the countries in this analysis. Economic growth and food security were not key drivers. These findings might be attributed to the fact that economic growth and food security in a particular year were not necessarily determined by the values of the previous year, nor did they necessarily predict the values for the following year. Hence, from a static viewpoint, economic growth and food security might not impact developmental inflows.

Furthermore, economic growth in a country had numerous other sectors that determined its value. It was then possible that other sectors of the economy might grow or recede with the opposite effect on agriculture. The varying effects on different sectors of the economy might be attributed to deliberate internal policies or factors such as the global markets that might affect some sectors of the economy differently as compared to agriculture. Similarly, food security was not necessarily linked to the prospects in agriculture or agribusiness.

As discussed in the literature, a country could be a net food importer, but be food secure as it relied on other parts of the economy to finance food purchases. From the productivity perspective, arable land, the crop production index and livestock production were crucial to attracting development inflows into the agriculture sector of these countries. Cereal production and climate change were not relevant to attracting development inflows into these countries, probably because the countries had experienced protracted periods of stable weather conditions.

In the estimation of the static investment support model, infrastructure investment in the agriculture sector and donor funding were the pull factors of development inflows into the agriculture sector of these countries. Thus, in summary, from the standpoint of the static models, agriculture value added, employment, crop production index, livestock production, and infrastructure development were the primary pull factors that attracted development inflows into the agriculture sector of the six countries in this panel. The Wald X^2 in model 2 was both statistically significant at 1%, indicating that the independent variables did play statistically significant roles in the changes expressed by the dependent variable, which was agriculture development inflows, the proxy for the inflow of South African agriculture FDI into the six countries in this panel.

6.6 Triangulation of research objectives, previous studies and empirical results (sector level)

The research objectives at the sector level were summarised as the appreciation of the significance of the economical relevance of agribusiness-related FDI inflow in sub-Saharan Africa and to explore the determinants of preferred agribusiness host markets. Like the firm-level analysis, the supplementary objective was to contribute to the linkages between firm, sector and country levels to ensure a full appreciation of agribusiness FDI into the sampled economies. More importantly, the categorisation was considered crucial to ensure a full understanding of the relationship between agribusiness and the attractiveness of the sampled countries to inflow of agribusiness-related FDI from SA MNCs.

Firstly, the importance of agriculture to national GDPs was highlighted as significant, with an average contribution of 16,02% to overall GDP. The agribusiness or food cluster was significantly more, as discussed in the literature, although difficult to

measure. Nevertheless, the available numbers enabled the appreciation of the importance of agribusiness to the host nations, and addressed the second research objective in this sector.

The empirical results from a dynamic viewpoint showed that agriculture value added, employment creation in agribusiness and previous levels of agribusiness development inflows were crucial determinants of agri-FDI inflows. The positive relationship between agricultural value addition and agri-FDI were expected and aligned with findings in previous studies (Furtan & Holzman, 2004; Awunyo-Vitor & Sackey, 2018; Sabir et al., 2019). However, Sabir et al. (2019) use overall FDI as a proxy in their measurement of the relationship, and this may prove problematic as overall FDI has other components apart from agri-FDI, possibly informing a spurious relationship. As a point of departure, this study deployed agricultural value add as a percentage of GDP.

However, the findings were not consistent with the study by Iddrisu, Immurana and Halidue (2015) that conclude that agricultural value add and FDI are positively related only in the short term and inversely related in the long term. Epaphra and Mwakalasya (2017) say that there is an insignificant correlation between FDI and agricultural value add. The challenge with these studies is that they are not explicit about the nature of the FDI, that is, if the FDI is agri-FDI or overall FDI. This distinction may have a significant bearing on the empirical results, and why the findings in this thesis negated these previous findings.

Furthermore, employment was found to be the most important reason for attracting agribusiness-related FDI into the sampled countries. The positive direct relationship between agri-FDI and employment in agriculture was expected, as is extensively explained in the literature. This relationship was also consistent with the findings of Anetor et al. (2020) and those of Epaphra and Mwakalasya (2017). However, Anetor et al. (2020) proxy employment with the human development index, which incorporates income per capita and Epaphra and Mwakalasya (2017) proxy employment (labour) with the growth in the population rate.

Most previous studies on the subject have been conducted from a static viewpoint. To add robustness to the study, this researcher introduced a dynamic perspective. Due

to this viewpoint, the empirical results showed that previous inflows had a positive effect on future agri-FDI inflows. The relationship could be attributed to the progressive and reputational momentum that a host country achieved when FDI inflows were consistent. The consistent flow also encouraged home countries to increase outflows and encouraged new countries to commence outflows to the host country.

Analysis of the dynamic empirical results from a productivity perspective confirmed that previous inflows positively affected future inflows. Further, positive changes in the crop production index and livestock production were crucial for driving agriculture development inflows. The increase in crop and livestock productivity was consistent with the literature and the findings of Furtan and Holzman (2004), Gunasekera, Cai and Newth (2015), Husmann and Kubik (2019), as well as those of Sabir et al. (2019) in their studies on this subject. Husmann and Kubik (2019) and Sabir et al. (2019) say that the impact of FDI on productivity is more prevalent in developing countries, which is aligned to the findings of this study.

In contrast, Iddrisu et al. (2015) only concur with findings in the short term, arguing that productivity decreases over a long period. However, the study by Iddrisu et al. (2015) is based on one country. They also concede that other factors, such as currency devaluation in that country could have a significant impact on productivity as the machinery and inputs were imported. Slimane et al. (2016) also find a negative relationship between agri-FDI inflows and agri-productivity. Those authors align their findings to spillover effects of agri-FDI inflows that possibly encourage agricultural labourers to move to other more lucrative sectors.

The empirical results also showed that cereal production was not a key driver for agri-FDI inflows. The findings were consistent with the literature explanation that describe how the output of cereals had declined over the past few decades in preference to high-value crop production.

The third aspect of the dynamic analysis of the empirical results focused on the investment support model. The findings on the investment support model in this study established that infrastructure development in the agriculture sector and donor funding were the significant attractants of FDI inflows. Other studies align with this result, including that of Kastratovic and Vasiljevic (2018), who proxy infrastructural

development with irrigated land. Gunasekera et al. (2015), Rashid et al. (2015), as well as Husmann and Kubik (2019), in their studies, also concur with the strong positive correlation between infrastructural development in agribusiness and agribusiness developmental inflows. Finally, the positive relationship between donor funding and agribusiness developmental inflows was expected as a significant component of agri-developmental inflows was composed of donor funding, as explained above.

From the empirical perspective, the empirical results were mostly consistent with the findings from a dynamic view. In the economic component of the findings, agriculture value added, employment, and arable land were reported as being the main drivers of agribusiness development inflows. The relationship between inflows, agricultural value add and arable land were discussed in the dynamic section. The economic model introduced the arable land relationship. The positive association was corroborated by the findings on similar studies done by Slimane et al. (2016), and Kastratovic and Vasiljevic (2018). In all these studies, arable land was a significant pull for agri-FDI, and Kastratovic and Vasiljevic (2018) say that arable land was the most influential variable in attracting agri-FDI.

Still on the empirical discourse of the major findings in this study, it was observed that agri-economic growth and food security were reported as having the opposite effect on agribusiness inflows. The relationship between FDI and economic growth has been a debatable one among researchers, as discussed in the literature. Although surprising at first, the negative correlation of economic growth and agri-FDI was consistent with the findings of Epaphra and Mwakalasya (2017). Epaphra and Mwakalasya (2017) conclude that the agri-sector does not convert FDI into economic growth, as the sector is inefficient and does not have adequate absorption capacity for FDI. Their study is based only on Tanzania. It must be pointed out that there was country interdependence in the panels, which was controlled for in the estimations.

In contrast, Rashid et al. (2015), Awunyo-Vitor and Sackey (2018), Sabir et al. (2019), and Anetor et al. (2020) find a positive relationship between GDP growth and agri-FDI. Sabir et al. (2019), as well as Anetor et al. (2020) highlight a relatively small relationship and state that for FDI to have an impact on economic growth (particularly in developing countries), the magnitude needs to be significant. Sabir et al. (2019) add

the dimension of positive institutional quality to ensure that agri-FDI led to economic growth. Their studies are broad and cover many countries globally. Awunyo-Vitor and Sackey (2018) report a statistically positive and significant bi-causal relationship between agri-FDI and economic growth. Their study is on Ghana, and they note further that there is a high secondary relationship with trade and economic efficiency that supports this relationship in Ghana. Rashid et al. (2015) also find a statistically significant relationship. However, the study is based on Malaysia, Oman and Brunei, which are selected Asian economies.

Like economic growth, the relationship between agri-FDI and food security had produced contradicting views. As hypothesised from literature, agri-FDI promoted improvements in food production and food security. However, there are other factors discussed in the literature, such as an increase in unemployment, which may increase food insecurity. This study found a negative relationship between agri-FDI and food security. The finding partly agreed with the findings of Mihalache-O'Keef and Li (2010), and those of Slimane et al. (2015). Both studies find contradicting results in their research. They study different parts of the value chain and find that FDI into primary agriculture affects food security negatively in developing countries, because it affects employment and livelihoods. However, they also discover that FDI into secondary agribusiness (especially manufacturing and value addition) has positive effects on food security as it introduces new employment. It has been established from literature that most agri-FDI into the continent is into primary agriculture and this would explain the findings of this study.

In addition, the productive analysis from a static viewpoint found that arable land, the crop production index and livestock production were critical in attracting agri-FDI. The model also found that cereal production and climate change were not relevant to agri-FDI. These findings have been triangulated above, except for climate change. The results on climate change concurred with the findings of Gunasekera et al. (2015) who say that climate change is only noted as a 'future global risk' and not a determinant of FDI at this stage. There are hardly any previous studies on the impact of climate on FDI, indicating that this is an area that needs further research. Finally, from a static investment point of view, the major attractants for FDI were infrastructural investments and donor funding. These were also discussed under the dynamic viewpoint.

In this section, the researcher addressed the second, fourth and sixth research objectives in terms of clarifying the importance of agribusiness to overall economies in sub-Saharan Africa. Further, the researcher highlighted the relationship with agri-FDI and host country sector attributes that influenced the attractiveness of investment into the agribusiness sector in the host countries. Finally, the linkage between the firm, the industry and the country was further discussed in the section.

6.7 Conclusion

In this chapter, the researcher commenced with an illustration of the dependent and independent variables. The characteristics of the data were subsequently analysed under the categories of the economic, productivity and investment support models. Under the economic model, it was established that Uganda received the most inflows of agribusiness development. Mozambique and Nigeria were second and third, respectively, with Angola and the Republic of Congo receiving the least. The factors for the inflows were subsequently discussed, and these ranged from institutional to socio-political and economic issues.

Subsequently, the cross-correlation of the variables was analysed. It was shown that most of the independent variables had a direct relationship with the dependent variables. Under this relationship, it was inferred that when the agribusiness development inflows were positive, the contribution of the sector to overall GDP, value added by the industry, food security and employment in the sector were all positive. It was also highlighted that the level of arable land positively affected development agribusiness inflows. The correlation also identified that there were positive relationships among the independent variables. However, there was a negative correlation between value addition and employment, attributable to increased technology, which reduced the need for labour.

The panel data showed that there was a need to test for country-specific and time-specific effects. The test was done with the joint validity of cross-sectional effects test, as well as the joint validity of time fixed effects test. The Haussmann test was used to establish whether there was endogeneity or not, while the Breusch-Pagan test was used to establish whether the countries were interdependent.

The analysis done under the productivity model showed that the policies of the countries to agribusiness directly affected the metrics. However, some countries, like Uganda, were affected by the availability and design of natural resources. The cross-correlation of productivity variables revealed that there was an expected and hypothesised positive relationship between agribusiness development inflows and cereal productivity, arable land and climate change. However, livestock production, fertiliser use, and the crop production index had an unexpected negligible correlation with inflows. Correlations between independent variables were also discussed.

For the investment support model, it was shown that developmental inflows were positively related to infrastructure development, donor funding and arable land, which was expected. There was also an unexpected positive relationship with a warm climate, and this was discussed in detail.

Finally, the empirical results from a dynamic viewpoint revealed that the economic model, agriculture value add, employment and previous development inflows positively influenced agribusiness developmental inflows. However, agricultural-GDP, as a factor of overall GDP, had an insignificant effect on agribusiness development inflows. From a static viewpoint, the agriculture value add, employment, arable land, the crop production index and livestock production was vital in attracting development inflows. Conversely, economic growth, food security, cereal production and climate change was not significant. These findings were triangulated with the research objectives, literature and previous studies, which enabled full contextualisation of the agribusiness sector in relation to this study. In the next chapter the researcher focuses on the findings of the country-level aspect of the research effort.

Chapter 7

Empirical estimation and analysis – country-level macroeconomic and institutional perspective

7.1 Introduction

This chapter is the final component of the formulation and analysis of the results of this research effort. The researcher focused on the macroeconomic and institutional attributes of the selected host countries in the panel, 'the country-level'. Furthermore, the chapter enabled the examination of the whole FDI process as it provided the final link between the MNC (the firm), the agribusiness sector and the generic attributes of the country.

The estimation in this chapter was consistent with the approach employed in the firm and sector levels. Firstly, the data and data characteristics (as established in Chapter 4) were examined to ensure that they were appropriate for this study. Subsequently, the model specification and estimation techniques were explored. After that, the empirical results were produced and explained with theoretical backing, based on the understanding and practical experience of the candidate. Finally, the results were triangulated with the research objectives and previous studies to enable a full contextualisation of the results. Further, the process enabled the substantiating, challenging and introduction of knowledge on the subject matter.

The country analysis of the study the researcher focused on the identification of the variables that enabled an appropriate evaluation of the country effect on FDI. The dependent variables utilised for this part of the study were agri-FDI (proxied by agri-developmental inflows) and overall FDI. Overall FDI had been introduced for comparison and to ensure that the dynamics of a host nation were fully understood. The independent variables utilised were economic growth, infrastructural development, unemployment, political stability and technological development. These

variables enabled an appreciation of the macroeconomic and institutional indicators of the host country. The time series characteristics of the data set established useful trends for the research effort.

Studies on agri-FDI are few and far between, and this was apparent in the analysis of the empirical results against previous studies. The empirical results of this section revealed some expected results in some cases compared to existing literature and previous studies. However, in other instances they challenged existing literature and previous studies, showing that this part of FDI studies still needs further work.

7.2 Data

Annual data on country-level variables was used in this section of the study. The variable selection for the country-level analysis was informed by endogenous growth theory, in which growth was a function of gross fixed capital formation, and the efficiency of labour, that is, labour augmented by technological progress. The model was further augmented with a variable for institutional quality, specifically political stability as measured by The Global Economy (2020). As a result of limited data, the dependent variable, being agricultural outward FDI from South Africa into these specific countries, was proxied by agricultural development inflows, as explained in Chapter 6 of this thesis. Thus, in the country-level analysis, outward agricultural FDI from South Africa to the six countries in this study was hypothesised to be a function of economic growth, labour, gross fixed capital formation, technology and institutional quality of the destination country. These were the variables used to estimate the role of macroeconomic and institutional factors in attracting outward agricultural FDI into these countries. Table 7.1 reflected a detailed description of the variables and their sources.

Table 2.37 Sources and definition of variables

Variable	**Variable description**	**Source of data**
AGDEVINFLOWS	Agricultural development inflows	(Food and Agriculture Organisation [(FAOSTAT]), 2020a)
FDIINFLOWS	Overall FDI net inflows in US$	(World Bank Data [WBD], 2020h)
GDP	Economic growth (GDP%)	(World Bank Data [WBD], 2020i)
GFCF	Infrastructure development index measured as gross fixed capital formation (% of GDP)	(World Bank Data [WBD], 2020j)

UNEMP	Unemployment (% of total labour force)	The Global Economy, 2020
POLITICAL	Political stability (index) – absence of violence, terrorism, and related events.	(World Bank Data [WBD], 2020k)
TECH	Technology (index) – development of technology	(World Bank Data [WBD], 2020l)

Consistent with the estimation approach for this study, the data was estimated and analysed in three steps:

a) First, the time series characteristics of the dataset were explored;

b) The dataset characteristics then determined the type of model to be specified, as well as the estimation approach used to estimate the model; and

c) After estimation, checks and balances were explored to ensure that the results were robust, acceptable and reliable.

As in the industry level analysis, the emphasis was on countries that served as the leading destinations for SA agribusiness OFDI. These countries were Angola, the Republic of Congo, Mozambique, Nigeria, Uganda and Zambia.

7.3 Characteristics of the dataset

Results of descriptive statistics, cross-correlation analysis and the panel data characteristics of the dataset were reflected in Tables 7.2, 7.3 and 7.4, respectively. The data reflected the overall macroeconomic and socio-political attributes of the selected host countries.

Table 2.38 Descriptive statistics per country

Country	Agricultural development inflows (Agdev)	Unemployment (UnEmp)	Gross fixed capital formation (Gfcf)	Technology (Tech)	Political stability index	Economic growth (Gdp)
Angola	20,57	5,54	28,00	19,71	-0,72	5,8
The Republic of Congo	8,19	14,91	24,79	49,59	-0,03	3,67
Mozambique	140,79	3,15	20,85	62,86	-1,89	6,75
Nigeria	108,22	4,46	20,83	2 802,43	-0,72	5,84
Uganda	173,21	2,66	23,27	358,96	-1,03	6,26
Zambia	69,62	11,67	31,98	100,78	0,25	6,07

According to Table 7.2, Uganda registered the highest level of agricultural development inflows, followed by Mozambique and Nigeria in that order. The reasons for the prevalence of agri-developmental inflows in the different countries have been discussed in detail in the previous chapter. The Republic of Congo had the highest mean level of unemployment among the countries in the selection. This was attributable to a limited diversified market economy, characterised by dependence on the oil economy. Moreover, the benefits of the oil economy were often limited to the elite in the country, leaving a large component of the population impoverished, the majority of whom languished in a fragmented informal sector. The minimal transformation of the economy had been coupled with corruption (Transparency International, 2020). The unemployment rate of Zambia came second. The unemployment challenges in Zambia were mostly due to youth unemployment. In turn, the youth unemployment was mainly driven by the fact that most of the youth did not have the skills required by the formal employment sector. According to the ILO (2017:16), 38.1% of Zambian youths leave school before completion or do not have any education at all. Of those employed, 38,4% were undereducated for the job that they were doing. This had resulted in most of the youth being unemployed or a high rate of youths (90%) involved in undocumented informal activities (ILO, 2017).

However, Zambia had the highest mean level of infrastructure investment in the selected countries. The investment had been driven by the economic policies of the country instituted from the 1990s through to the 2000s that sought to diversify the economy from one that primarily relied on the copper industry. The reforms have ensured that Zambia is one of the fastest growing economies on the continent. The infrastructural improvements have been expedited by partnerships with China, although this relationship resulted in a heavy debt burden on Zambia and the straining of relations between the two countries (Smith, 2020). Angola and Uganda follow Zambia in terms of infrastructural investment.

Like Zambia, infrastructural development in Angola and Uganda had a significant Chinese component. In Angola, infrastructure development into telecommunications, transportation and other utilities such as electricity, have been significant (Campos, 2018). Uganda has been focusing on revitalising the road and rail networks and expanding its hydroelectric capacity (IMF, 2017). Nigeria led in the mean level of

technology among the countries, significantly ahead of the other countries in the panel. The Nigerian technology statistics were expected, given that the government had increasingly invested heavily in the industry. The technology industry in Nigeria had grown from 1% of the economy in 2001 to 10% in 2018 (Ramachandran, Obado-Joel, Fatai, Masood & Omakwu, 2019).

Technological development in Nigeria had seen it becoming the prime destination for tech start-up investments on the continent, generating $94 m in 2018 compared to the second highest investment (in South Africa) of $60 m. Mozambique registered the lowest political stability as indicated by its mean political stability index of –1.89. The political stability index ranged from –2.5 (weak) to 2.5 (strong). This was due to the persistent political insurgency in Mozambique, which kept re-emerging periodically (World Bank Group, 2020a). Zambia emerged as the most politically stable country in this panel with a mean political stability index of 0.25.

Table 2.39 Cross-correlation analysis of variables

	Agdev	**Gfcf**	**Tech**	**UnEmp**	**Political**	**Gdp**
Agdev	1					
Gfcf	-0,17*	1				
Tech	0,35***	-0,36***	1			
UnEmp	-0,45***	0,20***	-0,21***	1		
Political	-0,32***	0,25***	0,05	0,72***	1	
Gdp	-0,05	0,02	-0,11	-0,23**	-0,16*	1

*Note: */**/*** denote10%/5%/1% level of significance.*

Table 7.3 reflected the cross-correlation coefficients of the variables in the study. The results in the first column showed that outward agricultural FDI flows, as proxied by agricultural development inflows, was positively correlated (0,35) with the level of technology in the countries in the panel, and statistically significant at 1%. This implied that the higher the level of technology, the higher the level of development inflows. On the other hand, unemployment, political stability and GDP were negatively correlated with agricultural development inflows. This implied that the lower the level of unemployment, economic growth and political stability, the higher the level of agricultural development inflows.

The relationship between agri-development inflows and unemployment could be explained by regressive policies in the countries. As observed from the review of literature in previous chapters, regressive government policies had the potential to precipitate high unemployment, and negatively influence the attractiveness of the countries to developmental inflows. The inverse relationship between agribusiness development inflows and political stability could be due to the fact that the political stability did not directly affect the developmental plans of the home countries.

As a matter of fact, politically unstable environments required more and consistent development (Li et al., 2015), which was often elusive for many countries in Africa, especially the sampled countries in this study. Similarly, declining economic prospects would require more developmental inflows, explaining the negative relationship between agri-developmental inflows and economic growth.

In the second column, infrastructure investment had a positive relationship with unemployment and political stability, but was negatively correlated with the level of technology. To this extent, infrastructure development had been found to contribute positively to job creation in developing countries. However, the impact of infrastructural development had been found to generate employment in the medium to long term (Bivens, 2014). Therefore, the unemployment data reflected the lack of investment in previous periods (in its lag form).

It was expected that political stability would have a positive relationship with infrastructural development on two aspects. Firstly, political stability ensured that infrastructure development was prioritised instead of conflict resolution, and secondly, that where there was infrastructural development, the construction was safe from destruction. However, the more countries resorted to technological innovation and the services economy, the less brick and mortar physical infrastructure investments were made due to enhanced efficiency through technology (Brooks & Matthews, 2015).

In the fourth column, unemployment had a strong positive correlation (0,72) with political stability. As discussed above, the challenge with unemployment was that it mainly occurred due to bad policies in the previous eras. Therefore, the link that could be deduced from this relationship is that current unemployment was related to previous political instability. However, increases in economic growth, in most cases,

immediately translated into decreased unemployment as more labour was required to support a growing economy.

The negative correlation between political stability and economic growth showed the fact that institutional quality in the countries in this panel was not such that it enhanced economic growth. The negative correlation could be explained by the fact that political instability did not usually occur in the economic hubs of a country. For instance, the unrest in the north of Nigeria and rebel activity in Mozambique did not necessarily affect the financial hubs of Lagos and Maputo, respectively. Furthermore, the economic activities of the economic hubs needed to promote further growth to subsidise the unstable parts of the country. However, correlation did not guarantee causation, thus we proceeded to estimate the dataset empirically.

Results of the panel data tests were reflected in Table 7.4. The results showed the need to use estimation techniques that addressed country-specific and time-specific attributes of the countries in the panel. The Hausman tests for endogeneity depicted multiple sources of endogeneity. The results of the Breusch-Pagan (1980) tests for cross-sectional dependence also indicated that the countries in the panel were interdependent.

Table 2.40 Panel data characteristics of the data

Test	**Test static**	**Critical/Prob. value**	**Inference**
Joint validity of cross-sectional individual effects H_0: $\mu_1 = \mu_2 \ldots \mu_{N-1} = 0$ H_A: *Not all equal to 0*	F Stat = 32,98	F (0.05, 5, 103) = 2,30	F stat > F critical: There were country-specific effects.
Joint validity of time (period) fixed effects $H_0 : \lambda_1 = \ldots \lambda_{T-1} = 0$ H_A: *Not all equal to 0*	F Stat = 2,23	F (0.05, 18, 90) = 1,72	F stat > F critical: There were time-specific effects.
Hausman test: Nickel (1981) bias H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ_6^2 = 132,29	Prob = 0,00	We failed to reject the H_A that there was endogeneity between the lag of the dependent variable and the error term.
Hausman test: Other: H_0: *E(Xit,/uit) = 0* H_0: *E(Xit,/uit) ≠ 0*	χ_5^2 = 11,59	Prob = 0,00	We failed to reject the H_A that there was endogeneity from other regressors and the idiosyncratic error term
Breusch-Pagan (1980) test for Cross-sectional dependence H_0: *corr* ($\mu i, t, \mu j, t$) *= 0 for i ≠j* H_A: *corr* ($\mu i, t, \mu j, t$) *≠ 0 for some i ≠j*	χ_{15}^2 = 30,60	Prob = 0,01	Cross-sections were interdependent

7.4 Model specification and estimation technique

The results of initial diagnostics on the data indicated the need to specify a two-way error component model, as well as to use estimation techniques that addressed panel data characteristics such as country- and time-specific effects, endogeneity and cross-sectional dependence of the error term.

Consequently, the model used in this chapter was specified as follows.

7.4.1 Macroeconomic and institutional quality model

$$LnAgdev_{it}=LnAgdev_{it-1} + LnGfcf_{it} + LnTech_{it} + LnUnEmp_{it} + LnPolitical_{it} + LnGdp_{it} + \lambda_t + \mu_i + v_{it} \quad (15)$$

$$LnFDI_{it}=LnAgdev_{it-1} + LnGfcf_{it} + LnTech_{it} + LnUnEmp_{it} + LnPolitical_{it} + LnGdp_{it} + \lambda_t + \mu_i + v_{it} \quad (16)$$

In both equations 15 and 16, $\boldsymbol{\mu_i}$ denoted individual country effects, $\boldsymbol{\lambda_t}$ time-specific effects and the $\boldsymbol{v_{it}}$ the idiosyncratic error term**.**

Several empirical estimation techniques addressed these characteristics of the dataset. In this chapter, the best results were obtained from the FGLS approach FGLS of Park (1967) and Kmenta (1986). The FGLS had already been described in the previous chapter as being suited to datasets with cross-sectional dependence, serial correlation, heteroscedasticity and individual effects. However, the FGLS lost some efficiency when there was endogeneity. The results of the estimation techniques that addressed endogeneity did not yield good results. Examples of such estimation approaches that were tried included the generalised method of moments (GMM) with forward orthogonalised deviation by Arellano and Bover (1995). The Driscoll and Kraay (1998) corrected standard errors also did not yield acceptable results. The Bruno (1995) correction of the Nickell (1981) bias was also not useful in the estimation of the dataset.

7.5 Empirical results

Table 7.5 reflected the results of the empirical estimations. For purely comparison purposes, a second model was estimated using general FDI net inflows into these

countries as an alternative dependent variable in place of agricultural development flows. The first column presented the results of the estimation using agricultural development flows as the dependent variable, while the second model presented the results of the estimation that used FDI net inflows as the dependent variable.

Table 2.41 Empirical results

Variables	**Model 1** **Dependent variable: agricultural development inflows *LnAgdevinflows***	**Model 2** **Dependent variable: FDI net inflows. *LnFdiinflows***
Lnlagagdevinflows	0,86*** [0,08]	
Lnlagfdiinflows		0,15 [0,15]
Lngfcf	0,11 [0,32]	-1,27*** [0,48]
LnTech	-0,21 [0,19]	0,82*** [0,27]
LnUnEmp	-1,49*** [0,27]	0,38 [0,54]
LnPolitical	-0,20** [0,08]	0,38** [0,27]
LnGdp	0,15* [0,09]	0,44*** [0,16]
Wald χ^2_6	Prob = 0,00	Prob =0,00

*Note: */**/*** denote10%/5%/1% level of significance.*

The results from model 1 showed that factors that attract agricultural development inflows into the countries in this panel were previous levels of inflows, economic growth, declining unemployment, and political stability. The exact nature of the effect of these factors on agricultural development inflows was denoted by the sign of their respective estimation coefficients and their statistical significance. Past levels of inflows were a key determinant of future flows. This could be seen from the positive coefficient of past inflows (LnAgdevinflows), which was statistically significant at a 1% level.

With similar logic, a growing economy and rising employment (decreasing unemployment) at a statistically significant coefficient of 1%, attracted agricultural

development inflows. However, the coefficient of employment and political stability was negative and statistically significant at 1% and 5% levels, respectively. This was consistent with a priori expectations as per the cross-correlation analysis in Table 7.3. It further underlined the potential and developmental role that agriculture development inflows played as a policy intervention to create jobs in situations where employment was declining.

With regard to political stability, agricultural development flows were key to reconstruction initiatives in post-conflict nations or countries with political instability. Some of the countries in the panel were conflict-prone nations with persistent and recurrent political instability, e.g. Mozambique, Angola and Nigeria, with some conflicts being historical and others due to religious insurgency. Infrastructural development and the level of technology were not statistically significant in the results of model 1. This was not consistent with a priori expectations as guided by literature.

In model 2, net FDI inflows were used as a dependent variable. The results varied from model 1, in which agricultural development inflows were used as the dependent variable. In the case of general FDI flows to the countries in the panel, a growing economy, political stability, and technological progress were the key attractions to net FDI inflows. The trend was depicted by their positive estimation coefficients, statistically significant at 1% and 5%, respectively. The coefficient of infrastructure investments was negative and statistically significant at 1%. The result indicated that FDI flows to countries in our panel, with a declining infrastructure. This may possibly suggest that a huge portion of FDI into the sampled countries flow into infrastructure development.

As discussed in the review of literature chapters (Chapters 2 and 3), this was consistent with the increased amount of service industry FDI in the continent and the stagnant or declining manufacturing investment. Service industry investment did not always encourage structural formation, often favouring investment of a rental nature (UNCTAD, 2017). The level of unemployment was not statistically significant in the result of model 2. This confirmed the fact that FDI did not immediately lead to employment changes and conversely, that employment or lack thereof, would not necessarily influence FDI decisions of home countries. A more relevant factor for FDI home countries was the skill level of the workforce (UNCTAD, 2011; 2017).

7.6 Triangulation of research objectives, previous studies and empirical results (country-level)

With the country-level analysis the researcher sought to address the fifth and sixth research objectives, that is, how the host countries attracted FDI outflows and how this linked with the MNC and the agribusiness sector. The model focused on general macroeconomic and institutional independent variables that were expected to influence agri-FDI. Previous studies focus on either the agri-FDI or overall FDI as the dependant variable to understand these relationships. In this study the researcher went a step further by analysing models with both agri-FDI and overall FDI as the dependent variables. This process enabled a full appreciation of the impact of country-level attributes on FDI. Furthermore, many studies have been done on macroeconomic and institutional attractants of overall FDI, but relatively few on these attributes and agri-FDI.

The empirical results in this section showed that agri-FDI inflows were positively affected by previous levels of inflows, economic growth and declining unemployment. However, they were surprisingly negatively impacted by political stability. Also, the effects of infrastructural development and the level of technology were statistically insignificant. The findings on the positive relationship between agri-FDI, overall economic growth and overall unemployment were explained in the sector analysis. Agri-economic growth and agri-unemployment were subsets of overall economic growth and overall unemployment, respectively. Hence, the impact was expectedly similar.

In addition, the findings on political stability were partly consistent and partly inconsistent with the findings of Slimane et al. (2015). Slimane et al. (2015) say that political stability is positively correlated with agricultural FDI for primary agriculture. However, they say that the relationship is negative for secondary or value-added agribusiness. They attribute this to the higher risk of investing in agri-production in a politically unstable country.

Infrastructural development and the level of technology were found to be insignificant to agri-developmental inflows in this study. The findings on infrastructure contradicted the findings of Sabir et al. (2019), who proxy infrastructure with mobile infiltration and

add that the relationship (between agri-FDI and overall infrastructure) is more prevalent in developing countries. Epaphra and Mwakalasya (2017) find a negative relationship between overall infrastructure and technology developments, stating that these developments largely exclude the agribusiness industry in their study. In comparison with previous studies, this research deployed overall gross fixed capital formation (GFCF) and the overall technology index to evaluate infrastructure. The insignificant relationship between these variables could be linked to the nature of overall infrastructural and technological development in the panel, which might not necessarily affect the agrarian value chain. A similar finding is documented by Epaphra and Mwakalasya (2017).

The study of country-level attributes that attract FDI have been extensive, though a marginally unproportioned number have been done about the African continent, and even less from an African perspective. Nevertheless, this study found that positive GDP growth, political stability and technological advancements were critical in attracting overall FDI. The study also found that infrastructural development had a negative effect on FDI and that the rate of unemployment was insignificant in attracting FDI.

Furthermore, economic growth in the host country as a major attractant for FDI was consistent with the findings of Furtan and Holzman (2014), Li et al. (2015), Rashid et al. (2015), Lu et al. (2017), Mahmood et al. (2018) and Weilei et al. (2017). Weilei et al. (2017) link the attractiveness of the host country to institutional escapism in the home country. In alignment with that study, Rashid et al. (2015) and Lu et al. (2017) highlight that GDP infers market size which is a major attractant. Mahmood et al. (2018) introduce dual causality to the relationship.

The findings of this study on political stability as a major attractant for OFDI were consistent with findings by Gunasekera et al. (2015) and those by Aregbeshola (2019), and partly that of Slimane et al. (2015). Aregbeshola (2019) says that political stability does not only refer to conflict aversion, but also meddling in public or private institutions. Slimane et al. (2015) indicate that political stability has different effects on different aspects of FDI, thereby reaching an inconclusive conclusion.

Conversely, the results of this study were inconsistent with the findings of Pradhan (2011) and Li et al. (2015), who say that some MNCs prefer to invest in countries that have low political stability provided they had a high natural resource base. However, their study is based on Chinese firms that have a high propensity for risk-taking and undercutting the rules of host countries.

The study found that technological innovation was a vital factor in attracting FDI. Although most studies focus on the benefits of technology transfer from home to host country as one of the key drivers for OFDI, the results were consistent with Anetor et al. (2020). They say that the host country needs to have adequate technology to absorb technology transfer. Anyanwu and Yameogo (2014) support this position with their findings that technological infrastructure is critical to the attraction of FDI.

Further to the findings in this study, overall infrastructural development was found to have a negative relationship with FDI in this study. The findings were surprising in relation to literature. This finding was inconsistent with the findings of Anyanwu and Yameogo (2014) (who also study the regions within sub-Saharan Africa), Rashid et al. (2015), Husmann and Kubik (2019) and Sabir et al. (2019). Epaphra and Mwakalasya (2017) concur with the positive relationship between FDI and infrastructural development in their study based on FDI inflows to Tanzania. However, the findings of Iddrisu et al. (2015) find GFCF to have an insignificant effect on FDI, at least in the short term.

This finding pointed towards the long-term benefits of infrastructure, which might affect findings in the short term. Furthermore, the antagonistic relationship between FDI and GFCF could be attributed to sectors that were not capital intensive. For instance, the study by Sabir et al. (2019) uses mobile penetration as a proxy for infrastructural development. Using this proxy results in a positive correlation, as the mobile penetration in sub-Saharan Africa is high even without minimal infrastructural investments. The conflicting results invoked the need for a careful understanding of statistical inferences from data.

Finally, this study also found that unemployment had an insignificant effect on drawing FDI. It was accepted that one of the primary reasons for attracting FDI, was the creation of employment in the host country. However, it was logical that the rate of

employment was not necessarily an attractant to FDI. Although there is hardly any study on the causal effect of unemployment on FDI to support this position, the negligible relationship was hence understandable.

7.7 Conclusion

In this chapter the researcher presented the final empirical analysis of the study. The data used in the study was the first port of call. The variables were carefully selected to ensure that they capture the macro-economic and institutional attributes of the country that would affect the attractiveness and influence of the country on FDI.

The data revealed that of the sampled countries, the Republic of Congo had the highest level of unemployment, followed by Zambia. The other countries had similar unemployment rates. The unemployment situations were attributed to the nature of the economy of each country. The infrastructural development of the nations was similar, although Zambia had the best infrastructure. The infrastructure development was linked to external parties, especially China. Nigeria had significant technological advancement compared to the other countries, related to the technological innovations in the country, whereas Angola had the least. The political stability of Zambia was superior to the other countries as it had minimal civil disruptions compared to the other countries. Mozambique had the worst political stability score due to rebel activity. Furthermore, the economic growth patterns of the countries in the panel were similar which all averaged about 5%, except for the Republic of Congo, which was highly affected by the fragmented oil-dependent economy.

The cross-correlation of the variables revealed that agri-development inflows were positively correlated with technological developments. Furthermore, the developmental inflows were negatively associated with infrastructural development, rising unemployment, political stability and economic growth. The relationship between technology and unemployment was expected. However, the relationship with infrastructure, political stability and economic growth was unexpected. The causation of the relationship was, however, logically explained in the text. Panel data tests were conducted. The Hausman tests revealed that the data had multiple sources of endogeneity. The Breusch-Pagan test revealed interdependence among the selected countries.

Two models were employed, one with the agrarian developmental inflows as the dependent variable and the other with overall FDI as the dependent variable. The first model revealed that previous inflows, infrastructural development, rising employment (decreased unemployment) and economic growth had a positive impact on agri-developmental inflows. These were all expected, though a number of previous studies have different views on these relationships. However, the model produced an adverse and unexpected connection between political stability and agri-developmental inflows. The finding was also explained in detail. The second model (overall FDI dependant) revealed that a growing economy, political stability and technological progress attracted FDI. These results were expected as per literature and numerous previous studies. However, the model disclosed that infrastructure had a significantly negative effect on FDI, and that unemployment had a negligible impact on FDI. These results were surprising, but were logically explained in the chapter.

The principal objective of this section was to address the fifth and sixth objectives of the research effort, that is, to ensure appreciation of the country attributes that affected OFDI strategies of SA MNCs, as well as establish the link of these attributes to the MNC and the agribusiness sector. The triangulation of these results enabled the substantiation of findings within the body of existing literature, and it also challenged existing literature as a way of situating the key findings within the purview of academic novelty. In the next chapter the researcher concludes the research effort and focuses on the review of the findings and provide policy recommendations.

Chapter 8

Summary of findings, policy recommendation and conclusion of the study

8.1 Introduction

This chapter is the final chapter of the thesis. It begins with the contextualisation of the findings and the recommendations from the previous three chapters. The approach thus involves revisiting the research objectives to ensure that these objectives have been addressed, and that the purpose of the whole study has been achieved. The research hypothesis, as informed by existing literature is tested, substantiating existing literature on the subject and in some cases challenging existing literature, thereby bringing about new knowledge on the study of OFDI in the selected SSA countries.

The literature review inferred that SA MNCs encounter strategic challenges when they invested in the rest of the continent. Therefore, the strategic implications of the study for the MNC is discussed. This was done proactively to suggest strategic innovations that could be useful for MNCs that are currently operating or intending to operate on the rest of the continent.

According to the body of existing literature, there were also issues raised about host countries with regard to the agribusiness industry, as well as overall institutional challenges. These were examined in the context of the hypothesis and the findings. Further, the study sought to provide recommendations on policy to the host country to enable the countries to attract, and possibly retain, growth-orientated FDI, especially inflows of investment in agribusiness. In addition, the researcher also included the flagged important contributions of the study to the body of existing literature. The discussion thus involved an examination of the data used in the study, the estimation methods and assurance on the integrity of the data and estimation process.

As this is the final chapter, the whole study was contextualised here. As a recap, the study commenced with the establishment of the research problem, which was the

uncertainty of SA MNC OFDI initiatives in the rest of the continent. The challenge to be addressed was to provide scientifically specific investment processes for SA MNCs. Further, the researcher had the aim of understanding the factors that positively influence agribusiness of the host country and overall FDI. Finally, the underlying objective was to promote intra-Africa FDI and to provide homegrown solutions for the possible challenges being encountered by South African originated MNCs in this regard, especially those in the agribusiness sector. The chapter and study, hence, ends with a summary of recommendations for both the MNC and the host countries. It also provides a platform for further research on the subject.

8.2 Summary of findings and recommendations

The recommendations and conclusions of this study is presented in the same order as the findings, that is, firm level, sector level and country level. The conclusion is related to the research objectives and the research questions to ensure a full appreciation of the major findings of the study. It was also considered important to triangulate the study, starting with the objectives. Subsequently, the existing literature on the subject was recapped, as it informed the hypothesis of the research. Finally, the actual findings were discussed with their consequential impact on policy.

8.2.1 Research objectives

At the onset of the study, it was established that the main research question of the study was to assess why SA MNCs were experiencing high rates of failure in their OFDI investments in the rest of Africa. Moreover, the business failures were continuing up to the present day, inferring that MNCs have not fully appreciated the challenges or were unaware of possible interventions to deal with this unpleasant business reality.

The research question subsequently informed the primary research objective, which was to assist SA MNCs and the broader African MNCs in formulating successful and sustainable FDI initiatives. This objective may possibly promote economic prosperity for Africa through intra-Africa FDI flows. The sub-objectives, derived from the primary research goal, were to:

1. uncover the investment strategies and competences of SA MNCs that invested in the rest of Africa;

2. investigate the economic significance of agribusiness-related FDI inflow into other African countries;
3. investigate the possible strategic and operational challenges faced by SA-originated agribusinesses in the rest of the African continent;
4. investigate the determinants of preferred agribusiness host markets;
5. investigate the determinants of preferred host nations for SA-originated agribusiness MNCs in the rest of Africa; and
6. investigate the linkages between country-, market-, and firm-level aspects of OFDI to successful OFDI business strategies for SA-originated agribusiness MNCs in Africa.

Addressing the sub-objectives would foster the following outcomes:

- supplement documented knowledge on outward FDI strategies of SA MNCs in the rest of Africa;
- grow the African economy sustainably to alleviate poverty and related socio-economic challenges;
- assist SA MNCs in devising strategies that can alleviate challenges they face in the rest of Africa, thereby improving the success rate of SA MNC investments in the rest of Africa;
- positively influence SA MNC investment decisions in the rest of Africa; and
- increase internalisation (intra-Africa agribusiness FDI) and ultimately reduce dependence on external (from outside of Africa) FDI.

8.2.1.1 Firm level

In Chapter 5 the researcher focused on firm heterogeneity and its impact on FDI strategies. The regression analysis conducted in Chapter 5 addressed the components of the leading research objective as well as the first, third and sixth supplementary research objectives. Table 5.5 reflected the findings of the research on firm FDI attributes. The researcher found that firm investments were enhanced by profit before tax, operating profit and a strong asset base over business liabilities. The researcher also found that home country industry experience affected OFDI strategies

negatively and that the level of control exercised by MNCs had mixed effects on OFDI strategies.

With reference to the first and third research objectives, the findings revealed that MNCs with a strong asset base, have a better chance of success in OFDI than MNCs that are heavily indebted. It would follow that companies which have more substantial asset bases and utilise their own assets for expansion have long term 'patient' capital, which is appropriate for the SSA market, as opposed to debt capital that had to be serviced immediately. The use of debt capital also means that MNCs must make rapid changes in strategy where challenges are encountered. This is exemplified by the exit by Shoprite from Kenya within two years discussed in the literature. The implication of debt-financing is the potential rapid withdrawal of the MNC from the host economy, even before the investment matures beyond the stabilisation phase, depriving themselves of future profit, assuming that the correct due diligence has been conducted. Investments in general, and particularly in sub-Saharan Africa, can take years to generate profit, hence patient capital may be appropriate for such investments.

The negative results of home experience indicated that it was essential for MNCs to appreciate the market that they were investing in fully. For that to happen, the MNC needed to have a flexible mindset that was attuned to the new host markets. Furthermore, the results showed that companies that were successful in the home markets for longer were more engrained in the status quo of their home strategies as well as home market modalities, and struggled with the transition to externalisation when compared with companies with a shorter or less successful term in the home country. The mixed results of the effect of ownership and control revealed that this factor was dependent on other variables that may not have been covered in the study. However, the results showed that the ownership strategy must be linked to the comparative advantages of the MNC in the home market – South Africa.

Furthermore, MNCs that had high intellectual capital and brand power, for instance, could use other measures than ownership to manage these investments. The findings showed that the MNCs, hence, needed to evaluate their internal skillsets and systems to ensure that the chosen ownership structure that was deployed was attuned to internal capabilities. The findings on profit before tax and operating profit were logical,

and they showed that profitability did influence further investments and remained the main priority of OFDI initiatives. MNCs that focused on and achieved profitability, may have achieved sustainability in the long run, and that remained the main attribute of OFDI. The findings above addressed the first and third research objectives conclusively.

The findings on earnings per share were linked to the sixth research objective, in that there was a linkage between the firm and the host country attributes. It has been discussed in the findings that earnings per share were affected by taxation and the need to raise capital at home. Therefore, the positive efforts of the MNC as reflected by the positive profit before tax and operating profit, were countered by the institutional issues of taxation and inefficiency of host capital markets in raising capital. Therefore, the findings contributed to addressing the sixth research objective, which was to uncover the effect of firm or country linkage to FDI. The offtake from the result was that MNCs needed to invest in nations that had a low tax burden, were efficient in taxation and could facilitate the raising of capital in the host country. Notably, the results further showed that inefficient institutions in the home country might counter good external MNC OFDI operational strategies, as reflected in operating profit and profit before tax.

8.2.1.2 Sector level

In the sixth chapter, the researcher focused on the effect of the agribusiness sector of the host country on OFDI strategies. The researcher addressed the second and fourth research objectives. The researcher also provided useful information on the sixth objective. Agribusiness is a diverse industry, and it needed to be investigated to ensure a comprehensive analysis. In this section, the empirical results were split into dynamic and static viewpoints.

The analysis was further categorised into the economic, productive and investment support components of agribusiness. The regression analysis found that the empirical results from a dynamic and a static perspective were mostly consistent. In all components of agribusiness from a dynamic perspective, it was apparent that previous inflows had an impact on current inflows of agribusiness FDI. The result supported the need for host countries to be consistent in and generate momentum, as this had a

direct bearing on future inflows. These findings partly addressed the fourth research objective in understanding the pull factors of agribusiness FDI into host countries. The negative relationship between agri-GDP and overall GDP indicated that although agribusiness employed the most people in most of the countries in sub-Saharan Africa, its effect on overall GDP was diminishing, thereby signalling an opportunity for growth. Although this confirmed that the level of agri-GDP compared to overall GDP, would not influence agri-FDI decisions of home countries, this addressed the second research objective in that agri-FDI was important to host nations. Increased FDI would, in turn, ensure that there was an increased effect of agribusiness on the overall economy.

Moreover, to further address the second and fourth research objectives, as well as contribute to the sixth research objective, the researcher found that the primary pull factors for agri-FDI were agricultural value-addition and employment creation at a dynamic economic level, underscoring the importance of agri-FDI to the host economy. From a productivity viewpoint, the pull factors were crop and livestock productivity, also addressing the second and fourth research objectives. The investment analysis showed that infrastructure development and donor funding were the primary pull factors for the agri-FDI, which further addressed the second and fourth research objectives.

The static viewpoint from an economic angle found that agricultural value-add, employment and arable land were primary pull factors for agri-FDI. Agricultural value-add and employment addressed the second research objective, adding benefit to the host country of these inflows. Arable land addressed the fourth research objective. The productivity perspective addressed the second and fourth research objectives by highlighting that crop productivity, livestock productivity and arable land were the drawcards for agri-FDI. Furthermore, the crop and livestock productivity addressed the second objective as these would benefit the industry, and ultimately, the national economy. The researcher ended the section with finding that infrastructure investment and donor funding were central pull factors for agribusiness FDI (research objective 4). The industry-level analysis resolved the second, fourth and part of the sixth objectives.

8.2.1.3 Country level

With the empirical results at country level (Chapter 7), the researcher sought to address the macroeconomic and institutional attributes of the country that affected the attractiveness of the host country to the inflow of FDI, and the decisions of MNCs in this regard. This aspect thereby addressed the third, fifth and provided the final leg for the sixth research objectives. For a thorough analysis of the country effects, the study utilised agrarian and overall FDI inflows into host countries. The findings showed that for agri-inflows of FDI, previous levels of inflows, infrastructural development, decreasing unemployment and economic growth were positive influencers of FDI. However, the researcher found that technological advancements and political stability were not. With regard to overall FDI inflows, previous inflows, technological advancements, rising unemployment and economic growth were positively linked to FDI inflows, whereas infrastructural development was not. The results showed some expected and some unexpected results, but provided invaluable insight by addressing the third, fifth and sixth objectives. The variances with the hypothesised effects were discussed in detail in the paragraphs that follow.

8.2.2 Research hypothesis

As a summation of the results, it was essential to compare the hypothesised effects of the variables, as informed by the literature, and the actual outcomes of the study. Table 8.1 below reflected the comparison of the hypothesised effects compared to actual results at the firm level.

Table 2.42 Comparison of hypothesised effects and actual results: firm level

Model specification	**Firm-level**			
Dependent variable	**Abbreviation**	**Independent variables**	**Hypothesised effects**	**Actual effects**
Value of OFDI investment of MNC (INVVAL)	ASSLIAB	Leverage (assets/liabilities) (ratio)	Positive	Positive
	EPS	Earnings per share (SA cents)	Positive	Negative
	INDEXP	Experience (industry) (years)	Positive	Negative
	JV	Ownership (control) (%)	Positive	Mixed/Nil
	OPPROF	Operating profit (R m)	Positive	Positive
	PROBT	Profit before tax (PBT) (R m)	Positive	Positive

The cross-references with the hypothesis above showed that the literature is consistent as far as leverage (assets over liabilities), operating profit and profit before tax were concerned, in that these indicators affected further investments and sustainability of OFDI investments. Asset cover is an attribute that has not been extensively covered by existing literature and the results showed that many SA MNCs expanded into the rest of the continent through debt. The findings highlighted that asset cover should be prioritised by MNCs, as debt-based expansion was prone to chaotic servicing and almost immediate repayment. The pressure for quick financial recuperation might trigger early exit from the host market, which might ultimately be detrimental to the MNC.

Furthermore, the hypothesis was challenged by the findings on earnings per share and industry experience. The results on earnings per share would concern the shareholders of SA MNCs as the results indicate that OFDI initiatives in the rest of Africa might erode shareholder value and earnings, which was contrary to literature and the strategic drives of the MNCs. However, there were underlying factors that had been discussed that affected the earnings per share, and the MNC would need to manage this to attain shareholder value, especially resilience to build patronage and loyalty in the foreign market.

The contradiction of findings on industry experience also introduced an interesting dynamic to existing literature. The result challenged the strategic processes of SA MNCs that were premised on extensive home experience being the platform for OFDI. It highlighted how SA MNCs needed to manage their form and strategic thinking to be successful in the rest of the continent, as it was apparent that their home-based knowledge might be a weakness rather than an advantage in OFDI strategies. The mixed or nil effect of the ownership structure might be a surprise to some MNCs. This part contradiction with literature enabled MNCs to do introspection regarding which ownership structure was ideal for their business.

Additionally, the process of ownership structures was a journey for the MNC and involved their choice and working relationships with partners such as suppliers, which could determine the success of their investment. Ownership structure and control is an area of study that needs more work from a research perspective. However, this aspect of OFDI strategy was individualistic and depended on the MNC heterogeneity

and their partnerships in each country. Table 8.2 below reflects the comparison of the hypothesised effect of industry-level independent variables and the dependent variable.

Table 2.43 Comparison of hypothesised effects and actual results: sector level

Model specification	**Sector-level**			
Dependent variable	**Abbreviation**	**Independent variables**	**Hypothesised effects**	**Actual effects**
Value of agribusiness developmental inflows (AGDEV)	AGFCF	Agri-gross fixed capital formation (% of overall)	Positive	Positive
	AGGDP	Agriculture GDP (% of overall GDP)	Positive	Negative
	AGVAL	Agri-value add (% of overall)	Positive	Positive
	ARLAND	Arable land (% of overall)	Positive	Mixed
	CEREAL	Cereal yield (kg per hectare)	Positive	Negative
	CLIMATE	Climate change (temp)	Negative	Mixed
	CROPPI	Crop production (index)	Positive	Positive
	DFUND	Donor funding (value)	Positive	Positive
	EMP	Employment in agriculture (% of overall)	Positive	Positive
	FOOD SECURITY	Food security (%)	Positive	Mixed
	LIVESTOCK	Livestock production index	Positive	Positive

The comparison between the hypothesis and the actual findings at sector level produced varied results. The factual findings and the theory were consistent regarding the effects of infrastructural investment (AGFCF), agri-value added (AGVAL), crop production (CROPPI), donor funding (DFUND), employment (EMP) and livestock production (LIVESTOCK). The researcher, therefore, aligned with literature that these variables had positive effects on FDI, and FDI had a positive effect on these attributes. The bi-directional relationship is a new academic discovery.

The attributes above had a dual effect on making the host country attractive for FDI and had a positive economic effect on the host nation. However, the following variables had conflicting findings when compared to the hypothesis: agriculture GDP/overall GDP (AGGDP) ratio, cereal yield (CEREAL), arable land (ARLAND), climate change (CLIMATE) and food security (FOOD SECURITY). AGGDP and CEREAL posted negative results, whereas ARLAND, CLIMATE and FOOD SECURITY posted mixed results. The literature suggests that these variables are positively related to FDI. AGGDP had been identified as a strong determinant of FDI into agribusiness, and it positively affected agribusiness in the results. Although the overall contribution of agriculture to GDP was minimal, there was an understanding that the sector provided investment opportunities for South African-originated agribusiness MNCs.

CEREAL was expected to benefit positively from agri-FDI. However, the results showed that agri-FDI was not necessarily channelled to cereal production, and the rate of cereal production was not affecting FDI. The findings showed that other parts of agribusiness, such as crop and livestock production and agri-value addition, were the drawcards for FDI, and they benefited from FDI. Arable land revealed mixed results from the findings. The mixed results showed that although it was expected that countries with more extensive arable land would draw more FDI, this would be correct if all agri-FDI were in the primary sector of agribusiness.

The findings showed that FDI could flow to other parts of the value chain that might not necessarily rely on arable land, such as agri-processing, distribution and retail. The hypothesis was that climate change would negatively affect FDI. However, the mixed results showed that climate did not necessarily affect FDI decisions. The outcome was because climate change in moderation might not necessarily affect

agribusiness and in some cases, could even affect agribusiness positively, as discussed in the findings. The finding also pointed to some host countries managing the effects of climate change to mitigate the negative impact on agribusiness.

Finally, food security also had mixed results compared to the hypothesised positive expectation. The results indicated that food security would not necessarily draw FDI and might not necessarily be influenced by FDI. The outcome would be logical, in that MNCs did not necessarily invest to promote food security, but to generate profit. It would also be relevant to understand where the FDI had been attracted to in the value chain. For instance, FDI into wine production would not directly impact food security, whereas FDI into cereal production would. Table 8.3 reflected the final comparison of the hypothesised effects and actual findings at country level.

Table 2.44 Comparison of hypothesised effects and actual results: country level

Model specification	**Country level**				
Dependent variables	**Abbreviation**	**Independent variables**	**Hypothesised effects**	**Actual effects Agri-FDI**	**Actual effects Tot-FDI**
Value of agribusiness developmental Inflows (AGDEVINFLOW) and Overall FDI inflows (FDIINFLOWS)	GDP	Economic growth (GDP% growth)	Positive	Positive	Positive
	GFCF	Infrastructure development index Gross fixed capital formation (% of GDP)	Positive	Positive	Negative
	UNEMP	Unemployment (% of total labour force)	Negative	Negative	Positive
	POLITICAL	Political stability (index) – absence of violence, terrorism, and related events.	Positive	Negative	Positive
	TECH	Technology (index) – development of technology	Positive	Negative	Positive

Like the industry-level comparison to hypothesised effects, there were confirmed hypotheses and some challenges from the findings. The analysis of the national metrics from an agri- and overall perspective also revealed interesting differences. From an agri-FDI point of view, the conclusions that economic growth (GDP) and infrastructural development (GFCF) were positively related to FDI, concurred with the hypothesised relationship in literature. Rising unemployment (UNEMP) affected FDI negatively, which was aligned with the literature hypothesis. In contrast, the actual findings found that political stability and technological investments did not positively influence FDI.

The inconsistencies on political stability and technology could be explained as a new finding. With political instability, there was often a need to increase FDI, particularly into agribusiness, as the countries needed more support during times of instability. Moreover, political stability often had regional effects within the country and could affect one region and not another, but pressurising the stable area to produce more to supplement the unstable region. The negative technological relationship with agri-FDI could also be linked to regional or sectoral effects. For instance, technological advancements in oil and gas and financial services would not necessarily affect FDI into agribusiness. Many of the sampled countries did not focus on agribusiness, and this could explain the negative relationship.

On the analysis of the comparison between overall FDI and the independent variables, the hypothesised effects were consistent on GDP (positive), POLITICAL STABILITY, (positive) and TECH (positive). The researcher agreed with literature in that FDI flows into countries that had economic growth which provided a market, political stability that safeguarded investments and had the technological capacity to absorb the FDI. However, infrastructural development (GFCF) showed a negative relationship with overall FDI. The actual finding was unexpected at the national level. It could be attributed to the fact that infrastructural development was a long-term investment and the resultant effect on FDI might not be immediately evident. Also, infrastructural development could be in sectors that do not draw or influence FDI, thereby generating an inconsistent relationship.

The other contradicting relationship at country level with overall FDI, was that rising unemployment had a positive relationship with overall FDI. It is a generally accepted

concept that FDI promoted employment. However, employment did not generally promote FDI. MNCs did not invest in host countries to create jobs, but to generate profits. Furthermore, FDI was but one component of the economy. Therefore, FDI alone would not necessarily influence national unemployment. For instance, in agribusiness, it had been established that the youth, who were the largest component of the unemployed, did not find agribusiness exciting. This phenomenon was particularly important if the larger part of FDI was into primary agriculture as highlighted in the thesis. Still, employment, like infrastructural development, was a long-term process and reflected previous policies (and investments). This might merely serve as a macroeconomic indicator of the overall economy, not necessarily related to FDI. Therefore, for the reasons advanced above, it was possible at a snapshot that unemployment could have an unexpected relationship with overall FDI.

8.3 Strategic implications and recommendations for MNCs

The researcher focused on the firm-, sector- and country-attributes of OFDI. The revelations from a firm or MNC perspective inferred that SA MNCs needed to develop their OFDI strategies to become profitable, competitive and sustainable. Non-African MNCs dominated OFDI into the rest of Africa as per UNCTAD statistics. The economies of Africa were growing, which meant that markets within these African countries were growing. However, most of the benefit was going to non-African MNCs.

With particular reference to the research objectives 1, 3 and 6 re-stated below (see section 8.6), the recommendations for SA MNCs are discussed after that.

1. Uncover the investment strategies and competences of SA MNCs that invested in the rest of Africa.
3. Investigate the possible strategic and operational challenges faced by SA-originated agribusinesses in the rest of the African continent.

Although the study corroborated that SA MNCs did have competitive competencies compared to other firms in the host markets in other parts of the continent, it was prudent that SA MNCs were cognisant of the fact that these competencies were often sources of challenges for them in the host African countries. This was essentially so because SA-originated MNCs seemed to be lethargic towards situational flexibility that was crucially required in other African markets. Furthermore, these competencies had

to be deployed potently to compete with MNCs from the rest of the world. From the findings of the study, evidence suggested that SA MNCs could be successful in OFDI in the rest of the continent, should they align their strategies to the host environments. Alignment of approaches to the local environment had produced favourable results to MNCs from China and some African MNCs, which provided South African-originated MNCs with the learning and experience curve.

The study showed that the business environment in the rest of Africa was predominantly informal, whereas SA MNCs were more effective in a formal environment to which they were accustomed in the home environment. There was hence a need to revisit the tactical approach of these MNCs to be more informally tuned, within the legal parameters. This would involve entrusting local management to play a leading role in strategy formulation and implementation tactics. However, SA MNCs should not disregard their own home-grown competencies. Instead, these should be introduced slowly to the new local environment in order to align to global trends.

The development of African-centric strategies would ensure that SA MNCs increased more certainty in OFDI success than is the current case. The study revealed that leverage (asset/liability ratio) was crucial in ensuring sustainability in SSA markets. Many SA MNCs have expanded to the rest of the continent on the back of debt financing in the home market or offshore. The effect of the borrowings was that the payback is immediate, raising the interest burden of the overall MNC earnings and lowering returns for the shareholders. The other consequence was the reduced patience for the performance of subsidiaries in the rest of Africa. SA MNCs should build up capital reserves in the home country or invest in countries with matured capital markets that would galvanise access to funding. Patient capital should hence be a prerequisite for investment into the rest of Africa for SA MNCs.

Furthermore, the study showed that SA MNCs were disadvantaged by a heavy operational costs burden. Hence, SA MNCs should employ cost effective approaches for their businesses. For instance, most SA MNCs only utilised the ‘Top 4’ accounting and audit firms (PwC, Deloitte, Ernst and Young, and KPMG) as they had limited trust in local audit firms. Although the Top 4 audit firms were mainly reputable (though not flawless, see Planting, 2021), they were also relatively expensive. SA MNCs

competitors had more flexibility and often entrusted local more affordable audit firms. This phenomenon applied to other service providers as well, making local competitors more cost effective.

The study also indicated that SA MNCs had a heavy tax burden, reflected by the relationship between profits before tax with profit after tax and earnings per share. The challenges with tax and other regulatory issues were highlighted in the literature review and confirmed by the findings. This continued challenge reflected the limited understanding of SA MNCs of local laws and infers limited or un-purposeful interaction with local regulatory authorities. SA MNCs would be advised to have a solid relationship with the local regulatory authorities throughout the investment life cycle to alleviate these challenges.

Due diligence of host countries was critical for SA MNCs. SA MNCs showed efficiency in operations, linked to their comparative advantage and efficiencies learned in the home market and reflected in operating profits and profit before tax. However, the regressive relationship between operating profits and profit before tax with earnings per share showed that SA MNCs were investing in countries where they could not raise capital efficiently and that had a heavy tax burden. It was evident from the findings that in many cases, the MNCs performed reasonably well from an operational point of view (profit before tax), but were hampered by the high tax and regulatory burdens, reflected by diminishing earnings per share (which was directly linked to profit after tax). This oversight pointed towards inadequate due diligence.

Moreover, the findings revealed that SA MNCs with extensive industry experience in the home market struggled in OFDI host markets. This conclusion pointed towards the failure to modify strategies to the host environment. The ‘copy and paste’ approach had evidently affected many SA MNCs, particularly the older ones, that would tend to adjust more slowly than relatively newer companies. SA MNCs wishing to invest in the rest of Africa needed to understand the unique dynamics of the African continent, the regions and the individual communities within those countries.

The issue of entry modes was highlighted in this study. Evidence clarified that no single strategy would be appropriate for the expansion of SA MNCs into the rest of Africa. Instead, the study showed that each entry mode needed to be aligned to the unique

attributes of the firm. It was evident that some MNCs preferred high control, whereas some preferred lower levels of management oversight. However, the evidence suggested that each entry strategy depended on the choice of investment strategy. It was hence crucial to find the right partners that would align with the strengths of the MNC, and this needed to be verified in the case of acquisition. Alternatively, SA MNCs could adopt high levels of control if they had the requisite skills and expertise to manage the foreign subsidiary. Where the MNC introduced a product or service that was unique or had high entry barriers, the MNC had more flexibility to align minimally with the local environment. These included heavily capitalised industries or industries with highly regulated or sophisticated intellectual property. Examples would be network providers such as MTN or other technology producers. However, where the product or service was replicable, there was increased pressure to align with the local environment.

In summary, numerous variables had been employed in this study to evaluate the challenges encountered by SA MNCs, as the challenges affected the foreign success and sustainability of the MNC. However, the common thread in the failed OFDI strategies of SA MNCs was that they have been found wanting in their 'one size fits all' system and their propensity to expand from a home-industry perspective. This approach had the disadvantage of overlooking the host-industry perspective, which was the driving force behind FDI. When these dynamics were neglected, the SA MNC was not able fully to implement their comparative advantages that they had over many SSA countries. The issues of due diligence and full appreciation of their own capabilities were being underestimated as exemplified by the continued failure and in some cases, rapid withdrawals of SA MNCs from markets in the rest of Africa.

8.4 Policy implications and recommendations for host nations

FDI is a two-pronged process relying on the MNC and the host country. The MNC needed to optimise its capabilities to be competitive and sustainable. However, the host country needed to create a platform that is conducive to attract agri- and overall FDI. The benefits of FDI, such as complementing resource deficits, employment generation, industry and economic growth for a host country were generally accepted on condition that the host nation had absorption capacity. The challenge posed by

limited absorptive capacity might forestall the aspirations of host countries to attract growth-inducing and sustainable FDI.

In particular, reference to the following related objectives of the study, and the alignment to these objectives is discussed now.

2. Investigate the economic significance of agribusiness-related FDI inflow into other African countries.
4. Investigate the determinants of preferred agribusiness host markets.
5. Investigate the determinants of preferred host nations for SA-originated agribusiness MNCs in the rest of Africa.

Objective 2 above queried the economic significance of agribusiness FDI to home and host countries. The study showed that agribusiness development was critical to the economies of both host and home countries. It was illustrated that agribusiness was directly linked to the performance of overall GDP in both home and host economies. In South Africa, the value addition component was highlighted as having ensured that the agribusiness sector of the country remained competitive, with South Africa being one of the few net exporters of agribusiness products on the continent.

The issue of unemployment was highlighted as a significant challenge on the continent, particularly for host countries. This growing challenge as confirmed by the study, emphasised the economic importance of agribusiness as a sector that would assist in curbing the unemployment burden, particularly of the youth. However, there was a need for policymakers to make agribusiness more appealing to the youth than other industries, as they find it unexciting and taxing. Technology was an avenue that would attract the youth into this industry. Hence, policymakers should introduce technology programmes into the curricula that were aligned to agribusiness. These interventions should also be targeted at all youth, with an emphasis on rural youth who were based in the bedrock of agribusiness, thereby alleviating another African socio-economic challenge of rural to urban, or indeed inter-country and inter-continental migration.

Objective 4 FDI focused on host attractiveness in the agribusiness industry. At the industry level, the researcher suggested that consistent inflows of FDI would attract

further inflows from all perspectives. This conclusion was important in that it indicated that FDI attraction was a long-term project that was reliant on consistency. Policy certainty had been a challenge with many African countries, with the uncertainty compounded with regular changes of government. The findings suggested that the momentum of positive reforms was critical in maintaining the flow of FDI into African countries.

The study confirmed that agri-infrastructural development was crucial for the attraction of agri-FDI. Host governments needed to continue to invest in infrastructure in this industry to ensure continued inflows. The concerning issue was that agribusinesses employed most of the African populace, but the investment into agri-infrastructure was not increasing at the same rate. In fact, it was declining. The declined focus on agribusiness was enforced by the findings that revealed that agri-FDI was not aligned with the ratio of agri-GDP with overall GDP. The finding suggested that the fiscal focus was on other parts of the economy in African countries, and although FDI might be coming in, other industries were being supported and were growing at a higher rate than the agricultural industry. The need for increasing agribusiness was evident as it went a long way towards alleviating socio-political issues such as unemployment and poverty.

The researcher further found that agri-value additions attracted FDI. The inference was a vital part of the thesis. African countries had focused on the production of raw materials which were exported to foreign countries for beneficiation. The final output was then re-imported into Africa at exorbitant prices. The findings on the relationship between agri-value add and agri-FDI were encouraging and should inform policies to grow this relationship. Value addition brought wealth into the continent that would otherwise have been earned elsewhere.

Furthermore, value addition ensured that young people stayed in agribusiness, which is critical for the future sustainability of the continent. The mixed relationship between arable land and FDI pointed to the limited development in primary farming. The findings suggested that arable land was not drawing FDI as much as it should, which would further indicate that the inflow of technological and productive advancement to primary farming was sometimes troublesome. Policymakers needed to prioritise the optimal usage of arable land with FDI initiatives to boost the entire agribusiness value

chain. Adoption of technology and mechanisation needed to be encouraged to increase productivity and enable Africa to progress.

The issue of cereal production was a topical one. Evidence from the study inferred that cereal production was not an agri-FDI drawcard. The findings confirmed the assertions in literature that cereal production was on the decline on the continent. However, that was not necessarily a challenge if the same resources were being utilised for income generation in other parts of the agribusiness value chain, which could generate income and alleviate food insecurity. The rechannelling of land resources to high cash value agri-products had been documented in South Africa, and it had the potential to benefit the entire agribusiness industry and the nation. Nevertheless, the transition needed to be supported by infrastructural and logistical improvements to ensure that the primary farmers who relied on cereals were not negatively affected.

The evidence from the study did indicate a positive relationship between agri-FDI with both crop and livestock productivity. Policymakers were advised to encourage this relationship if it benefited the greater population. However, policymakers needed to be wary of the effect of FDI on agribusiness, where it negatively affected food security. The study found that there was an inconsistent relationship between food security and FDI. The results implied that in some cases, food insecurity attracted FDI, which would be acceptable if the FDI then addressed food insecurity and would be inadvisable if it encouraged it. This is an area that needs further research to establish the causal relationship between FDI and food security.

The fifth objective was to investigate the overall host attractiveness for the agribusiness MNCs. The effect of overall host country dynamics on agribusiness MNCs was important as literature suggests possible differences on the macroeconomic effects on FDI in different industries. The subsequent observations were important for host nations to appreciate and incorporate into policy decisions.

From a macroeconomic and overall country institutional perspective, there were some interesting inferences from the findings. At the country level, the study utilised agri- and overall FDI inflows to contrast the effects. Firstly, the consistent thread continuing from the industry perspective was that previous inflows influenced future inflows. This

finding bolstered the fact that consistency in progressive policies may stimulate a constant influx of FDI. Likewise, economic growth was found to affect FDI positively. Positive economic growth means increased market size and progressive policies by policymakers. Policymakers are encouraged to have policies that grow the overall economy to encourage further FDI.

Infrastructural development produced different perspectives from agri-FDI (which was encouraged by infrastructure) and overall FDI (which suggested infrastructure did not encourage FDI). The unexpected findings for the negative relationship of overall FDI and GFCF could be linked to timing issues, where infrastructural development would affect FDI in the long term and not necessarily immediately. Logically, FDI might be better absorbed in a host nation that had the infrastructure to absorb it. Policymakers are encouraged to invest in infrastructure to encourage FDI inflows. The negative relationship could hence be linked to stagnated infrastructure projects of the past that affect current-day FDI inflows and should encourage policymakers to influence future inflows by investing in infrastructure. Alternatively, where a country had invested in the past and had reducing investments in infrastructure currently, but increasing FDI, this would confirm that the current FDI was linked to infrastructure investments in the past.

Employment was one of the paramount objectives of FDI for host nations. The results of the study found that rising unemployment positively affected overall FDI and negatively affected agri-FDI. Like infrastructure, the policy uptake was that employment was also a long-term project and was also affected by other factors in the economy that might not be linked to FDI. Hence, deducing a direct influence, especially at overall FDI level, could be spurious. However, unemployment remained a macroeconomic indicator at a national level. Though it might not affect FDI directly, its implications (of challenged macroeconomic policies) needed to be managed to avoid potential negative effects on FDI inflow in the long run.

Contrasting effects were also found with technology and political stability. The mixed results of technology (positive correlation for overall FDI and negative correlation for agri-FDI), would suggest that technological advancement is not prevalent in agribusiness. The policy implication is that governments needed to encourage agri-technology to grow the agribusiness industry in their host countries. Finally, the political stability metric also produced conflicting results. The inference was that

although political stability seemed to affect agri-FDI negatively, it affected overall FDI positively. The concern that policy should address, was where negative political stability attracts agri-FDI, the FDI would likely not be developmental but basic and an attempt to address political upheavals. Overall FDI was, however, positively affected by political stability, and this relationship underscored the need for political stability to be prioritised to ensure FDI inflows to all sectors, including agribusiness.

Throughout the study, the issue of information unavailability in the continent was highlighted. A major policy intervention was to improve information availability. For instance, in cases where inconsistencies were found in the literature and the findings, it would be useful to engage in further study with more information. A case in point was employment and FDI. Information on FDI per sector should be more readily available. Likewise, information on employment should also be more available per sector to enable researchers to produce more accurate findings.

The sixth and final objective was to:

6. Investigate the linkages between country-, market-, and firm-level aspects of OFDI to successful OFDI business strategies for SA-originated agribusiness MNCs in Africa.

The recommendations above ensured that the link between the MNC, the industry and the overall host country dynamics was emphasised. The three sections are inseparable and recommendations need to be addressed simultaneously to ensure MNC-, home- and host-country objectives are realised. The policy implications at MNC- and host-country levels were essential to address the challenges being faced by both the MNC in sustainable business strategies and host countries in attracting reasonable levels of FDI. Also, there was a need for FDI to address continental challenges, such as the value addition challenge that alleviated related socio-economic challenges faced by the African populace.

8.5 Contribution to knowledge

The primary purpose of the study was to supplement knowledge about outward FDI. Although many studies had been done on the subject globally, there were minimal studies done on the African continent and even fewer from an African perspective. The

research objectives were to aid SA MNCs and other MNCs from Africa and beyond with a better understanding of OFDI into sub-Saharan Africa. Although the study intentionally focused on agribusiness as the biggest employer in Africa and hence the most critical industry, the concepts of this study were relevant to other industries on the continent.

The study specifically contributed in the following manner.

8.5.3 Pooled data

The researcher utilised pooled data. The data used covered the period from 2000 to 2018. The use of pooled data enabled the research effort to test for the effect of a considerable number of independent variables that were crucial for the full comprehension of the main focus of the study. This specific approach helped to add a meaningful novelty to the body of existing literature in this area of specialisation. This econometric approach enabled the researcher to employ various statistical techniques that ensured that the regional and time-variant effects of the study were optimally investigated.

8.5.4 Data generation

Data sourcing on the African continent was a challenging exercise, as discussed earlier. The information on FDI and in agribusiness was problematic to produce. This researcher encountered similar challenges in data generation. However, numerous statistically sound techniques were employed to sanitise the data gaps without compromising the quality of the output and empirical results. The statistical efforts in sanitising the data and hence ensuring previously unavailable data were availed for the researcher, was a contribution to studies in this field.

8.5.5 Regional effects

Similar studies have tended to focus on regions or specific countries. This researcher endeavoured to carry out a survey that would be representative of the four regions of sub-Saharan Africa. Within the regions, the sampled countries were representative by virtue of their economic relevance, their diversity and encapsulated the MNC element

as they were prevalent FDI hosts for SA MNCs. The study was therefore unique in capturing all these attributes to ensure relevance to the MNCs and the continent.

8.5.6 Data integrity

Although the sample of MNCs was limited to JSE-listed MNCs, this ensured that the data integrity was retained as stringent JSE ethics governed these MNCs. Previous studies have often had to rely on unconfirmed data sources, leaving the reviews prone to flaws in data integrity and subsequent inaccuracies transferred to the findings. Host country data, which can be challenging, were sourced only from reputable sources that were statistically tested globally. The study hence relied on highly concise data to ensure an uncontaminated contribution to knowledge.

8.5.7 Estimation techniques

Finally, the estimation techniques that had been employed in this study were effective in obtaining empirical results that addressed the research objectives of the study. The tests included LSDV and FGLS estimation techniques. The estimation robustness checks, which included the F-test, the Hausman test, the Pesaran test and the Breusch-Pagan test, ensured that the findings of the models were reliable.

8.6 Summary of recommendations

Africa has shown immense economic growth potential in the recent past. Many African countries were growing at an average rate of more than 5% per annum, which was higher than the global average as per the World Bank. Likewise, home-grown MNCs have emerged from the continent with South Africa providing most of them. The study showed that there have been some strides in improving the performance of SA MNCs in OFDI, although challenges persisted. There have also been improvements by African host countries in being more attractive than before for FDI. However, FDI, which was an essential element of economic growth, has seen Africa lag behind the rest of the world. Further, intra-Africa FDI has been dwarfed by FDI from other parts of the world. With global trends for FDI declining, there was a need to improve the focus on intra-Africa FDI for the benefit of both home and host countries within the continent.

From an MNC perspective, the study corroborated previous studies that emphasised the need for MNCs to be able to duplicate their core competencies dually, such as entrepreneurship, comparable advantages and cost efficiencies from home countries, as well as to align their OFDI strategies to the host countries that they have selected. Further, the researcher corroborated the need for MNCs to conduct adequate due diligence when investing in the rest of the continent to ensure full appreciation of the unique environment of every African country. The alignment included studying local issues such as the structure of the industry in which they are investing, the regulatory environment, efficiency of capital markets and their choice of entry modes. Although there had been some alignment of MNC strategies to these issues, numerous MNCs still faced strategic challenges with their OFDI methods. The study highlighted a strong propensity for SA MNCs to attempt to duplicate homegrown strategies on the rest of the continent. The under-appreciation of host markets compounded this flawed approach, and this needs to be addressed to ensure sustainability.

Likewise, from a host country perspective, African countries needed to align their policies to attract and retain FDI. The ease of doing business needs to be improved in terms of the regulatory environment, investments in infrastructure and technology, development of capital markets, political stability and the channelling of state resources and expenditure to areas of the economy that generate economic activity. The study showed that many host nations were neglecting industries that have growth potential such as agribusiness, leading to an over-reliance on private business and FDI to manage issues that should be handled by government. Institutional sturdiness stood out as being important in the study for FDI. Governments should ensure that their institutions have the capability to absorb and encourage the inflow of FDI.

Finally, the study showed that there seemed to be a disconnect within the continent, and African MNCs did not receive any incentives for investing in the continent from either the home or host country. The disconnect often resulted in FDI initiatives that did not address African needs, such as the need for value addition in agribusiness and other sectors in the continent. It was, however, encouraging that African governments have agreed to adopt AfCFTA, and it is hoped that this association will be influential and beneficial for African MNCs and host countries alike in terms of increasing the appetite and sustainability of intra-Africa FDI.

8.7 Conclusion

The literature review highlighted that FDI was a vital tool for bridging local resource deficits and expertise in the African continent. However, the literature also established that there were challenges with the FDI process that needed to be addressed for the continent to achieve the full benefit of FDI for both the MNC and the host country. The findings in Chapters 5 to 7 revealed that although there were notable strides in managing the FDI process for the MNC and the host country, both parties still faced challenges in optimising the process.

The researcher commenced this chapter with an analysis of the research objectives that were established at the beginning of the study. These objectives were cross-referenced with the results to come up with logical recommendations. Likewise, the research hypothesis derived from the literature was analysed in comparison with the findings, thereby confirming or challenging literature.

For the MNC, this researcher established that SA MNCs have achieved mixed fortunes when investing in the rest of the continent. The ones that have succeeded have done so by transferring their competencies to other parts of the continent after adequate due diligence of the market and regulatory environment. Furthermore, they have structured their internal capabilities in a manner that they had the appropriate capital, skills and other resources for them to externalise their business model.

The researcher also established that the countries that have attracted and sustained FDI, were countries that have invested in their structures and institutions to be able to absorb and support FDI initiatives of MNCs. Improvements at both the MNC and country-level were identified as being critical for the increased FDI activity.

Finally, the researcher highlighted the bigger picture, that is, that Africa needed to rely more on itself for economic growth and FDI rather than on the rest of the world, especially as the world became cautious in FDI activity. AfCFTA was highlighted as one of the avenues to achieve this. The continent remains resource rich with extensive promise in all sectors, and it is hoped that studies such as this one would assist in ensuring that the continent reaches its full potential.

8.8 Suggestion for further study

The study revealed that there are some elements of OFDI that needed further research. One of the major areas that require further analysis is the choice of ownership structures that MNCs needed to employ for successful FDI strategies. The results of this study in that regard were inconclusive, and although literature and previous studies have endeavoured to nuance this nexus, it is one that requires more scientific research. Also, there were inconsistencies highlighted regarding the relationship between FDI, food security and political stability. The inconsistent relationship, where food insecurity and political instability were positively related to increase FDI in some cases and decreased FDI in others, requires deeper understanding. Although, these relationships have been explained in this study, it has been done inconclusively, thereby requiring in-depth studies to uncover the salient policy direction that may stem investments on the continent on a sustainable basis.

References

Acemoglu, D. & Robinson, J.A. 2012. *Why nations fail: The origins of power, prosperity and poverty.* New York, NY: Crown.

ADB (African Development Bank). 2018. *Promoting competitive agribusiness in Mozambique.* Retrieved from https://www.afdb.org/en/news/promoting-competitive-agribusiness-mozambique [Accessed 25 June 2020].

Adeleke, F. 2018. *International investment law and policy in Africa: Exploring a human rights based approach to investment regulation and dispute settlement.* Routledge Research in International Economic Law. New York, NY: Routledge.

Adeleye, I., White, L. & Boso, N. 2016. *Africa-to-Africa internationalization: Key issues and outcomes.* AIB Sub-Saharan Africa (SSA) Series. Cham: Springer.

Adesida, O. & Karuri-Sebina, G. 2011. Is Africa the land of the future? It is not a given. *Foresight*, 13(3):3–6.

Afrika, J.K. & Ajumbo, G. 2012. *Informal cross border trade in Africa: Implications and policy recommendations*. African Development Bank. Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Economic%20Brief%20-%20Informal%20Cross%20Border%20Trade%20in%20Africa%20Implications%20and%20Policy%20Recommendations%20-%20Volume%203.pdf [Accessed 24 June 2018].

Akanonu, P.C. 2016. *FDI and growth: The role of local financial markets.* Saarbrucken: Lambert Academic Publishing.

Akokpari, J., Ndinga-Muvumba, A. & Murithi, T. 2008. *The African Union and its institutions.* Johannesburg: Jacana Media.

Alcaraz, J., Zamilpa, J. & Torres, L.E. 2017. Understanding the internationalization of Latin American enterprises. *Journal of Applied Business and Economics*, 19(5):110–130.

Aliyu, M.B. 2012. *Foreign direct investment (FDI) and economic growth in emerging markets: Focus on Nigeria.* Saarbrucken: Lambert Academic Publishing.

Amusa, K., Monkam, N. & Viegi, N. 2016. *Foreign aid and foreign direct investment in sub-Saharan Africa: A panel data analysis*. Working paper no. 612. Pretoria: Economic Research Southern Africa.

Anderson, D.R., Sweeney, D.J., Williams, T.A., Camm, J.D. & Cochran, J.J. 2015. *Essentials of statistics for business and economics.* Seventh edition. Stamford: Cengage Learning.

Andrade, S.V. 2017. *Rainbow of hope for Africa's future – FDI in Africa: Foreign Direct Investment in Africa.* Cape Verde: Createspace Independent.

Anetor, F.O., Esho, E. & Verhoef, G. 2020. The impact of foreign direct investment, foreign aid and trade on poverty reduction: Evidence from sub-Saharan African countries. *Journal of Cogent Economics & Finance*, 8(1):1–14.

Annual financial statements and reports (2020)

Anyanwu, J.C. & Yameogo, N.D. 2014. *Regional comparison of foreign direct investment to Africa: Empirical analysis*. Retrieved from https://www.researchgate.net/publication/273111609_FDI_TO_AFRICA_REGIONAL_COMPARISON [Accessed 24 June 2018].

Aregbeshola, R.A. 2014a. *Effects of capital market development on inflow of foreign direct investment to African countries,* PhD thesis, Wits University, Johannesburg. Retrieved from http://wiredspace.wits.ac.za/bitstream/handle/10539/15303/R_A_2014_PhD_Thesis.pdf?sequence=1 [Accessed 30 July 2018].

Aregbeshola, R.A. 2014b. Foreign direct investment and institutional inadequacy : New Granger causality evidence from African countries. *South African Journal of Economic and Management Sciences*, 17(5):544–546.

Aregbeshola, R.A. 2016. The relationship between capital market development and inflow of foreign direct investment to Africa: A VECM-conditioned impulse. *Kasmera*, 44(1):452–470 Retrieved from https://www.researchgate.net/publication/303750805_The_Relationship_between_Capital_Market_Development_and_Inflow_of_Foreign_Direct_Investment_to_Africa_-_a_VECM-conditioned_Impulse [Accessed 25 August 2017].

Aregbeshola, R.A. 2019. A regional analysis of institutional framework on capital market behaviours: Evidence from selected African countries. *Nigerian Journal of Economic and Social Studies*, 61(2):231–262.

Arellano, M. & Bover, O. 1995. Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68:29–51.

Arkes, J. 2019. *Regression analysis: A practical introduction*. New York, NY: Routledge.

Astral Foods. 2020. *Integrated report and annual financial statements (2012–2019).* Retrieved from https://www.astralfoods.com/investor-centre.html [Accessed 1 July 2020].

Awunyo-Vitor, D. & Sackey, R.A. 2018. Agricultural sector foreign direct investment and economic growth in Ghana. *Journal of Applied Business and Economics*, 7(15):1–15.

Baltagi, B.H. 2008. *Econometric analysis of panel data.* Fourth edition. The United Chichester: Wiley.

Bates, R.H. 2014. *Markets and states in tropical Africa: The political basis of agricultural policies.* London: University of California Press.

Beck, S. & Chaves, A. 2011. *The impacts of various taxes on foreign direct investment.* Working paper no. 11-18. Newark, DE: Department of Economics, University of Delaware.

Beierlein, J.G., Schneeberger, K.C. & Osburn, D.D. 2014. *Principles of agribusiness management.* Fifth edition. Long Grove, IL: Waveland Press.

Berger, D. 2014. *Captive nation: Black prison organizing in the civil rights era (justice, power, and politics).* Chapel Hill, NC: University of North Carolina Press.

Bergo, H. 2015. *Has foreign aid led to economic growth in Uganda?* Global Risk Insight. Retrieved from https://globalriskinsights.com/2015/05/has-foreign-aid-led-to-economic-growth-in-uganda/ [Accessed 24 June 2018].

Besley, T. 2015. *Contemporary issues in development economics.* International Economic Association Series. New York, NY: Palgrave Macmillan.

Bhavan, T. 2011. The relationship between foreign aid and FDI in South Asian economies. *International Journal of Economics and Finance*, 3(2):143–149.

Bijaoui, I. 2017. *Multinational interest & development in Africa: Establishing a people's economy.* Cham: Springer International.

Bivens, J. 2014. *The short- and long-term impact of infrastructure investments on employment and economic activity in the US economy*. Economic Policy Institute. Retrieved from https://www.epi.org/publication/impact-of-infrastructure-investments/ [Accessed 15 July 2020].

Blonigen, B.A. 2019. *Foreign direct investment.* World Scientific Studies in International Economics. Saarbrucken: Lambert Academic Publishing.

Brands and Branding. 2015. *Doing business in Africa is not for the faint-hearted.* Retrieved from http://www.brandsandbranding.co.za/doing-business-in-africa-is-not-for-the-faint-hearted/ [Accessed 26 March 2017].

Brand South Africa. 2017. *Manufacturing in South Africa*. Retrieved from https://www.brandsouthafrica.com/investments-immigration/business/economy/sectors/manufacturing-in-south-africa [Accessed 26 June 2019].

Brautigum, D. 2015. *Will Africa feed China?* New York, NY: Oxford University Press.

Breusch, T.S. & Pagan, A.R. 1980. The Lagrange multiplier test and its application to model specification in econometrics. *Review of Economic Studies*, 4(7):239–253.

Bright, J. & Hruby, A. 2015. *The next Africa: An emerging continent becomes a global powerhouse.* New York, NY: St. Martin's Press.

Brooks, J. & Matthews, A. 2015. *Trade dimensions of food security.* OECD Food, Agriculture and Fisheries paper no. 77. Retrieved from https://www.oecd.org/swac/publications/49526765.pdf [Accessed 10 July 2018].

Bruno, J.F. 1995. On bias, inconsistency and efficiency of various estimators in dynamic panel data models. *Journal of Econometrics*, 68:53–78.

Buchanan, B.J., Le, Q.V. & Rishi, M. 2012. Foreign direct investment and institutional quality: Some empirical evidence. *International Review of Financial Analysis,* 21:81–89.

Buckley, P.J., Chen, L., Clegg, L.J. & Vossa, H. 2016. Experience and FDI risk-taking: A microfoundational reconceptualization. *Journal of International Management,* 22(2):131–146.

Burkhardt, P. 2021. *Total expected to proceed with $5,1 billion Uganda oil project*. Bloomberg. Retrieved from https://www.worldoil.com/news/2021/4/9/total-expected-to-proceed-with-51-billion-uganda-oil-project [Accessed 19 May 2021].

Business Daily. 2019. Stanlib's Sh135bn advisory business on sale. Retrieved from https://www.businessdailyafrica.com/markets/marketnews/Stanlib-s-Sh135bn-advisory-business-on-sale/3815534-5061462-19ewb1/index.html [Accessed 2 June 2019].

Business Day. 2013. Tax a significant threat for doing business in Africa, survey shows. Retrieved from https://www.businesslive.co.za/bd/world/africa/2013-10-01-tax-a-significant-threat-for-doing-business-in-africa-survey-shows/ [Accessed 25 March 2017].

Business Day. 2015. BUSINESS DAY TV: Has SA's 'gateway to Africa' status lulled it into a state of complacency? Retrieved from https://www.businesslive.co.za/bd/companies/2014-04-07-business-day-tv-has-sas-gateway-to-africa-status-lulled-it-into-state-of-complacency/ [Accessed 26 March 2017].

Business Tech. 2020. Eskom talks up emergency power progress to ease load shedding in South Africa. Retrieved from https://businesstech.co.za/news/energy/433398/eskom-talks-up-emergency-power-progress-to-ease-load-shedding-in-south-africa/ [Accessed 15 September 2020].

Business Wire. 2016. Numbers show dramatic rise of terrorist attacks in Africa over past six years, IHS says. Retrieved from http://www.businesswire.com/news/home/20160627005638/en/Numbers-Show-Dramatic-Rise-Terrorist-Attacks-Africa [Accessed 8 October 2017].

Campos, Z. 2018. *Comment: The future of Angola's infrastructure development*. International Investment. Retrieved from https://www.internationalinvestment.net/internationalinvestment/news/3505954/comment-future-angolas-infrastructure-development [Accessed 20 September 2020].

Canci, H. & Odukoya, O.A. 2016. *Ethnic and religious crises in Nigeria*. Accord. Retrieved from https://www.accord.org.za/ajcr-issues/ethnic-religious-crises-nigeria/ [Accessed 24 June 2020].

Carlberg, C. 2016. *Regression analysis Microsoft Excel.* Indianapolis, IN: Pearson Education.

Chanda, E. 2013. *The impact of foreign direct investment (FDI) on poverty in Zambia: A study of Zambian micro, small and medium enterprises for the period 2000–2010.* Saarbrucken: Lambert Academic Publishing.

Chaudhuri, S. & Mukhopadhyay, U. 2014. *Foreign direct investment in developing countries: A theoretical evaluation.* New Delhi: Springer.

Cheru, F. & Modi, R. 2013. *Agricultural development and food security in Africa: The impact of Chinese, Indian and Brazilian investments.* Africa Now. New York, NY: Zed Books.

Chibba, S. 2014. *Angola is open for South African business*. Brand South Africa. Retrieved from https://www.brandsouthafrica.com/investments-immigration/economynews/angola-is-open-for-south-african-business [Accessed 26 March 2017].

Christiaensen, L. & Demery, L. 2018. *Agriculture in Africa: Telling myths from facts.* Washington, DC: World Bank Group.

Christiaensen, L., Rutledge, Z. & Taylor, E. 2019. *The future of work in agriculture: Some reflections*. Washington, DC: World Bank Group.

Ciesielska, D. 2012. Polish foreign direct investments: Trends, patterns and determinants. *The Macrotheme Review: A Multidisciplinary Journal of Global Macro Trends,* 3(1)A:214–229.

Collins, D. 2013. *The BRIC states and outward foreign direct investment.* Oxford: Oxford University Press.

Comstock, G. 2013. *Research ethics: A philosophical guide to the responsible conduct of research.* Cambridge: Cambridge University Press.

Creswell, J.W. 2014. *Research design: Qualitative, quantitative and mixed methods approaches.* Thousand Oaks, CA: Sage.

Creswell, J.W. 2015. *A concise introduction to mixed methods research*. Thousand Oaks, CA: Sage.

Creswell, J.W. & Cresswell, J.D. 2018. *Research design: Qualitative, quantitative and mixed methods approaches.* Fifth edition. London: Sage.

Creswell, J.W. & Plano Clark, V.L. 2011. *Designing and conducting mixed methods research.* Second edition. Thousand Oaks, CA: Sage.

Csizmadia, P. 2016. *What determines Chinese foreign direct investments in Africa? An institutional perspective.* Saarbrucken: Lambert Academic Publishing.

Daily Monitor. 2020. PEP closes Uganda shops. Retrieved from https://www.monitor.co.ug/News/National/PEP-closes-Ugandan-shops-/688334-5594782-o56346z/index.html [Accessed 5 August 2020].

Darley, W.K. & Blankson, C. 2008. African culture and business markets: Implications for marketing practices. *Journal of Business & Industrial Marketing,* 23(6):374–383.

DeCuir-Gunby, J. & Schutz P.A. 2017. *Developing a mixed methods proposal: A practical guide for beginning researchers.* Mixed Methods Research Series. Thousand Oaks, CA: Sage.

De Ionno, P. 2016. *Varying levels of success for South African companies in the rest of the continent*. How we made it in Africa. Retrieved from https://www.howwemadeitinafrica.com/varying-levels-success-south-african-companies-rest-continent/ [Accessed 26 March 2017].

Deloitte. 2020. *IFRS 8 – Operating segments: History of IFRS8.* Retrieved from https://www.iasplus.com/en/standards/ifrs/ifrs8 [Accessed 24 April 2020].

Denzin N.K. & Lincoln, Y.S. 2011. *The Sage handbook of qualitative research.* Thousand Oaks, CA: Sage.

Deseatnicov, I. & Kucheryavyy, K. 2018. *Role of past experience and intra-firm trade in FDI decisions.* Discussion paper no. 18051. Tokyo: Research Institute of Economy, Trade and Industry.

De Vreyer, P. & Roubaud, F. 2013. *Urban labor markets in sub-Saharan Africa*. Washington, DC: The World Bank.

Dinar, A., Hassan, R., Mendelsohn, R. & Benhin, J. 2009. *Climate change and agriculture in Africa: Impact assessment and adaptation strategies.* New York, NY: Earthscan.

Dludla, N. 2020. Shoprite ends Kenya expansion, plans retreat from the country. *Moneyweb*, 8 September. Retrieved from https://www.moneyweb.co.za/news/companies-and-deals/shoprite-ends-kenya-expansion-plans-retreat-from-the-country/ [Accessed 14 September 2020].

Doane, D. & Seward, L. 2016. *Applied statistics in business and economics.* Fifth edition. New York, NY: McGraw-Hill Education.

Donaubauer, J., Neumayer, E. & Nunnenkamp, P. 2016. *Financial market development in host and source countries and its effects on bilateral FDI.* Kiel Institute for World Economy. Retrieved from https://www.researchgate.net/publication/295009991_Financial_Market_Development_in_Host_and_Source_Countries_and_Its_Effects_on_Bilateral_FDI [Accessed 15 January 2020].

Dorożyński, T. & Kuna-Marszalek, A. 2017. *Outward foreign direct investment (FDI) in emerging market economies.* Hershey: IGI Global.

Douglas, K. 2013. *South African firms need to tap into opportunities in rest of continent, says Martyn Davies*. How we made it in Africa. Retrieved from https://www.howwemadeitinafrica.com/south-african-firms-need-to-tap-into-opportunities-in-rest-of-continent-says-martyn-davies/ [Accessed 26 March 2017].

Driscoll, J.C. & Kraay, A.C. 1998. Consistent covariance matrix estimation with spatially dependent panel data. *Review of Economics and Statistics*, 80:549–60.

Drummond, P., Kal Wajid, S. & Williams, O. 2014. *The quest for regional integration in the East Africa Community.* Washington, DC: International Monetary Fund.

Du, J. 2020. *The Shenzhen experiment: The story of China's instant city.* Cambridge, MA: Harvard University Press.

Duku, M. 2015. *The effect of FDI on economic growth, evidence from Nigeria: What is FDI? And types of FDI. FDI and economic growth; evidence from Nigeria.* Saarbrucken: Lambert Academic Publishing.

Ebi, K.L., Mearns, L.O. & Nyenzi, B. 2018. *Weather and climate: Changing human exposures*. World Health Organization. Retrieved from https://www.who.int/globalchange/publications/climatechangechap2.pdf [Accessed 24 July 2020].

Edsel, A. 2016. *Breaking failure: How to break the cycle of business failure and underperformance using root cause, failure mode and effects analysis, and an early warning system.* Upper Saddle River, NJ: FT Press.

Egu, M.E. & Aregbeshola, R.A. 2016. *The odyssey of South African MNCs and their impact on the SADC.* AIB Annual Conference Paper. Retrieved from https://www.researchgate.net/publication/304966928_The_Odyssey_of_South_African_MNCs_and_their_impact_on_the_SADC [Accessed 26 August 2017].

Entrepreneur Magazine. 2011. South African companies can succeed in Africa. Retrieved from http://www.entrepreneurmag.co.za/entrepreneur-today/south-african-companies-can-succeed-in-africa/ [Accessed 26 March 2017].

Epaphra, M. & Mwakalasya, A.H. 2017. Analysis of foreign direct investment, agricultural sector and economic growth in Tanzania. *Modern Economy*, (8):111–140.

Esfandyari, M. 2015. The role of financial markets development in the foreign direct investment effect on economic growth (the case of D8 with emphasizing on Iran). *International Journal of Academic Research in Business and Social Sciences,* 5(10): 240-248. Retrieved from https://ideas.repec.org/a/hur/ijarbs/v5y2015i10p240-248.html [Accessed 26 August 2017].

Ewing, J. 2008. *South African companies unlock sub-Saharan Africa*. Bloomberg. Retrieved from https://www.bloomberg.com/news/articles/2008-12-03/south-african-companies-unlock-sub-saharan-africa [Accessed 25 March 2017].

EY (Ernst & Young). 2018. *Turning tides: EY Attractiveness Program: Africa*. Retrieved from https://bit.ly/2PZcPcQ [Accessed 16 February 2020].

FAO (Food and Agriculture Organization of the United Nations). 2012. *Angola country programming framework (2013–2017)*. Retrieved from http://www.fao.org/3/a-bp627e.pdf [Accessed 25 June 2020].

FAO (Food and Agriculture Organization of the United Nations). 2018a. *Africa: Addressing the threat from climate variability and extremes for food security and nutrition*. Retrieved from http://www.fao.org/3/CA2710EN/ca2710en.pdf [Accessed 3 November 2019].

FAO (Food and Agriculture Organization of the United Nations). 2018b. *Foreign direct investment (FDI).* Retrieved from http://www.fao.org/faostat/en/#data/FDI/visualize [Accessed 14 February 2020].

FAO (Food and Agricultural Organization of the United Nations). 2019a. *Government expenditure on agriculture.* Retrieved from http://www.fao.org/economic/ess/investment/expenditure/en/ [Accessed 15 November 2019].

FAO (Food and Agriculture Organization of the United Nations). 2019b. *Helping Uganda's agriculture grow in a changing world.* Retrieved from http://www.fao.org/in-action/helping-ugandas-agriculture-grow-in-a-changing-world/en [Accessed 14 June 2020].

FAO (Food and Agricultural Organization of the United Nations). 2020a. *Capital stock.* Retrieved from http://www.fao.org/faostat/en/#data/CS [Accessed 2 July 2020].

FAO (Food and Agricultural Organization of the United Nations). 2020b. *Development flows to agriculture.* Retrieved from http://www.fao.org/faostat/en/#data/EA

[Accessed 2 July 2020].FAO (Food and Agricultural Organization of the United Nations). 2020c. *Macro indicators.* Retrieved from http://www.fao.org/faostat/en/#data/MK [Accessed 2 July 2020].

FAO (Food and Agricultural Organization of the United Nations). 2020d. *Temperature change.* Retrieved from http://www.fao.org/faostat/en/#data/ET [Accessed 2 July 2020].

FAO (Food and Agricultural Organization of the United Nations). 2020e. *Suite of food security indicators.* Retrieved from http://www.fao.org/faostat/en/#data/FS [Accessed 2 July 2020].

Farole, T. 2011. *Special economic zones in Africa: Comparing performance and learning from global experiences.* Directions in Development. Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

Farole, T. & Winkler, D. 2014. *Making foreign direct investment work for sub-Saharan Africa: Local spillovers and competitiveness in global value chains.* Directions in Development. Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

Federal Republic of Nigeria. 2003. *Nigerian Communications Act of 2003, A28.* Retrieved from https://www.ncc.gov.ng/accessible/documents/128-nigerian-communications-act-2003/file [Accessed 5 April 2021].

Financial Times. 2017. MTN posts first ever loss after Nigerian fine. Retrieved from https://www.ft.com/content/b6d401fe-ff5a-11e6-8d8e-a5e3738f9ae4 [Accessed 16 March 2017].

Ford, M. 2015. *Rise of the robots: Technology and the threat of a jobless future.* New York, NY: Basic Books.

French, H.W. 2014. *China's second continent: How a million migrants are building a new empire in Africa.* New York, NY: Random House.

Furtan, W.H. & Holzman, J.J. 2004. *The effect of FDI on agriculture and food trade: An empirical analysis.* Ottawa: Agriculture Division, Statistics Canada.

Gebrehiwot, A. 2016. The relationship between FDI and financial market development: The case of sub-Saharan Africa region. *International Journal of Regional Development*, 3(1):1–17.

George, S. 2012. *Implications of allowing FDI in Indian multi-brand retail: An incisive analysis.* Saarbrucken: Lambert Academic Publishing.

Goh, S.K., Wong, K.N. & Tham, S.Y. 2012. Does outward FDI matter in international trade? Evidence from Malaysia. Retrieved from https://mpra.ub.uni-muenchen.de/39715/ [Accessed 22 August 2018].

Greene, J.C. 2007. *Mixed methods in social inquiry.* San Francisco, CA: Jossey-Bass.

Greyling, J. 2015. *A look at the contribution of the agricultural sector to the South African economy*. Grain SA. Retrieved from https://www.grainsa.co.za/a-look-at-the-contribution-of-the-agricultural-sector-to-the-south-african-economy [Accessed 17 March 2019].

Gunasekera, D., Cai, Y. & Newth, D. 2015. Effects of foreign direct investment in African agriculture. *China Agricultural Economic Review,* 7(2):167–184.

Gwilliam, K. 2011. *Africa's transport infrastructure.* Directions in Development. Washington, DC: World Bank.

Habermeier, K.F. & Kokenyne, A. 2011. *The effectiveness of capital controls and prudential policies in managing large inflows.* Washington, DC: International Monetary Fund.

Harding, C. 2011. *Ranked: Africa's top 20 agribusiness companies*. How we made it in Africa. Retrieved from https://www.howwemadeitinafrica.com/ranked-africas-top-20-agribusiness-companies/13532/ [Accessed 26 November 2018].

Harkiolakis, N. 2018. *Quantitative research methods: From theory to publication.* Scotts Valley: CreateSpace Independent Publishing Platform.

Harrel, F.E. 2015. *Regression modelling strategies: With applications to linear models, logistic and ordinal regression, and survival analysis.* Second edition. Cham: Springer International.

Hayat, A. 2019. Foreign direct investments, institutional quality, and economic growth. *The Journal of International Trade & Economic Development: An International and Comparative Review,* 28(5):561–579.

Hazelwood, L. 2016. *The ultimate guide to doing business in Africa: Nuts and bolts in succeeding in business* [e-book]. Motivational Press. Retrieved from https://www.amazon.com/Doing-Business-Africa-Bolts-Succeeding-ebook/dp/B074K78TC1/ref=reader_auth_dp [Accessed 26 August 2016].

Heshmati, A. 2018. *Determinants of economic growth in Africa.* Cham: Palgrave Macmillan.

Hilmer, C.E. & Hilmer, M.J. 2014. *Practical econometrics: Data collection, analysis, and application.* New York, NY: McGraw-Hill.

Hitimana, L., Allen, T. & Heinrigs, P. 2011. *West African futures: Settlement, market and food security: Informal economy and food security*. OECD trade policy paper no. 6. Retrieved from https://www.oecd.org/swac/publications/49526765.pdf [Accessed 26 June 2018].

Holmes, T. 2013. SA business is blooming in Africa. *Mail & Guardian*, 28 June. Retrieved from https://mg.co.za/article/2013-06-28-00-sa-business-is-blooming-in-africa [Accessed 26 March 2017].

Hufbauer, G.C. & Moran, T. 2013. *Outward foreign direct investment and US exports, jobs, and R&D: Implications for US policy.* Policy Analyses in International Economics. Washington, DC: Peterson Institute for International Economics.

Husmann, C. & Kubik, Z. 2019. *Foreign direct investment in the African food and agriculture sector: Trends, determinants and impacts*. ZEF Discussion Papers on Development Policy, no. 274. University of Bonn, Center for Development Research. Retrieved from http://hdl.handle.net/10419/204641 [Accessed 22 July 2020].

Iddrisu, A., Immurana, M. & Halidue, B.A. 2015. The impact of foreign direct investment (FDI) on the performance of the agricultural sector in Ghana. *International Journal of Academic Research in Business and Social Sciences,* 5(7):240–259.

Illovo. 2020a. *Annual and interim reports (2017–2019)*. Retrieved from https://www.abf.co.uk/investorrelations/reports [Accessed 1 July 2020].

Illovo. 2020b. *Group financial results (2008–2016)*. Retrieved from https://www.illovosugarafrica.com/Overview/Group-Financial-Results [Accessed 1 July 2020].

ILO (International Labour Organization). 2017. *Zambia: School to work transition. Country brief*. Geneva.

IMF (International Monetary Fund). 2017. *Uganda's infrastructure investment promise*. Retrieved from https://www.imf.org/en/News/Articles/2017/07/18/NA071817-Ugandas-Infrastructure-Investment-Promise [Accessed 20 September 2020].

Janoski, T. & Hicks, A. 1994. *The comparative political economy of the welfare state*. Cambridge: Cambridge University Press.

Janský, P. & Palanský, M. 2019. Estimating the scale of profit shifting and tax revenue losses related to foreign direct investment. *International Tax and Public Finance,* (26):1048–1103.

Jerven, M. 2013. *Poor numbers: How we are misled by African development statistics and what to do about it.* London: Cornel University Press.

Jerven, M. 2015. *Africa: Why economists get it wrong.* London: Zed Books.

Johnson, R.B. & Christensen, L. 2014. *Educational research: Quantitative, qualitative and mixed approaches.* Fifth edition. Thousand Oaks, CA: Sage.

Josserand, H. 2013. *Assessment of volumes and value of regionally traded staple commodities*. Presentation at Food Across Borders conference. Retrieved from https://www.tralac.org/images/docs/10274/overview-of-trade-and-barriers-to-trade-in-west-africa-insights-in-political-economy-dynamics-agricultural-trade-ecdpm-july-2016.pdf [Accessed 4 May 2021].

JSE (Johannesburg Stock Exchange). 2018. *JSE Limited listing requirements*. Retrieved from https://www.jse.co.za/content/JSERulesPoliciesandRegulationItems/JSE%20Listings%20Requirements.pdf [Accessed 24 June 2020].

JSE (Johannesburg Stock Exchange). 2020. *Listed companies and instruments*. Retrieved from https://www.jse.co.za/trade/equity-market/listed-companies?name=&name_1=All&page=3 [Accessed 24 June 2020].

Juma, C. 2015. *The new harvest: Agricultural innovation in Africa.* Second edition. New York, NY: Oxford University Press.

Kabra, K.N. & Baruah, G. 2014. *FDI in retail: A self-goal*. New Delhi: Vitasta.

Kaka, J. 2016. *Uganda's 2016 elections: Another setback for democracy in Africa*. International Peace Institute. Retrieved from https://theglobalobservatory.org/2016/02/ugandas-2016-elections-another-setback-for-democracy-in-africa/ [Accessed 9 July 2020].

Karelis, S. 2019. *PMA – a new framework for assessing FDI attractiveness.* Beau Bassin: Lambert Academic Publishing.

Kastratovic, R. & Vasiljevic, Z. 2018. *Determinants of foreign direct investments in agriculture of Danube region.* Belgrade: Institute of Agricultural Economics.

Keough, D.R. 2011. *The ten commandments for business failure.* London: Penguin Books.

King, R.P. & Ortmann, G.F. 2007. Agricultural cooperatives I: History, theory and problems. *Agrekon Journal of Agricultural Economics Research, Policy and Practice in Southern Africa,* 46(1):40–68.

Kmenta, J. 1986. *Elements of econometrics*. Second edition. New York, NY: Macmillan.

Knoop, T.A. 2013. *Global finance in emerging market economies.* New York, NY: Routledge.

Kononov, O. 2010. *Columbia FDI profiles: Country profiles of inward and outward foreign direct investment issued by the Vale Columbia Center on Sustainable International Investment. Outward FDI from Ukraine and its policy context.* New York, NY: Vale Columbia Center.

Krishnaswamy, K.N., Sivakumar, A.I. & Mathirajan, M. 2006. *Management research methodology: Integration of methods and techniques*. New Delhi: Pearson Education.

Kuada, J. 2015. Entrepreneurship in Africa – a classificatory framework and a research agenda. *African Journal of Economic and Management Studies*, 6(2):148–63.

Labour Research Service. 2017. *South African multinational corporations in Africa – trends in 2016.* Retrieved from https://lrs.org.za/media/2018/3/b689d7f7-56a7-42f3-b85e-147d4919e436-20519873183.pdf [Accessed 3 November 2018].

Lajoux, A. & Elson, C. 2011. *The art of M&A due diligence: Navigating critical steps and uncovering crucial data.* Second edition. New York, NY: McGraw-Hill.

L'Ange, G. 2009. *The white Africans: From colonisation to liberation.* Jeppestown: Jonathan Ball.

Larsen, K., Kim, R. & Theus, F. 2009. *Agribusiness and innovation systems in Africa.* Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

Laurie, N. 2012. *Community of insecurity: SADC's struggle for peace and security in southern Africa.* Surrey: Ashgate.

Leakey, R. 2017. *Multifunctional agriculture: Achieving sustainable development in Africa.* London: Elsevier.

Lesser, C. & Moise-Leeman, E. 2009. *Informal cross-border trade and trade facilitation reform in sub-Saharan Africa*. OECD trade policy paper no. 86. Retrieved from https://www.oecd-ilibrary.org/docserver/225770164564.pdf?expires=1574581985&id=id&accna

me=guest&checksum=6E2FF9DF9BA10A7A0A07FD8351CB5071 [Accessed 26 June 2018].

Li, C., Liu, H. & Jiang, Y. 2015. Exchange rate risk, political environment and Chinese outward FDI in emerging economies: A panel data analysis. *Economics World,* 3(5/6):145–155.

Lopes, C. 2019. *Africa in transformation: Economic development in the age of doubt.* Cape Town: Palgrave Macmillan.

Lu, J., Huang, X. & Muchiri, M. 2017. Political risk and Chinese outward foreign direct investment to Africa: The role of foreign aid. *Africa Journal of Management,* 3(1):1–16.

M & A Community. 2020. *JSE lifts suspension of trade in Tongaat Hulett shares*. Retrieved from https://manda.co.za/article/jse-lifts-suspension-of-trade-in-tongaat-hulett-shares [Accessed 22 March 2020].

Machinchick, T. & Stimmel, C.L. 2014. *The mobile telecommunications market in Africa: Market dynamics and challenges, unique innovations, sustainability issues, and African telecom market forecasts through 2020.* Boulder, CO: Manifest Mind.

Machinchick, T., Stimmel, C.L. & Magee, F.M. 2016. *China and the mobile telecommunications market of Africa.* Boulder, CO: Manifest Mind.

Madubela, A. 2020. Shoprite exits Nigeria after 15 years. *Fin24*, 3 August. Retrieved from https://www.news24.com/fin24/Companies/shoprite-exits-nigeria-after-15-years-20200803 [Accessed 6 August 2020].

Mahmood, N., Shakil, M.H., Akinlaso, I.M. & Tasnia, M. 2019. Foreign direct investment and institutional stability: Who drives whom? *Journal of Economics, Finance & Administrative Science,* 24(47):145–156.

Mail & Guardian. 2015. SA businesses in Africa could feel 'heat' of xenophobic attacks, 20 April. Retrieved from https://mg.co.za/article/2015-04-20-sa-businesses-could-feel-the-heat-of-xenophobic-attacks [Accessed 25 March 2017].

Maiyaki, T.B. 2012. *A handbook on the ECOWAS treaty and financial institutions.* Bloomington: Authorhouse.

Makhavikova, H. 2018. *Determinants of FDI in Central and Eastern Europe: The effects of integration into the European Union.* Cham: Springer International.

Matsilele, T. 2015. *Lessons for S. Africa companies doing business in the rest of Africa*. CNBCA. Retrieved from http://www.cnbcafrica.com/news/special-

report/2015/11/04/rosalind-kainyah-kina-advisory-ge/ [Accessed 26 March 2017].

Mbaku, J.M. 2007. *Corruption in Africa: Causes, consequences, and cleanups.* Plymouth: Lexington Books.

McClave, J.T., Benson, P.G. & Sincich, T.T. 2014. *Statistics for business and economics.* Twelfth edition. Boston, MA: Pearson.

McKeown, L. 2010. *Predictable success: Getting your organization on the growth track – and keeping it there.* Austin, TX: Greenleaf Book Press.

Mengestia, A. 2012. *Foreign direct investment in Ethiopian agricultural sector: Long run and short run determinants of FDI in agricultural sector in Ethiopia.* Saarbrucken: Lambert Academic Publishing.

Merriam, S.B. & Tisdell, E.J. 2016. *Qualitative research: A guide to design and implementation.* Fourth edition. San Francisco, CA: Jossey-Bass.

Mihalache-O'Keef, A. & Li, Q. 2010. Modernization vs. dependency revisited: Effects of foreign direct investment on food security in less developed countries. *International Studies Quarterly,* 55(1):71–93.

Morris, R. & Aziz, A. 2011. Ease of doing business and FDI inflow to sub-Saharan Africa and Asian countries. *Cross Cultural Management: An International Journal,* 18(4):400–411.

Moyo, B. 2015. *Infrastructure, FDI and manufacturing exports in Africa: A firm level infrastructure analysis.* Saarbrucken: Lambert Academic Publishing.

Murakawa, N. 2014. *The first civil right: How liberals built prison America.* New York, NY: Oxford University Press.

Museisi, N.M. 2013. *South African MNEs in Africa: Impact of culture on FDI from emerging MNEs.* Saarbrucken: Lambert Academic Publishing.

Mureithi, C. 2021. *Secret contracts show how China structures loans to become Africa's "preferred" lender*. Quartz Africa. Retrieved from https://qz.com/africa/1993342/how-china-structures-loans-to-become-africas-preferred-lender/ [Accessed 4 May 2021].

Nakamura, M. & Zhang, A. 2018. Foreign direct investment with host country market structures and policy implications. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3133488 [Accessed 29 May 2020].

Nardi, P.M. 2018. *Doing survey research: A guide to quantitative methods.* Fourth edition. New York, NY: Routledge.

Nchalla, B.M. 2012. *Impact of FDI on socio-economic rights of indigenous peoples in Africa: The Barabaig and Basarwa.* Saarbrucken: Lambert Academic Publishing.

NCX (Nigerian Commodity Exchange). 2020. *About Nigeria commodity exchange.* Retrieved from https://nigeriacommex.com/about-us.html [Accessed 21 May 2020].

NCC (Nigerian Communications Commission). 2019. *MTN has paid N275bn SIM infraction fine*. Retrieved from https://www.ncc.gov.ng/stakeholder/media-public/news-headlines/553-press-release-ncc-mtn-has-paid-n275bn-sim-infraction-fine [Accessed 4 April 2021].

Nelson, R.C. 2009. *Harnessing globalization: The promotion of non-traditional foreign direct investment in Latin America.* University Park, PA: The Pennsylvania State University Press.

Neusser, K. 2016. *Time series econometrics.* Cham: Springer International.

Newman, C., Page, J., Rand, J., Shimeles, A., Soderbom, M. & Tarp, F. 2016. *Made in Africa: Learning to compete in Industry.* Washington, DC: The Brookings Institution.

Nickell, S. 1981. Biases in dynamic models with fixed effects. *Econometrica,* 49(6):1417–1426.

NIPC (Nigerian Investment Promotion Commission). 2020. *Opportunities: Agriculture.* Retrieved from https://nipc.gov.ng/opportunities/agriculture/ [Accessed 16 June 2020].

NSE (Nigerian Stock Exchange). 2020. *Listed companies.* Retrieved from http://www.nse.com.ng/issuers/listed-securities/listed-companies [Accessed 21 May 2020].

O'Dwyer, L.M. & Bernauer, J.A. 2014. *Quantitative research for the qualitative researcher.* Thousand Oaks, CA: Sage.

OECD (Organisation for Economic Co-Operation and Development). 2017. *African economic outlook 2017*. Retrieved from https://read.oecd-ilibrary.org/development/african-economic-outlook-2017_aeo-2017-en#page1 [Accessed 2 November 2019].

Ojonugwa, U. 2015. *FDI and economic growth: Recent econometric evidence from Nigeria.* Saarbrucken: Lambert Academic Publishing.

Olofin, S., Dine, S.S., Fajana, F., Rugumamu, S., Ndallahwa, J., Mawarire, B., Amukugo, E. & Tall, K.F. 2008. *A survey of the capacity needs of Africa's regional economic communities.* Harare: The African Capacity Building Foundation.

Olsen, J. & McCormick, J. 2017. *The European Union: Politics and policies.* Sixth edition. Boulder, CO: Westview Press.

Owusu-Nantwi, V. 2019. Foreign direct investment and institutional quality: Empirical evidence from South America. *Journal of Economic and Administrative Sciences*, 35(2):66–78.

Parks, R.W. 1967. Efficient estimation of a system of regression equations when disturbances are both serially and contemporaneously correlated. *Journal of the American Statistical Association,* 62(318):500–509.

Pathak, N.K. 2013. *FDI in retail sector and its benefits: For graduation, post-graduation and researchers*. Saarbrucken: Lambert Academic Publishing.

Patterson, N.M., Montanjees, M., Motala, J. & Cardillo, C. 2004. *Foreign direct investment: Trends, data availability, concepts and recording practices.* Washington, DC: International Monetary Fund.

Paul, J. & Benito, G.R.G. 2018. A review of research on outward foreign direct investment from emerging countries, including China: What do we know, how do we know and where should we be heading? *Asia Pacific Business Review,* 24(1):90–115.

Pavlinek, P. 2017. *Dependant growth: Foreign direct investment and the development of the automotive industry in East-Central Europe.* Cham: Springer International.

Pederneira, R. 2015. *Do business in Angola: The essential field guide to investing and doing business in this rapidly growing economy.* Gorleston-on-Sea: Rethink Press.

Peng, M.W. & Parente, R. 2012. Institution-based weaknesses behind emerging multinationals. Retrieved from https://www.academia.edu/14195524/Institution-based_weaknesses_behind_emerging_multinationals?auto=download [Accessed 25 November 2019].

Peng, M.W., Sun, S.I. & Blevins, D.P. 2011. The social responsibility of international business scholars. Retrieved from https://www.academia.edu/4787591/The_social_responsibility_of_international_business_scholars?auto=download [Accessed 25 November 2019].

Pesaran, M.H. 2004. *General diagnostic tests for cross section dependence in panels*. Working paper in Economics no. 0435. Cambridge: Cambridge University.

Pétré-Grenouilleau, O. 2014. *From slave trade to empire: European colonisation of black Africa 1780s–1880s.* New York, NY: Routledge.

Philander, G. 2009. *Attracting foreign direct investment in Africa: How can Africa benefit from regional integration and FDI.* Saarbrucken: Lambert Academic Publishing.

Pick n Pay. 2020. *Results, reports and presentations (2007–2020).* Retrieved from https://www.picknpay-ir.co.za/results-reports-presentations.php [Accessed 1 July 2020].

Planting, S. 2021. *Big audit firms make amends – but is it enough?*. Daily Maverick. Retrieved from https://www.dailymaverick.co.za/article/2021-02-16-big-audit-firms-make-amends-but-is-it-enough/ [Accessed 19 May 2021].

Poon, J. & Rigby, D.L. 2017. *International trade: The basics.* New York, NY: Routledge.

Pradhan, J.P. 2011. Emerging multinationals: A comparison of Chinese and Indian outward foreign direct investment. *International Journal of Institutions and Economics,* 3(1):113–148.

PwC. 2017. *The Africa business agenda: Changing gear*. Sixth edition. Retrieved from https://www.pwc.co.za/en/publications/africa-business-agenda.html [Accessed 25 February 2018].

PwC. 2018. *Managing growth: Africa Agribusiness Insights Survey 2017/2018*. Retrieved from https://www.pwc.co.za/en/assets/pdf/africa-agribusiness-insights-survey-2017-2018.pdf [Accessed 10 November 2019].

Qaiser, M. 2011. *Factors influencing FDI: A case study of Pakistan telecom sector. Analysis of factors: Political instability, rules and regulation and economic growth and fluctuation in economic growth.* Saarbrucken: Lambert Academic Publishing.

Quantum Foods. 2020. *Financial reports (2014–2019).* Retrieved from https://quantumfoods.co.za/financial-reports/ [Accessed 1 July 2020].

Raich, M., Müller, J. & Abfalter, D. 2014. Hybrid analysis of textual data: Grounding managerial decisions on intertwined qualitative and quantitative analysis. *Management Decision,* 52(4):737–754.

Rakotoarisoa, M.A., Iafrate, M. & Paschali, M. 2012. *Why has Africa become a net food importer? Explaining Africa agricultural food and trade deficits*. FAO. Retrieved from http://www.fao.org/3/i2497e/i2497e00.pdf [Accessed 25 April 2017].

Ramachandran, V., Obado-Joel, J., Fatai, R., Masood, J.S. & Omakwu, B. 2019. *The new economy of Africa: Opportunities for Nigeria's emerging technology sector*. Center for Global Development. Retrieved from https://www.cgdev.org/reader/new-economy-africa-opportunities-nigerias-emerging-technology-sector?page=0 [Accessed 20 September 2020].

Rashid, I.M.A., Abu Bakar, N. & Razak, N.A.A.R. 2015. Determinants of foreign direct investment (FDI) in agriculture based on selected high income developing economies in OIC countries: An empirical study on the provincial panel data by using Stata, 2003–2012. Retrieved from https://www.sciencedirect.com/science/article/pii/S2212567116303318 [Accessed 25 May 2020].

RCL Foods. 2020. *Financial results and investor presentations (2008–2019).* Retrieved from https://rclfoods.com/investor-center/financial-results-and-investor-presentations/ [Accessed 1 July 2020].

Roux, A. 2014. *Everyone's guide to the South African economy.* Eleventh edition. Cape Town: Zebra Press.

RSA (Republic of South Africa). 1913. Native Land Act, 1913 (No. 27 of 1913). *Government Gazette, 19 June.* Cape Town: Government Printer.

RSA (Republic of South Africa). 1922. Co-operative Societies Act, 1922 (No. 28 of 1922). *Government Gazette, 28 June.* Cape Town: Government Printer.

RSA (Republic of South Africa). 1936. Native Trust and Land Act, 1936 (No. 18 of 1936). *Government Gazette, 31 August.* Cape Town: Government Printer.

RSA (Republic of South Africa). 1937. Marketing Act, 1937 (No. 26 of 1937). *Government Gazette, 3 June.* Cape Town: Government Printer.

RSA (Republic of South Africa). 1939. Co-operative Societies Act, 1939 (No. 29 of 1939) as Amended. *Government Gazette, 31 August.* Cape Town: Government Printer.

SAASTA (South African Agency for Science and Technology Advancement). 2014. *GMOs in South African agriculture*. Retrieved from https://www.pub.ac.za/wp-content/uploads/2015/06/Factsheet-Pub-GMOPRINT.pdf [Accessed 30 November 2019].

Sabir, S., Rafique, A. & Abbas, K. 2019. Institutions and FDI: Evidence from developed and developing countries. Retrieved from https://jfin-swufe.springeropen.com/articles/10.1186/s40854-019-0123-7 [Accessed 16 March 2020].

Salami, I. 2012. *Financial regulation in Africa: An assessment of financial integration arrangements in African emerging and frontier markets.* New York, NY: Routledge.

Sass, M. & Kalotay, K. 2010. *Columbia FDI Profiles Country profiles of inward and outward foreign direct investment issued by the Vale Columbia Center on Sustainable International Investment. Outward FDI from Hungary and its policy context.* New York, NY: Vale Columbia Center.

SAHO (South African history online). 2020. *1960 - 1994: Armed Struggle and Popular Resistance.* Retrieved from https://www.sahistory.org.za/article/1960-1994-armed-struggle-and-popular-resistance [Accessed 20 May 2021].

Sauvant, K. & Reimer, J. 2012. *FDI perspectives: Issues in international investment.* New York, NY: Vale Columbia Center.

Sauvant, K.P., Mallampally, P. & McAllister, G. 2013. *Inward and outward FDI country profiles.* New York, NY: Vale Columbia Center.

Sauvant, K.P., Mashcek, W.A. & McAllister, G. 2009. *Foreign direct investment by emerging market multinational enterprises: The impact of the financial crisis and recession and challenges ahead.* OECD Global Forum VIII on International Investment. Retrieved from https://www.oecd.org/investment/globalforum/44246197.pdf [Accessed 25 May 2017].

Schroeder, R.A. 2012. *Africa after apartheid: South Africa, race, and nation in Tanzania.* Bloomington, IN: Indiana University Press.

Seck, D. 2017. *Investment and competitiveness in Africa.* Advances in African Economic, Social and Political Development. Cham: Springer International.

Shaban, A.R.A. 2017. *Why is Africa importing $35bn in food annually? – AfDB boss asks*. African Development Bank. Retrieved from

https://www.africanews.com/2017/04/21/why-is-africa-importing-35bn-in-food-annually-afdb-boss-asks// [Accessed 15 July 2019].

Shamoo, A.E. & Resnik, D.B. 2015. *Responsible conduct of research.* Third edition. New York, NY: Oxford University Press.

Shinn, D.H. & Eisenman, J. 2012. *China and Africa: A century of engagement.* Philadelphia, PA: University of Pennsylvania.

Shoprite. 2020. *Financial statements (2007–2019).* Retrieved from https://www.shopriteholdings.co.za/search-results/shoprite-holdings-documents/financial-statements.html [Accessed 1 July 2020].

Shubin, V. 2008. *The hot 'Cold War': The USSR in southern Africa*. Scottsville: University of KwaZulu-Natal Press.

Shumba, T. 2015. *Harmonising regional trade law in the Southern African Development Community (SADC): A critical analysis of the CISG, OHADA and CESL.* Recht und Verfassung in Afrika / Law and Constitution in Africa. Munich: Nomos Verlagsgesellschaft.

Silvia, J.E., Iqbal, A., Swankoski, K., Watt, S. & Bullard, S. 2014. *Economic and business forecasting: Analyzing and interpreting econometric results.* Hoboken, NJ: Wiley.

Slimane, M.B., Huchet, M. & Zitouna, H. 2016. The role of sectoral FDI in promoting agricultural production and improving food security. *The Journal of International Economics,* 145:34–68.

Smith, E. 2020. *Zambia's spiralling debt offers glimpse into the future of Chinese loan financing in Africa*. CNBC. Retrieved from https://www.cnbc.com/2020/01/14/zambias-spiraling-debt-and-the-future-of-chinese-loan-financing-in-africa.html [Accessed 20 September 2020].

Soumaré, I. & Tchana, F. 2015. *Causality between FDI and financial market development: Evidence from emerging markets*. World Bank economic review paper. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1852168 [Accessed 21 October 2018].

South African Government. 2018. *Agriculture*. Retrieved from https://www.gov.za/about-sa/agriculture [Accessed 17 March 2019].

South African High Commission. 2020. *Bilateral.* Retrieved from http://www.dirco.gov.za/maputo/bilateral.html#:~:text=South%20Africa%20an

d%20Mozambique%20enjoy,upgraded%20to%20full%20diplomatic%20status. [Accessed 19 May 2021].

Stads, G., Bani, G. & Itoua-Ngaporo, A. 2010. Republic of Congo: Recent developments in agricultural research. Retrieved from https://www.asti.cgiar.org/pdf/Congo-Note.pdf [Accessed 25 May 2020].

Standard Bank. 2016. *Africa Expansion Monitor*. Johannesburg.

Stats SA (Statistics South Africa). 2016. *Statistics South Africa interactive graphs: National population South Africa*. Retrieved from http://cs2016.statssa.gov.za/?page_id=270 [Accessed 13 March 2017].

Studenmund, A.H. 2017. *Using econometrics: A practical guide.* Seventh edition. Essex: Pearson.

Sun, S.L., Peng, M.W., Ren, B. & Yan, D. 2010. A comparative ownership advantage framework for cross border M&As: The rise of Chinese and Indian MNEs. *The Journal of World Business,* 7(9):162–207.

Tadesse, B. & Ryan, M. 2011. Host market characteristics, FDI, and the FDI–trade relationship. *The Journal of International Trade & Economic Development: An International and Comparative Review,* 13(2):199–229.

Taylor, S. 2012. *Globalization and the cultures of business in Africa: From patrimonialism to profit.* Bloomington, IN: Indiana University Press.

Teddlie, C.B. & Tashakkori, A.M. 2009. *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural sciences.* Thousand Oaks, CA: Sage.

The Global Economy. 2020. *Political stability (index).* Retrieved from https://www.theglobaleconomy.com/rankings/wb_political_stability/ [Accessed 2 July 2020].

The World Bank. 2015. *South Africa.* Retrieved from https://data.worldbank.org/country/south-africa [Accessed 9 November 2016].The World Bank. 2016a. *GDP per capita, PPP (current international $) - Sub-Saharan Africa.* Retrieved from http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=ZG&view=chart&year_high_desc=false [Accessed 18 March 2017].

The World Bank. 2016b. *Mobile cellular subscriptions – sub-Saharan Africa 2015.* Retrieved from

https://data.worldbank.org/indicator/IT.CEL.SETS?locations=ZG&year_high_desc=false [Accessed 29 August 2017].

The World Bank. 2018. *Zambia: Harvesting agricultural potential*. Retrieved from https://www.worldbank.org/en/about/partners/brief/zambia-harvesting-agricultural-potential [Accessed 20 July 2020].

The World Bank. 2019a. *GDP per capita, PPP (current international $) - South Africa, Sub-Saharan Africa, World 2018*. Retrieved from https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=ZA-ZG-1W [Accessed 14 November 2019].The World Bank. 2019b. *LPI: Global rankings 2018*. Retrieved from https://lpi.worldbank.org/international/global/2018 [Accessed 25 June 2019].

The World Bank. 2019c. *LPI: World regions. Country score card: Germany 2018..* Retrieved from https://lpi.worldbank.org/international/scorecard/radar/254/C/DEU/2018/R/EAP/2018/R/ECA/2018/R/LAC/2018/R/MNA/2018/R/SAS/2018/R/SSA/2018?featured=17 [Accessed 25 June 2019].

The World Bank. 2019d. *The World Bank in middle-income countries*. Retrieved from https://www.worldbank.org/en/country/mic/overview [Accessed 25 June 2020].

The World Bank. 2020a. *Agriculture, forestry, and fishing, value added (% of GDP).* Retrieved from https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS [Accessed 2 July 2020].

The World Bank. 2020b. *Arable land (% of land area).* Retrieved from https://data.worldbank.org/indicator/AG.LND.ARBL.ZS [Accessed 2 July 2020].

The World Bank. 2020c. *Cereal yield (kg per hectare).* Retrieved from https://data.worldbank.org/indicator/AG.YLD.CREL.KG [Accessed 2 July 2020].

The World Bank. 2020d. *Employment in agriculture (% of total employment).* Retrieved from https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS [Accessed 2 July 2020].

The World Bank. 2020e. *Fertilizer consumption (kilograms per hectare of arable land).* Retrieved from https://data.worldbank.org/indicator/AG.CON.FERT.ZS [Accessed 2 July 2020].

The World Bank. 2020f. *Food production index (2004-2006 = 100).* Retrieved from https://data.worldbank.org/indicator/AG.PRD.FOOD.XD [Accessed 2 July 2020].

The World Bank. 2020g. *Foreign direct investment, net inflows (BoP, current US$).* Retrieved from https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD [Accessed 2 July 2020].

The World Bank. 2020h. *GDP (current US$).* Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD [Accessed 4 April 2021].

The World Bank. 2020i. *GDP growth (annual %).* Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG [Accessed 2 July 2020].

The World Bank. 2020j. *Gross fixed capital formation (% of GDP).* Retrieved from https://data.worldbank.org/indicator/NE.GDI.FTOT.ZS [Accessed 2 July 2020].

The World Bank. 2020k. *High-technology exports (% of manufactured exports).* Retrieved from https://data.worldbank.org/indicator/TX.VAL.TECH.MF.ZS [Accessed 2 July 2020].The World Bank. 2020l. *Literacy rate, adult total (% of people ages 15 and above).* Retrieved from https://data.worldbank.org/indicator/SE.ADT.LITR.ZS [Accessed 2 July 2020].

The World Bank. 2020m. *Livestock production index (2004-2006 = 100).* Retrieved from https://data.worldbank.org/indicator/AG.CON.FERT.ZS [Accessed 2 July 2020].

The World Bank. 2020n. *Logistics performance index: Overall (1 = low to 5 = high).* Retrieved from https://data.worldbank.org/indicator/LP.LPI.OVRL.XQ [Accessed 2 July 2020].

The World Bank. 2020p. *The World Bank in Mozambique*. Retrieved from https://www.worldbank.org/en/country/mozambique/overview [Accessed 20 September 2020].

The World Bank. 2020q. *Total tax and contribution rate (% of profit) – Nigeria*. Retrieved from https://data.worldbank.org/indicator/IC.TAX.TOTL.CP.ZS?locations=NG [Accessed 2 July 2020].

The World Bank. 2020r. *Unemployment, total (% of total labor force) (modeled ILO estimate).* Retrieved from https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS [Accessed 2 July 2020].

The World Bank. 2021a. *GDP (current US$) - Uganda, Kenya, Ghana, Mozambique, Zambia, Tanzania, Togo, Mali, Somalia.* Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=1970&locations=UG-KE-GH-MZ-ZM-TZ-TG-ML-SO&start=1960 [Accessed 4 May 2021].

The World Bank. 2021b. *GDP growth (annual %) - Tanzania, Japan.* Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=1989&locations=TZ-JP&start=1961 [Accessed 4 May 2021].

ThinkAfrica. 2018. *Largest companies in Africa: Top 50*. Retrieved from https://thinkafrica.net/largest-companies-in-africa-top-50/ [Accessed 26 July 2019].

Thurow, R. & Kilman, S. 2009. *Enough: Why the world's poorest starve in an age of plenty.* New York, NY: Public Affairs.

Tiger Brands. 2020. *Annual reports and financial results (2008–2019).* Retrieved from https://www.tigerbrands.com/investor/resultscentre [Accessed 1 July 2020].

Tihanyi, L., Banalieva, E.R., Devinney, T.M. & Pedersen, T. 2015. *Emerging economies and multinational enterprises.* Bingley: Emerald Group.

Tongaat Hulett. 2020. *Integrated reports (2005–2019).* Retrieved from https://www.tongaat.com/investors/integrated-reports/ [Accessed 1 July 2020].

Transparency International. 2020. *Our work in: Angola*. Retrieved from https://www.transparency.org/en/countries/angola# [Accessed 2 September 2020].

Tvedten, K., Hansen, M. & Jeppesen, S. 2014. Understanding the rise of African business: In search of business perspectives on African enterprise development. *African Journal of Economic and Management Studies,* 5(3):249–268.

UNCTAD (United Nations Conference on Trade and Development). 2011. *Best practices in investment for development: How to integrate FDI and skill development – lessons from Canada and Singapore*. Retrieved from https://unctad.org/en/Docs/diaepcb2010d5_en.pdf [Accessed 21 July 2020].

UNCTAD (United Nations Conference on Trade and Development). 2017. *World Investment Report (2017).* Retrieved from

http://unctad.org/en/PublicationChapters/wir2017ch2_en.pdf [Accessed 31 August 2017].

UNCTAD (United Nations Conference on Trade and Development). 2018a. *Foreign direct investment, trade and aid: An alternative to migration*. Press release. Retrieved from https://unctad.org/en/pages/PressReleaseArchive.aspx?ReferenceDocId=3613 [Accessed 15 July 2020].

UNCTAD (United Nations Conference on Trade and Development). 2018b. *World Investment Report (2018).* Retrieved from https://unctad.org/en/PublicationsLibrary/wir2018_en.pdf [Accessed 10 October 2019].

University of South Africa. 2016. *Policy on research ethics*. Retrieved from https://www.unisa.ac.za/static/corporate_web/Content/Apply%20for%20admission/MD/Documents/Policy%20on%20Research%20Ethics%20-%20rev%20appr%20-%20Council%20-%2015.09.2016.pdf [Accessed 3 November 2019].

Usa, I. 2009. *Economic Community of Central African States (ECCAS) investment and business guide.* World Strategic and Business Information Library. Sixth edition. Washington, DC: International Business Publishers.

US Department of Commerce. 2018. *Angola – agricultural equipment*. Retrieved from https://www.trade.gov/knowledge-product/angola-agricultural-equipment [Accessed 9 June 2020].

Verhoef, G. 2017. *The history of business in Africa: Complex discontinuity to emerging markets.* Studies in Economic History*.* Cham: Springer.

Vukanovic, Z. 2016. *Foreign direct investment inflows into the South-East European market.* Cham: Springer International.

Wamboye, E. & Tiruneh, E.A. 2017. *Foreign capital inflows and economic development in Africa: The impact of BRICS versus OECD.* New York, NY: Palgrave Macmillan.

Webber, C.M. & Labaste, P. 2010. *Building competitiveness in Africa's agriculture: A guide to value chain concepts and applications.* Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

WEF (World Economic Forum). 2012. *The impact of technology on employment.* Retrieved from https://www.weforum.org/agenda/2012/10/king-ludd-is-still-dead [Accessed 25 January 2020].

Weilei, S., Li, S., Yan, D. & Zhu, Z. 2017. Institutional fragility and outward foreign direct investment from China. *Journal of International Business Studies,* 48(1):452–476.

WFP (World Food Programme). 2020. *What the World Food Programme is doing in Congo*. Retrieved from https://www.wfp.org/countries/congo [Accessed 24 November 2019].

Whitfield, S. 2016. *Adapting to climate uncertainty in African agriculture: Narratives and knowledge politics.* Pathways to Sustainability. New York, NY: Routledge.

Wiredu, J., Nketiah, E. & Adjei, M. 2020. The relationship between trade openness, foreign direct investment and economic growth in West Africa: Static panel data model. *Journal of Human Resource and Sustainability Studies*, 8(1):18–34. Retrieved from https://www.scirp.org/journal/paperinformation.aspx?paperid=98489 [Accessed 1 June 2020].

WMO (World Meteorological Organization). 2019. *The global climate in 2015–2019.* Retrieved from https://library.wmo.int/doc_num.php?explnum_id=9936 [Accessed 24 November 2019].

Woolridge, J.M. 2016. *Introductory econometrics: A modern approach.* Fifth edition. Mason, OH: South Western.

Workman, D. 2020. *Top South Africa trading partners*. World's Top Exports. Retrieved from http://www.worldstopexports.com/top-south-african-import-partners/ [Accessed 16 February 2020].

World Bank Group. 2012. *De-fragmenting Africa: Deepening regional trade integration in goods and services*. Retrieved from https://openknowledge.worldbank.org/handle/10986/12385 [Accessed 9 November 2015].

World Bank Group. 2016. *GDP ranking 2015*. Retrieved from http://databank.worldbank.org/data/download/GDP.pdf [Accessed 18 March 2017].

World Bank Group. 2017a. *Doing business 2017: Comparing business regulation for domestic firms in 190 economies*. Washington, DC: The World Bank.

World Bank Group. 2017b. *Doing business 2017: Equal opportunity for all: Regional profile 2017 Southern African Development Community.* Washington, DC.

World Bank Group. 2017c. *Doing business 2017: Equal opportunity for all: Regional profile 2017 Sub-Saharan Africa (SSA).* Washington, DC.

Xia, J., Ma, X., Lu, J.W. & Yiu, D.W. 2013. Outward foreign direct investment by emerging market firms: A resource dependence logic. *Strategic Management Journal,* 35(9):1–22.