2017

Examining Poverty, Entrepreneurship, and Multinational Corporation Participation in South Africa

Stephanie Furlough-Morris
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral dissertation by

Stephanie Furlough-Morris

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Steven Tippins, Committee Chairperson, Management Faculty
Dr. Aridaman Jain, Committee Member, Management Faculty
Dr. Thomas Butkiewicz, University Reviewer, Management Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Examining Poverty, Entrepreneurship, and Multinational Corporation Participation in South Africa

by

Stephanie Furlough-Morris

MBA, Vanderbilt 1999

BS, Fisk University, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

August 2017

Abstract

Economic development is seen as the best means of accomplishing the goal of eradicating extreme poverty, and at the heart of this development are for-profit companies, especially multinational corporations. The specific problem examined in this study was whether levels of poverty in South Africa had been significantly impacted by the activities of multinational corporations and the level of entrepreneurship in its 9 provinces. To build upon empirical research on the sources of poverty alleviation and the impact of large global enterprises, the purpose of this study was to examine the impact of entrepreneurship and multinational corporation presence on the change in poverty levels in the 9 provinces of South Africa. The theoretical framework of the study was based on the theories of economic development and market-based solutions to poverty alleviation that are created through entrepreneurship and the engagement of multinational firms. This quantitative longitudinal study used mixed method linear regression and trend analysis to assess the impact of multinational corporation presence, and the number of new businesses started in the regions of South Africa between 2002 and 2015 on poverty. A significant inverse relationship between poverty and entrepreneurship was identified. As new business registrations increased, poverty declined. There was not a consistently significant relationship for the impact of multinational corporation locations on poverty. Trends in the data were identified that supported economic development as an element in poverty reduction. Those provinces with lower poverty levels had more new businesses and multinational corporation locations. This study may promote positive social change by supporting economic development and market-based solutions in conjunction with other social welfare elements to engage multinational corporations and reduce poverty.

Examining Poverty, Entrepreneurship, and Multinational Corporation Participation in South Africa

by

Stephanie Furlough-Morris

MBA, Vanderbilt 1999

BS, Fisk University, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

August 2017

Dedication

This study is dedicated to my mother, Margaret Price, and father, Willard Furlough, who always encouraged me to pursue the higher level of education that they were never able to achieve.

Acknowledgments

I am grateful to Dr. Steven Tippins, my faculty mentor and chairperson, and Dr. Aridaman Jain, for their guidance, encouragement, and support through this academic process. To my husband, Marc Morris, and children, Kyle and Eden, I am most thankful for their understanding, encouragement, and patience.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Poverty continues to be a pressing social issue impacting billions of people. Using data from 109 countries, the United Nations Development Programme (2014) reported that 1.2 billion people live on less than $1.25 a day. As measured by multidimensional poverty, this number rises to 2.2 billion people who live in or near poverty (United Nations Development Programme, 2014). Africa, excluding North Africa and including South Africa, has among the highest poverty levels in the world, with approximately 48% of the population living in poverty (United Nations Economic Commission for Africa, 2015). South Africa alone recorded that 45.5% of its population is considered poor (Statistics South Africa, 2014). Reducing poverty means giving people the ability to meet their basic needs, such as food security and disease prevention (Werhane, Kelley, Hartman, & Moberg, 2010). Economic growth through development can increase income levels and reduce poverty (Kray, 2006; Lopez & Serven, 2006; Vijayakumar, 2013).

Focusing on the concept that economic growth reduces poverty, the purpose of this quantitative longitudinal study was to examine the impact of entrepreneurship and multinational corporation (MNC) presence on the change in poverty levels in the nine provinces of South Africa. The following sections of this chapter include the study's historical background and theoretical framework. An explanation of the problem statement and the purpose of the study follow, along with the research questions and related hypotheses. The key variables are described, as well as the relevant gaps in the current literature. The chapter concludes with suggestions for how this study on poverty may benefit senior leadership in companies and governments of developing countries.

Background of the Study

Among the first tasks in understanding poverty is understanding where it is, how it is measured, and when a person is considered poor. The majority of poverty is seen in developing countries. The World Bank has classified a *developing country* as one with per-capita gross national income below a threshold of $12,276. Developing countries cover 75% of the world's land area, represent 85% of the population, and are characterized by high levels of deprivation and inequality (Alvaredo & Gasparini, 2015). If absolute poverty is measured at $2 per day, per person, developing countries can have poverty levels above 50%; people living at this level may be without one or more of the basic elements of life, such as food, clean water, or shelter (United Nations Development Programme, 2014). The problem is especially pronounced in Sub-Saharan Africa, where economic growth can be sluggish and most of the population remains vulnerable to economic and natural disaster shocks (United Nations Economic Commission for Africa, 2015). South Africa, the focus of this study, had poverty levels of 45% as of 2011—a 15% improvement from 2006 (Statistics South Africa, 2014). Given its recent decline in poverty, South Africa offers a unique opportunity to study impacts that may change the number of people who are considered poor.

Prior researchers have documented reasons for South Africa's poverty. May (2012) explained that apartheid policies designed to institutionalize discrimination and provide cheap labor meant more deliberate poverty. The exclusion of the majority of South Africans from economic development has resulted in a country ranked high in gross domestic product (GDP) per capita and high in the number of people living in

poverty (May, 2012). Racism appears to be a key factor for poverty in South Africa, as measured by Jansen, Moses, Mujuta, and Yu (2015), who noted that Black people ranked highest in poverty headcount, above 47%, across multiple methods of measurement (p. 155). Postapartheid South Africa has seen economic development and foreign direct investment. Between 1990 and 2004, German- and U.S.-based MNCs invested billions in South Africa (Washington & Chapman, 2014a). As indicated by 2009 values of inward forward direct investment and new business, South Africa struggled with lower levels of entrepreneurship in comparison to other developing countries, such as Argentina or Colombia, which had also seen similar amounts of foreign direct investment (Washington & Chapman, 2014a). The key to understanding the existing decline in poverty and continuing to reduce it in South Africa may be linked to levels of entrepreneurship and investment by large MNCs.

Reducing poverty requires understanding why it persists and what mechanisms have been effective against it. Kraay and McKenzie (2014) characterized *poverty traps* as a self-reinforcing mechanism whereby countries start poor and remain poor. Kraay and McKenzie described multiple types of traps, including savings, nutritional, borrowing, behavior, and geographical. For example, a savings poverty trap occurs when capital for investment cannot accumulate and thus inhibits future income growth (Kraay & Mckenzie, 2014).

Countries, as well as individuals, often suffer from this type of trap. Banerjee and Duflo (2011) described this as the S-curve of income today versus income in the future. If individuals cannot accumulate enough savings today, then they are unable to increase

their income tomorrow (Banerjee & Duflo, 2011). Policymakers who are focused on eliminating poverty should look at how to break the poverty trap that persists in their country.

One element that seems fundamental to poverty reduction is economic growth that leads to an increase in income levels. Kray (2006) and Lopez and Serven (2006) provided empirical research indicating that economic growth can increase income levels and thus reduce poverty. Countries become rich and reduce poverty by creating economic growth based on productivity gains (Whitfield, 2012). Vijayakumar (2013) found negative correlations between poverty, economic growth, and employment for 41 developing countries in Africa, Latin America, and South East Asia. The negative correlation between poverty and economic growth was consistent with earlier studies. Between 1989 and 2009, China saw a substantial decline in poverty; China is a prominent example of pro-poor growth that contributed to a decrease in low-income headcount (Wang, Xu, & Shang, 2014).

Another element found in the research on country-level poverty is the importance of financial sector development and access to credit. Beck, Demirgüç-Kunt, and Levine (2007) and Beck, Demirgüç-Kunt, and Peria (2008) expressed the view that the development of the financial sector is directly linked to reduction in poverty by reducing income inequality. Beck, Büyükkarabacak, Rioja, and Valev (2012) found that GDP-per-capita growth is positively and significantly correlated with bank credit to GDP and enterprise credit to GDP.

Authors of recent articles on partnerships between MNCs and entrepreneurs have offered theoretical frameworks and qualitative evidence that these combinations can reduce poverty in an area. Prahalad (2009) was one of the first authors to discuss profitable projects involving the bottom of the pyramid (BoP). The idea behind such projects is that for-profit corporations can focus on the poor as consumers or producers with altered business models and maintain profitability while lifting many people out of poverty (Prahalad, 2009). Werhane et al. (2010) built upon this idea and challenged MNC leaders to think beyond their current scope and explore new alternatives to meet moral and economic standards. VanSandt and Sud (2012) created a four-box framework for poverty alleviation projects that included corporations, entrepreneurs, governments, and social institutions in collaboration. VanSandt and Sud recognized that the moral hazard and survival elements of multinational firms meant that other institutions had to be involved to ensure successful and sustainable engagement.

Economic development through large corporation participation occurs when MNCs enter a new market and start a cocreation process with local entrepreneurs to create scalable businesses. Pitelis and Teece (2010) examined this process and noted case studies such as McDonald's in Russia. Successful economic development in a region includes multinational firms that enter a new market with hard-to-imitate competitive advantages and start to create businesses to support them (Pitelis & Teece, 2010). These companies offer employment that can raise income levels, which may also lead to a reduction in poverty. Alvarez and Barney (2014) built upon this concept through their

literature review to show how the framework of discovery and cocreation between entrepreneurs and MNCs could reduce poverty by increasing economic development.

The literature is rich in theories, frameworks, and case studies on how partnerships between MNCs and entrepreneurs can impact poverty in a country or region. Many of the researchers have highlighted the use of the resources by MNCs to cocreate with entrepreneurs to raise income levels and reduce poverty. What was not as abundant in the literature reviewed were quantitative studies that combined entrepreneurship and the presence of MNC operations to study their impact on regional poverty in one country. Accordingly, this study is needed to address how levels of entrepreneurship and the presence of MNCs quantitatively impact poverty in a country.

Problem Statement

Approximately 23 million people in South Africa live in poverty, on monthly incomes less than R443 (Statistics South Africa, 2014). Economic growth is one way to reduce poverty. Vijayakumar (2013) found that a 1% increase in growth led to a .42% decline in poverty. Multiple case studies have focused on poverty-reduction efforts led by MNCs and entrepreneurs (Prahalad, 2009; VanSandt & Sud, 2012; Werhane et al., 2010), but there has been limited quantitative research in this area.

The general problem of this study was to understand the factors that could lift billions of people out of poverty. The reason to reduce poverty is to ensure that people can satisfy their basic needs and reduce their vulnerability to economic shocks (United Nations Development Programme, 2014). South Africa is a unique country to study because it has received billions of foreign direct investment (Gossel & Biekpe, 2014;

Washington & Chapman, 2014a) yet still had 45.5% of its population in poverty as of 2011 (Statistics South Africa, 2014). Using a quantitative longitudinal approach, the specific problem examined in this study was whether the levels of poverty in South Africa had been significantly impacted by the activities of MNCs and the level of entrepreneurship in the country's nine provinces.

Purpose of the Study

The purpose of this quantitative longitudinal study was to examine the impact of entrepreneurship and MNC presence on the change in poverty levels in the nine provinces of South Africa. To address a gap in existing research, this study was structured as a quantitative longitudinal study between 2002 and 2015. The dependent variable was the percentage of people living in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month. The number of new businesses registered during the period on an annual basis in the province and the number of MNC locations registered in the province on an annual basis were the independent variables. Data sources included information from general household surveys published by Statistics South Africa and registered company information from the Companies and Intellectual Property Commission of South Africa.

Research Questions and Hypotheses

The following research questions and hypotheses set the framework for studying the impact of the number of new businesses created and the activities of MNCs in South Africa on the percentage of people in poverty. Serving as the dependent variable was the

percentage of people living in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month. The independent variables were the number of new businesses registered during the period on an annual basis in the province and the number of MNC locations registered in the province on an annual basis. Each variable was measured individually for each of the nine provinces (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng, Mpumalanga, Limpopo) for each of the years 2002 to 2015.

Research Question 1: What impact do the two independent variables, the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis, have on the dependent variable, the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month in the nine provinces (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng, Mpumalanga, Limpopo) during 2002 to 2015?

$H1_0$: The percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month is not affected by the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis in each of the nine provinces between 2002 and 2015.

$H1_A$: The percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month is affected by the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis in each of the nine provinces between 2002 and 2015.

Research Question 2: How do the three variables, percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month, the number of new businesses registered annually, and the number of multinational corporation locations registered on an annual basis, fluctuate over the period 2002 to 2015?

$H2_0$: There are no significant fluctuations in the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month or in the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis over the period 2002 to 2015.

$H2_A$: There are significant fluctuations in the dependent variable, percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month, and the independent variables, the number of

new businesses registered annually and the number of multinational corporation locations registered on an annual basis over the period 2002 to 2015.

Theoretical Foundation

Two theories provided the framework for the study. The first was Schumpeter's (1934) theory that economic development is defined as new combinations led by entrepreneurs. Schumpeter's theory of economic development defined new combinations as new products, new methods of production, new markets, new sources of materials, or new organization types. The entrepreneur is the one that carries out these new combinations (Schumpeter, 1934). Schumpeter's work has been used as the primary theory of entrepreneurship and the creation of scalable opportunities that lead to long-term economic growth and poverty alleviation (Alvarez & Barney, 2014).

The second theory that informed this study was Prahalad's (2009) work on the eradication of poverty through profits. Prahalad provided two models of self-sustaining market-based systems of engagement by MNCs impacting the poor as consumers or as producers. In the context of the current study, Schumpeter (1934) offered the framework for economic development and entrepreneurship, while Prahalad linked MNCs and profitability to poverty reduction.

Economic Development and Entrepreneurship

Schumpeter (1934) described his theory of economic development in terms of five distinct tenets. First, development involves changes in economics that arise from market initiatives. Second, development entails a disruption of the current equilibrium

state (Schumpeter, 1934). Disruption is essential for poverty alleviation, in that a poverty trap typically exists that must be interrupted. Third, development can encompass new combinations that arise from the use of existing resources in a new way. Fourth, development often requires the use of credit. The fifth tenet, which is among the most important, is that the new combination is carried out by the entrepreneur (Schumpeter, 1934).

Schumpeter's theory of economic development has emerged as a foundational theory in foreign direct investment, entrepreneurship, and, more recently, poverty alleviation research. Pitelis and Teece (2010) acknowledged Schumpeter's work in explaining how dynamic capabilities are part of the nature of MNCs and can be used to innovate and open new markets. Alvarez and Barney (2014) used Schumpeter's theory specifically to talk about how entrepreneurs exploit market imperfections for profit. Core to the concept of economic development in poor communities is the idea that the entrepreneur, along with MNCs, is instrumental in creating the opportunities that can lift people out of poverty (Alvarez & Barney, 2014).

Alleviating Poverty With Market-Based Systems

Prahalad (2009) is considered one of the founders of the idea of market-based solutions for engaging with people at the bottom of the pyramid and alleviating poverty. His theory is that MNCs can make money in poor communities by changing their business models to focus on high volume and low overhead, or by engaging the poor as producers (Prahalad, 2009). Prahalad noted that widespread entrepreneurship must be the core of a successful effort to solve the poverty problem. Large corporations can invest

resources along with local entrepreneurs to build markets and engage with the BoP as both producers and consumers (Prahalad, 2009). Similar to Schumpeter's theory, Prahalad acknowledged that old paradigms must be broken to reduce poverty.

Other authors have noted Prahalad's work and focused on how MNCs can engage in poverty-alleviation projects. Werhane et al. (2010) built on Prahalad's work and focused specifically on for-profit companies and how they can partner with public institutions to alleviate poverty. VanSandt and Sud (2012) continued to develop work on partnerships with MNCs and created a framework for BoP projects that included MNCs, government, social institutions, and entrepreneurs. An entrepreneur brings local knowledge and is the "person on the ground" who creates the new model (VanSandt & Sud, 2012).

Further discussion in Chapter 2 provides additional detail on the core aspects of the theoretical framework. Literature is presented that highlights the concepts of poverty economics and how economic development can raise income levels and reduce poverty. Information and case studies on the partnership of MNCs and entrepreneurs in profitable, market-based businesses are given in support of these relationships and their impact on economic development. The research questions encompass the elements of entrepreneurship and large corporation activity.

Nature of the Study

This study incorporated a quantitative longitudinal design to answer questions about the impact of entrepreneurship and MNC presence on poverty reduction in the nine provinces of South Africa between 2002 and 2015. Salkind (2012) described the

longitudinal method as involving assessment of changes in variables for the same group of subjects at more than one point in time. It has the advantages of study development over time and reduction of intragroup variability (Menard, 2002; Salkind, 2012). Trends within subjects and how they relate to changes in different covariants constitute the key feature and objective of the longitudinal design (Fitzmaurice, Laird, & Ware, 2011). A time-series cross section was used to analyze the data; SPSS multilevel regression modeling was the tool used to accomplish this analysis. Multilevel modeling can isolate provinces as subjects and account for the high correlations expected among the measurements (Heck, Thomas, & Tabata, 2014).

The quantitative design that has the strongest causation reliability is the classic experiment (Campbell & Stanley, 1963). If an experiment could have been created with two geographic areas serving as experimental and control groups, this would have been ideal; however, such an experiment was not realistic. Instead, real-life data from the nine provinces of South Africa between 2002 and 2015 were used for this quantitative longitudinal study. The results from actual data have the benefit of being generalizable to other countries with similar characteristics (Frankfort-Nachmias & Nachmias, 2008). The classic design was not chosen.

Another more reasonable choice could have been a cross-sectional design that analyzed data taken at a given point in time (Wooldridge, 2013). Cross-sectional studies are more cost effective than prospective longitudinal ones and are used in studies across multiple countries for a point in time. The ordering of data does not matter in a cross-sectional study; therefore, such a study does not account for development over time and

ignores any timing differences (Wooldridge, 2013). For this study, time was an essential feature, as the study focused only on one country and changes in poverty in the last 14 years. A cross-sectional design was not selected because it would have ignored the time feature.

The country of study was South Africa during the postapartheid period from 2002 to 2015. The population was identified as all the regions in South Africa. Beck, Demirguc-Kunt, and Levine (2005) defined a specific poverty level in their study as the population living on less than one dollar per day. Employing the same concept, the independent variable was the percentage of people living in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month. The lower-bound poverty line was measured as 443 Rands per capita per month for South Africa (Statistics South Africa, 2014). To gauge entrepreneurship, the number of new businesses registered during the period on an annual basis in the province was the measure. This was consistent with the definition used by Yanya, Abdul-Hakim, and Abdul-Razak (2013). Finally, the entrance of a MNC was measured based on identifying the number of large companies that operated in more than one country and had registered locations in the province. The second independent variable was stated as the number of MNC locations registered in the province on an annual basis. All of the variables were at the ratio level.

The data for this study came from public information on income levels as published in general household surveys by Statistics South Africa from 2002 to 2015. Number of new business registrations and number of MNC locations in the nine

provinces between 2002 and 2015 were collected from the Companies and Intellectual Property Commission of South Africa. Same-country local data were used to control for legal and regulatory factors that were different across countries. The period was annual, and each of the data sources was measured on a yearly basis.

The purpose was to describe patterns of change and establish the direction and magnitude of the impact between the dependent and the independent variables. In particular, the quantitative longitudinal approach was used to answer the research questions and solve the problem by studying, first, the relationship between the dependent and independent variables using a multilevel model that controlled for the provinces. Second, a trend analysis was used to examine how each variable changed over time. The theoretical framework encompassed market-based approaches to reduce poverty, including large corporation participation and entrepreneurship. Using these two factors in the quantitative longitudinal study linked to this framework to solve the problem of whether these two factors impact poverty.

Definitions

Bottom of the pyramid (BoP): Refers to the billions of people who live on less than $2 a day (Prahalad, 2009).

Developing country: Based on the World Bank's main criterion, a developing country is one with per-capita gross national income below the nominal threshold of $12,276 (Alvaredo & Gasparini, 2015).

Gini coefficient: Measure of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution. A value of

0 represents absolute equality; a value of 100 indicates absolute inequality (Beck, Demirgüç-Kunt, & Levine, 2007).

Gross domestic product (GDP) per capita: An approximation of the value of goods produced per person in the country, equal to the country's GDP divided by the total number of people in the country (Alvaredo & Gasparini, 2015).

Gross national income (GNI) per capita: Aggregate income of an economy generated by its production and its ownership of factors of production, less the incomes paid for the use of factors of production owned by the rest of the world, converted to international dollars using PPP rates, divided by midyear population (Alvaredo & Gasparini, 2015).

Human Development Index: A composite index measuring average achievement in three basic dimensions of human development: a long and healthy life, knowledge, and a decent standard of living (United Nations Development Programme, 2014).

Multinational corporation (MNC): An organization that owns or controls production of goods or services in one or more countries outside its home country (Caves, 2007).

New businesses: The number of new businesses registered in the formal economy with the established government agency for that country (Yanya, Abdul-Hakim, & Abdul-Razak, 2013).

Population below PPP $1.25 a day: Percentage of the population living below an international poverty line of $1.25 per day (in purchasing power parity terms; World DataBank, 2016).

Population below PPP $2.00 a day: Percentage of the population living below an international poverty line of $2.00 a day (in purchasing power parity terms; World DataBank, 2016).

Population below national poverty line: Percentage of the population living below the upper-bound national poverty line, which is the highest poverty line deemed appropriate for a country by its authorities. National estimates are based on population-weighted subgroup estimates from household surveys (World DataBank, 2016).

Small to medium-size enterprises (SMEs): Companies with fewer than 250 employees (Beck, Demirguc-Kunt, & Levine, 2005).

Total factor productivity: Refers to how efficiently and intensely inputs are used in the production process (Huang, Liu, & Wu, 2016).

Assumptions

Assumptions in this study refer to conditions that I could not demonstrate to be true through the use of peer-reviewed journals or other factors and that I therefore had to assume to be true (Simon, 2011). In studies on poverty, it is important to identify the use of expenditure or income in the calculation of poverty (Edward & Sumner, 2014). For this study, I used household expenditures, as this has been the most commonly used measure for poverty (Edward & Sumner, 2014) and was measured consistently between 2002 and 2015 for South Africa (Statistics South Africa, 2015). I assumed that household expenditures represented the most accurate way to measure poverty levels in South Africa. I also assumed that everyone taking the survey on household expenditures answered truthfully.

The publicly available data that were collected and analyzed in this study were provided by the government of South Africa and its regulatory agencies. The relevant economic datasets were acquired by Statistics South Africa and the Companies and Intellectual Property Commission. These data are assumed to be genuine and accurate. For the data from Statistics South Africa, the assumption was that the sampling methods for the collection of data for the general household surveys were appropriate and consistently performed over the period 2002 to 2015. Data from the Companies and Intellectual Property Commission were also assumed to be accurate and reliable, given that this is the agency that taxes the formal economy in South Africa. A registered business on the active registry list was assumed to be in operation, as there was not a cost- or time-effective way to validate that it was actually in operation. Yanya et al. (2013) relied on newly registered businesses as a proxy for entrepreneurship and the number of new businesses in operation in a province. This study relied on secondary data from these two South African government agencies, so these assumptions were necessary and would have been too costly and time consuming to validate.

Scope and Delimitations

The scope of this study was defined by its focus on poverty, entrepreneurship, and MNC presence in South Africa between 2002 and 2015. Delimitations are deliberately set by a researcher and may restrict generalization to various populations (Rudestam & Newton, 2015). The primary delimitations for this study were the limits to one country and a certain period. Multiple-country comparisons were ignored, as the study focused on the development of poverty over time. The scope of the study was also limited to one

country because of the desire to test the impact of the independent variables on regional poverty. Data were also restricted to after the first period of collection, 1996. In particular, this study started in 2002 to ensure consistency in the data collection methods and comparability across the periods (Statistics South Africa, 2014).

The generalizability of this study is limited due to the focus on one country. Countries similar in macroeconomic factors to South Africa may be able to use elements of this study, but the fact that poverty in South Africa may be related to its apartheid past and on-purpose institutionalization of discrimination make it difficult to assume similar results in other developing countries (May, 2012). Davids and Gouws (2013) found that after surveying over 3,000 South Africans, most attributed poverty to structural factors, such as the uneven distribution of wealth (54%) and lack of opportunities for the poor (57%; p. 1210).

Limitations

One limitation of the study was its reliance on secondary sources from the government of South Africa. Because primary collection was not involved, this study was limited by the techniques used by the government in the collection process, especially the household surveys conducted by Statistics South Africa, which were relied on for the measurement of poverty and related alternative factors (Statistics South Africa, 2014). All sampling techniques were established by the South African government. The year 2002 was also the first period for which data were available to the public. The limited years meant fewer observations, which may have impacted the power of the analysis. Using province data that repeated over time meant that high correlations might exist

among the measures. These factors limited the analysis to a mixed method regression model in SPSS that could address repeated measures and time.

Internal validity relates to the judgment of whether the results obtained can be attributed to changes in the independent variable. There were two limitations related to internal validity. First, the data on new company formation and multinational corporate presence came from the Companies Intellectual and Property Commission that tracked registered companies. Only the formal economy was the focus for this study. There was no mention of the informal, unregistered economy that may exist in South Africa; thus, entrepreneurship in the informal economy was not addressed. Second, the use of alternative factors was limited to those identified from the literature review and available publicly, such as education, health and social development, employment, access to services, food security, and geography. The limitation was that there may have been an unknown factor also impacting poverty that was not identified as an alternative factor.

The limits on construct validity came from the use of the instrument. The formulas from Beck et al. (2005) were used by Yanya et al. (2013) and have been cited multiple times in the literature on poverty and economic growth. The study was limited by the use of these formulas in that there were no alternate formulas used. Finally, biases could have arisen in data collection or analysis. To reduce biases, the collection process was controlled and included validation points to ensure that the data tied back to the original source. The data were cleansed to deal with missing and influential cases.

Significance of the Study

Without an understanding of whether engagement by for-profit firms with the poor is impactful, it is unlikely that large companies will ever participate in poverty alleviation projects over the long term. The intended audience of this study consists of local policy makers, people involved in poverty as a social issue, and entrepreneurs in these impoverished areas. Knowing that MNC activities and entrepreneurship impact poverty will allow them to develop programs that engage MNCs and boost entrepreneurship. Observing these interactions may mean giving both the public and private sectors information that will stimulate engagement in poverty alleviation projects and reduce global poverty.

Significance to Theory

Qualitative case studies published in material by Werhane et al. (2010) identified positive partnerships between entrepreneurs and MNCs to reduce poverty. Frameworks outlined by VanSandt and Sud (2012) and Alvarez and Barney (2014) contributed to the idea that profitable market-based solutions may exist if scalable business can be created by local entrepreneurs helped by large corporations. Quantitative research has also focused on economic growth, the private sector, and entrepreneurship. Beck, Demirguc-Kunt, and Levine (2005) examined through a cross-country analysis the link between SMEs, economic growth, and poverty alleviation and found a significant relationship between SME size and economic development, but not with poverty headcount. Yanya et al. (2013) leveraged equations from Beck et al. with entrepreneurship and found in

Thailand a significant relationship between new firm establishment and decreases in income inequality and number of people in poverty.

Leveraging the qualitative frameworks and taking a similar approach to quantitative research, this study fills a gap in the literature by addressing the impact that MNC and entrepreneurship have on poverty in the regions of one country. It added a quantitative study focused on a high-poverty country to support the framework of partnerships between large companies and entrepreneurs as a way to reduce poverty.

Significance to Practice

As the objective of for-profit companies is to increase long-term firm value (Jensen, 2010), a profitable relationship that provides an adequate return to shareholders is required. The significance of this study to practice is that although it could not statistically verify a relationship between poverty and MNC locations, the trend analysis did indicate that those regions with higher levels of MNC locations have reduced poverty levels. Economic growth raises income levels, which then reduces the number of people in poverty (Kraay, 2006), and foreign direct investment from large companies is one way in which countries can drive economic growth (Fowowe & Shuaibu, 2014). As large companies invest in developing countries, they can reap returns and help to alleviate poverty.

The intended audience of this study includes readers in both the public and the private sector. Local policy makers and poverty activists may be able to use the regional data in their local communities to explain the impact on poverty that is possible when large firms open operations and the level of new businesses changes in a region. The

outcomes and relationships from the research may be used by governments and the senior leadership of MNCs in their discussions to promote entry into an impoverished community.

Significance to Social Change

The objective of this study was to identify the relationships between MNCs, entrepreneurship, and poverty levels in a region. With billions of people still living in poverty and with multiple deprivations, the goal of this study was to add to the literature on poverty alleviation. Positive social change may arise from an improved understanding of the impact of large firms and new business creation on efforts to help developing countries set policies that contribute to pro-poor growth.

Additionally, positive social change may result from helping MNCs identify areas of corporate social responsibility. Savitz and Weber (2014) identified the sweet spot of sustainability in their book on the triple bottom line. Many companies are looking for the spot where profit, sustainability, and social responsibility meet. Investing in developing communities and impoverished regions can be one area where the goals of profit and responsibility come together.

Summary and Transition

Poverty continues to be a prevalent social issue today. Potential projects to reduce poverty include partnerships between MNCs and local entrepreneurs. Case studies give some indication of positive results for such projects. I sought to fill a gap in existing research related to quantitative analysis of the impact of MNC presence and entrepreneurship in the regions of one developing country, South Africa.

In Chapter 1, I have defined the problem to be examined in this study as whether levels of poverty in South Africa have been significantly impacted by the activities of MNCs and the level of entrepreneurship in its nine provinces. The theoretical framework to support this study was based on the theories of Schumpeter (1934) and Prahalad (2009) that link together economic development, entrepreneurship, and poverty alleviation with market-based systems. The study has strong positive social change implications related to reducing poverty and understanding relationships that may help developing countries create pro-poor growth policies.

In Chapter 2, I review the literature on poverty economics, measurements, models of engagement in poverty alleviation, and the unique issues in South Africa and relate them back to the research questions and purpose of the study. The goal of the literature review is to give historical and current information on the topics of poverty, entrepreneurship, and market-based solutions to reducing poverty. Chapter 2 also contains an explanation of the research gap and variables. Outlined in Chapter 3 is the methodology, including the population and sample. Chapter 3 concludes with the data analysis plan and issues of study validity. Chapter 4 includes the results, and Chapter 5 includes interpretations and concluding remarks.

Chapter 2: Literature Review

The purpose of this quantitative longitudinal study was to examine the impact of entrepreneurship and MNC presence on the change in poverty levels in the nine provinces of South Africa. Empirical and theoretical knowledge concerning economic development, the economics of poverty reduction, multinational engagement in poverty, profitable engagement with the poor, and the unique characteristics of South Africa are relevant to understanding the elements of this investigation. Combining the research in these areas reveals the challenges of poverty reduction and how market solutions may help millions of people climb out of poverty. This literature review highlights research and examples of the cocreation process between MNCs and entrepreneurs. The goal was to understand the empirical and theoretical knowledge in these areas and how poverty levels change as these elements are altered. The problem examined in this study was whether the levels of poverty in South Africa have been significantly impacted by the activities of MNCs and the level of entrepreneurship in the country's nine provinces.

The first section of the literature review starts with the search strategy for these topics. From there, the theoretical framework is laid out, and the elements of poverty, economic development, and entrepreneurship are weaved together to form the foundation of the study. These concepts are further explored along with the impact of foreign direct investment by major corporations, how poverty is measured, and the literature on whether and how partnerships between entrepreneurs and MNCs can change the economics and poverty levels in a country. South Africa and its unique characteristics are then explored, and the chapter concludes with an explanation of the research variables.

Literature Search Strategy

The review of the literature began with a search for peer-reviewed information in the academic and professional databases located at Walden University. These searches were conducted using Business Source Complete, EBSCOhost, ProQuest Central, and Thoreau Search. Google Scholar was also leveraged to look for books and recent articles and to complete *cited by* searches on relevant peer-reviewed articles found in the Walden Library. Alerts services were used with keywords in both EBSCO and Google Scholar.

Initial searches were wide-ranging, using combinations such as *poverty and finance* and *multinational corporations and poverty.* These broad searches brought up a number of significant articles. Keywords from each article were saved in a database along with the citation and document to help build narrow and more relevant keyword searches. The following key terms represent the primary search variables used to develop the literary analysis: *poverty reduction, partnership (business), economic development, social responsibility of business, social entrepreneurship, poverty, foreign direct investment, emerging markets, income distribution,* and *commercial entrepreneurship.* Searches for definitional information on key variable data were performed on professional websites for the United Nations and the World Bank. See Table 1 for type of literature searched by keywords.

Table 1

Literature Search by Category

Keywords	Peer reviewed	Books	Website/ Other	Total
Social responsibility of business	39	5	0	44
Poverty economics & economic development	57	2	1	60
Poverty & entrepreneurship	28	0	0	28
Foreign direct investment	14	0	0	14
Microfinance	13	0	0	13
Poverty & South Africa	13	0	0	13
Poverty measures & measurements	13	0	0	13
Foreign direct investment & South Africa	7	0	0	7
Entrepreneurship & South Africa	12	0	0	12
Firm value	6	0	0	6
Poverty & cash transfers	6	0	0	6
Poverty reduction theories & economic growth	7	1	0	8
Poverty reduction & South Africa	5	0	0	5
Multidimensional poverty	5	0	0	5
Dissertation process	2	3	0	5
Financial development & banking	7	0	1	8
Statistics	1	3	0	4
Other keywords	38	19	4	61
Total	273	33	6	312

Note. Numbers indicate the number of articles collected and reviewed. Search yield was higher, but these were chosen as the most relevant to the study.

Literature between 2012 and 2015 was first reviewed to understand the current issues faced by countries with high poverty levels and how they have changed over time. Initial works from 2009, 2010, and 2012 uncovered the research topic of how MNCs could reduce poverty with profitable business models. One such foundational work by Prahalad (2009), initially published in 2006, led to an ongoing debate about profitability, poverty, and market-based solutions. The reference pages of the most relevant work were then reviewed to identify authors in the field such as Beck, who has been the lead author on multiple works about finance, banking, and the impact of small businesses on poverty. Foundational works extended as far back as 1934, with early work on economic development by Schumpeter (1934) and how to define and measure poverty by Sen (1977).

Both seminal works and current research were used to build the theoretical foundation that is presented in the next section. It starts with the theory of economic development and concludes with the framework for profitable engagement in poverty alleviation projects. The entrepreneur is a fundamental element in both, along with investment by large MNCs.

Theoretical Foundation

The theoretical foundation for this study was based on Schumpeter's (1934) theory of economic growth and Prahalad's (2009) theory of market-based systems to alleviate poverty. Schumpeter's model of economic growth began with the idea that development is defined as changes that arise from the market's own initiative and disrupt the current state. The leader of that disruption is the entrepreneur (Schumpeter, 1934). In

the sections that follow, this theory is discussed along with research that relates to it. Prahalad complements Schumpeter's theory of economic development with a focus on profitable models of business to alleviate poverty. The idea that companies can make money and still reduce poverty is defined with two business models, the poor as producers and the poor as consumers (Prahalad, 2009). The model of the poor as producers is directly linked to the idea that the entrepreneur, as the disruptor, may also be able to reduce poverty.

Economic Development and Entrepreneurship

Economic development. The reason that Schumpeter's theory (1934) was foundational to this study is that it forms the basis for understanding how to alleviate poverty. Two elements from Schumpeter's theory apply directly to poverty reduction: (a) the notion that development means changing the current equilibrium state and (b) the idea that entrepreneurs lead new creations. Economic growth raises income levels, which then reduce the number of people in poverty (Kraay, 2006; Lopez & Serven, 2006). Kraay (2006) studied what made growth pro-poor by isolating average incomes versus growth of the poor population, the poverty gap, and the Watts index. Growth in average incomes is the most significant factor in reducing poverty (Kraay, 2006). Lopez and Serven (2006) assessed the different impact between economic growth and income distribution on different countries and found that growth has a bigger impact than the redistribution of income, especially in richer countries. Hyacinth Eme, Chukwuma, and John Ele-Ojo (2012) studied different sectors in Nigeria and found that although there is a trickle-down effect that is benefiting the poor, the rich capture more of the benefit from growth.

Economic growth is not always evenly dispersed, and this study indicated the multiple factors impacting poverty in Nigeria, including government policies (Hyacinth Eme et al., 2012).

There have also been more specific and microlevel studies on poverty. Vanegas (2014) found that in the tourism industry in Central America, poverty was negatively associated with economic development as measured by gross domestic product and was positively correlated with income inequality. More recent researchers have reported similar findings of a negative relationship between growth and poverty. Vijayakumar (2013) studied 41 developing countries in Africa, Latin America, and South East Asia and found significant negative correlations between poverty, economic growth, and employment. One of the most impressive declines in poverty comes from China. Wang et al. (2014) were able to demonstrate that between 2006 and 2009, economic growth was pro-poor as China saw a significant decline in poverty. The studies noted above provide evidence that if economic growth can raise income levels for the poor, then it can contribute to reduction in the number of people in poverty.

Entrepreneurship. The entrepreneur was a focal point in Schumpeter's (1934) theory of economic development. Schumpeter emphasized the entrepreneur as a person who develops new combinations, arguing that a person ceases to be an entrepreneur once he or she settles down to running the company as a normal operation. Schumpeter saw the entrepreneur as a special person and one who is willing to take risks that others would not. Not only is entrepreneurship a key element of economic development, but Schumpeter also pointed out the need for capital and credit for these new ventures.

Financial sector development is addressed further in a later section; it is mentioned here as a key part of Schumpeter's theory of economic development because credit is required for new combinations (Schumpeter, 1934).

In regard to poverty reduction, entrepreneurship, small and large, is seen as a powerful tool, but in different ways. Morris, Neumeyer, and Kuratko (2015) acknowledged four types of entrepreneurship: (a) survival, (b) lifestyle, (c) managed growth, and (d) aggressive growth (p. 715). Survival and lifestyle are single employee or small-scale operations that provide basic income for the owner, with little to no reinvestment in the business (Morris et al., 2015). Managed and aggressive growth entrepreneurship are examples of the type of development Schumpeter (1934) was referring to when it came to being disruptive and bringing innovation. These two types create a disproportionate amount of job and wealth creation (Morris et al., 2015).

Researchers who have studied survival and lifestyle entrepreneurship and its impact on poverty in specific countries have found direct links with entrepreneurship and growth and an indirect relationship with poverty. China is an example of a country that has seen significant declines in poverty (Wang et al., 2014). Si et al. (2015) used a case study approach to study poverty reduction in the Yiwu region. Their factor analysis indicated that the top three reasons for the poverty reduction were all entrepreneur related, including a strong desire to survive, interaction with impoverished people, and new, innovative disruptive business models. Between 2004 and 2012, the number of private firms grew by 119%, and as this number grew, the numbers of people considered poor in the Yiwu region declined (Si et al., 2015, p. 139). In Paraguay, Gallardo and

Raufflet (2014) analyzed the results of community-based entrepreneurship and found a nine-percentage-point decrease in unemployment among the beneficiaries and a 22% increase in income (p. 144). These two studies identified the impact that entrepreneurship, especially on a small scale, can have on local communities.

Other authors have argued that microentrepreneurship is not substantial enough to have a meaningful impact on global poverty, contending that the focus should be on large-scale entrepreneurship. Nega and Schneider (2014) analyzed the impact of social entrepreneurship in Africa and concluded that its inability to scale, use of talent in microenterprises versus large companies, and narrow vision meant that the focus should shift to large-scale development to reduce global poverty. Bruton, Ahlstrom, and Si (2015) argued that much of the research in Asia has focused on survival entrepreneurship, whereas the real value of entrepreneurship is in scalable businesses. Bruton et al. set out an agenda for future research in institutional entrepreneurship, innovation, and poverty. Alvarez, Barney, and Newman (2015) noted that industrial internationalization in Taiwan, South Korea, China, and India has done more to lift people out of poverty than microfinance and social entrepreneurship (p. 31). In the next section on alleviating poverty with market-based systems, the research regarding scalable entrepreneurship and international industrialization is reviewed.

Alleviating Poverty With Market-Based Systems

Prahalad's (2009) theory of eradicating poverty through profitable partnerships encourages corporate leaders to stop seeing the poor as victims and to recognize them as entrepreneurs and value-conscious consumers. The model of profitable engagement has

two elements. The first element is the idea that as consumers, the billions of people at the bottom of the pyramid represent a large market that can be tapped through a business model of high volume, low margin, and high return on capital. The second is the use of the poor as producers and entrepreneurs (Prahalad, 2009). Both of these models involve multinational corporations disrupting their current business models for the developed world and bringing innovations to engage the poor and reduce poverty (Prahalad, 2009; Werhane et al., 2010). Consistent with Schumpeter's (1934) economic theory, Prahalad's (2009) theory of eradicating poverty through profitable partnerships contains the key elements of new combinations and entrepreneurship. In addition, it brings new models for MNC engagement in poverty reduction.

The idea that a MNC should engage with local entrepreneurs to drive economic development is not unusual. Pitelis and Teece (2010) identified case studies that illustrated how multinational enterprises first import resources and then help create the local businesses that will sustain the company in the long run. MNCs bring resources, infrastructure, and training that can be used by entrepreneurs for systemwide value creation (Pitelis & Teece, 2010). The motivation for multinational companies to engage in developing economies is to achieve growth and to avoid intense competition in developed markets (Tasavori, Zaefarian, & Ghauri, 2015). To successfully engage, these large corporations partner with and support local businesses and resources. Local entrepreneurs bring leadership in the community and local knowledge to support the growth of the market (Alvarez & Barney, 2014).

For entrepreneurship to create economic growth and thus lead to a reduction in poverty, it must be scalable and not limited to self-employment or small businesses. Second, there must be adequate access to human and financial capital as well as property rights (Alvarez & Barney, 2014). Instead of focusing on microfinancing and cash transfers that provide small monetary amounts, Alvarez and Barney (2014) proposed cocreation that includes local entrepreneurs and large firms partnering to create businesses with barriers to entry and a competitive advantage. These relationships would spur economic development, rising income levels, and ultimately reduction in poverty. Alvarez and Barney provided a framework to build an empirical study to test whether investment by multinational firms creates entrepreneurs and thus impacts the number of people in poverty.

Research in Asia on entrepreneurship gives some examples of the success of scalable business models and international industrialization, especially in countries that have instituted promarket reforms. Ahlstrom and Ding (2014) noted that private registered businesses in China had grown to over 6 million in the last 35 years and had generated economic growth and job creation (p. 612). India has also instituted reforms to drive a market economy and firm profitability, and Chari and Banalieva (2015) analyzed firm data from 1991 to 2007 to understand the impact of the promarket reforms on profitability. Although profitability declines early on with reforms, over time companies become more profitable (Chari & Banalieva, 2015, p. 363). The potential noted in the research is that large foreign firms that enter developing countries, especially those that

have focused on market reforms, can see increased profitability in the long term and ultimately raise incomes and reduce poverty in the countries in which they operate.

The two theories that are the foundation of this study come from research on economic development, multinational corporation engagement in poverty reduction, entrepreneurship, and their individual and collective impacts on poverty. Their relevancy is directly related to the idea that both entrepreneurship and engagement by multinational corporations in market based solutions can impact poverty. For this study, the number of new registered businesses and multinational locations in an area were chosen based on the theories by Schmpeter (1934) and Prahalad (2009). The research questions were based on finding out if these two factors have a material impact on poverty in a region and builds upon the existing knowledge in this area by combining these two factors in one study. In the next section, the literature review provided an analysis of poverty economics, financial sector development, and measures of poverty to build an understanding of poverty and why certain methodologies were selected for this study. Then, the review turns its attention to multinational corporation engagement in poverty reduction projects and South Africa to review the prior research and gaps in the literature.

Economics of Poverty

Poverty can be defined as an economic measure, such as the number of people living on less than $1.25 a day or it could be described as people living with multiple deprivations (United Nations Development Programme, 2014). Banerjee and Duflo (2011) noted that what keeps people in poverty is the fact that they are unable to grow their income to a level that allows them to take care of their basic needs and ensure future

income, the S-shaped curve of wealth (p. 139). Figure 1 shows the S-shaped curve and poverty trap. Poverty traps are one reason people and countries are unable to grow their income. It is a self-reinforcing mechanism that causes poverty to persist and whereby countries and people start poor and remain poor (Kraay & McKenzie, 2014).

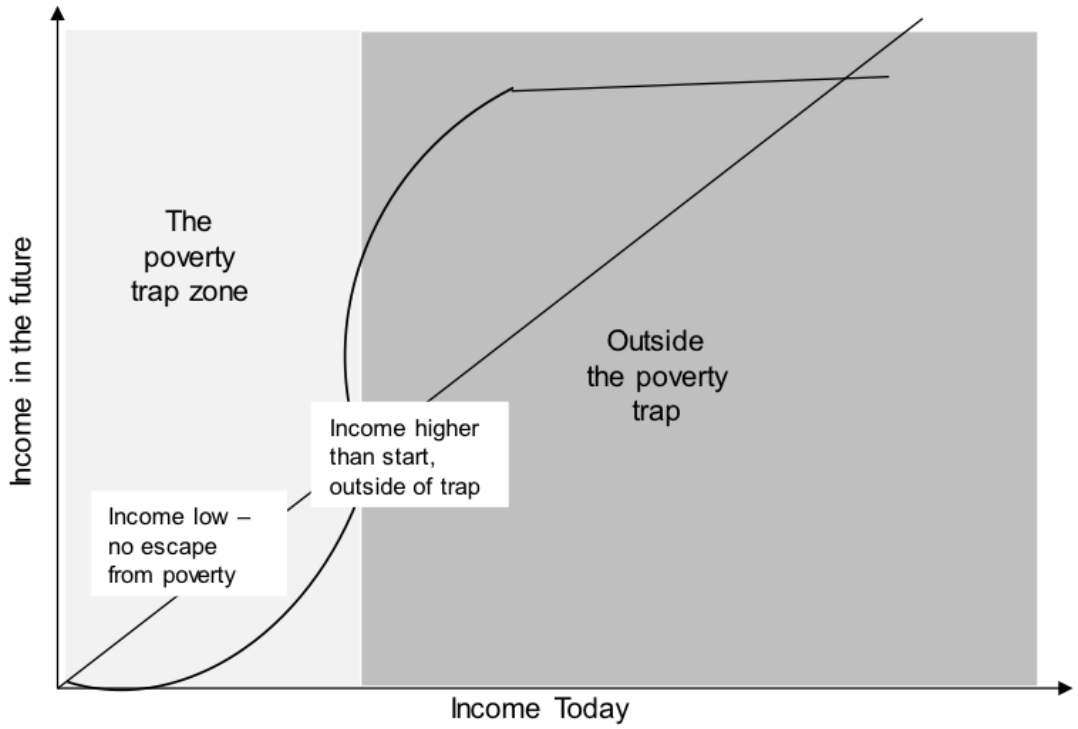


Figure 1. Diagram of the S-shaped curve and poverty trap. Adapted from *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty,* by A. Banerjee and E. Duflo, 2011, New York, NY: Public Affairs. Copyright 2011 by Public Affairs. Adapted with permission.

Barrett and Carter (2013) studied the mechanism of multiple financial market failures (MFMF) which can be both single and multiple equilibrium traps to explain that poverty traps are the reason that stocks of assets and resulting flows of income fail to evolve over time. Geographical, social, behavioral, and savings are a few examples of

poverty traps (Kraay & McKenzie, 2014). Krishna (2012) studied intergenerational poverty traps in rural India between 1977 and 2002 and found that about 19.5% of the sample identified as poor in 1977 continued to live in persistent poverty (p. 619). The author identified that social class, fewer assets, and location all contributed to keep the generations poor (Krishna, 2012). McKay and Perge (2013) came to similar conclusions as these authors tried to find evidence of poverty traps in several countries, including South Africa. There was a strong correlation between a lack of assets and chronic poverty, and little evidence of the S-shaped curve indicating a poverty trap (McKay & Perge, 2013).

Research on poverty reduction has focused on rising incomes, income inequality, the accumulation of assets, and economic growth. The term pro-poor growth is used when economic growth benefits the poor by raising incomes and reducing inequality. Kraay (2006) focused on three sources of growth: (a) growth in average income, (b) sensitivity of poverty to growth in average income, and (c) poverty reducing pattern of growth in relative incomes in the study on pro-poor growth. Using household surveys from 1980 to 1990 from the World Bank, the author found that the growth in average incomes was a significant factor in reducing poverty (Kraay, 2006). Income inequality means that the rich take advantage of income growth more than the poor. Dollar, Kleineberg, and Kraay (2014) studied how much income inequality matters to a country as it tries to reduce poverty. Utilizing an ordinary lease squares regression between average income and inequality the authors found that changes in inequality are small in comparison with the large variation in growth rates in average incomes (Dollar et al.,

2014). The growth in social welfare increased by as much as the growth in average incomes.

To increase average income, the sources of economic development play an essential role. Christiaensen, Demery, and Kuhl (2011) completed a study on whether an investment in agriculture or non-agriculture would have the higher impact on poverty. The research indicated that for countries rich in natural resources, agriculture is significantly more effective for those making less than $1.00 a day, but for those making more than $2.00 a day, non-agriculture was more advantageous (Christiaensen et al., 2011). The effect of the investment in agriculture declines as countries grow, and those more developed economies saw their growth from non-agriculture sectors (Christiaensen et al., 2011). Whitfield (2012) made similar conclusions and promoted more for a manufacturing sector that can scale and employ more people. A country that moves into manufacturing and other knowledge-based industries can increase productivity and value per worker as demonstrated by the growth in East Asia and their rapid industrialization after the Cold War ended (Whitfield, 2012).

Income inequality and governmental factors may limit the impact of development on growth and ultimately on the incomes of the poor. Ben Amar and Zghidi (2016) studied growth and inequality in Africa and confirmed the negative relationship between inequality and growth; a 1% increase in inequality led to a .089% decrease in growth (p. 124). One reason development has not had the same impact in Africa, is due to rising inequality (Ben Amar & Zghidi, 2016). Ravallion (2016) argued in his study that while the number of people in poverty had declined, and developing countries have seen a high

growth rate in average consumption, the standard of living at the lowest levels had not risen (p. 141). In Sub-Saharan Africa, the issues stem from these governments not reaching the poorest and most isolated (Ravallion, 2016). These two studies demonstrate that while economic growth is essential to reduce poverty, countries must also look at income inequality and their reach to the poorest communities.

Countries that are combatting high levels of poverty see results when focused on growing average incomes, managing income inequality, and ensuring growth is pro-poor. Economic growth with high inequality will limit the impact on the poor, as well as not having in place policies that enable this growth to reach the poor. Economic development remains a key factor in growing income and this is discussed in the section on economic development and foreign direct investment. For now, the discussion next reviewed the impact of financial sector development on poverty.

Financial Sector Development

The literature also highlights the development of the financial sector as a key element to changes in poverty. Beck et al. (2007) examined the link between financial development and income distribution by correlating private credit to the Gini coefficient, growth in income in the lowest quintiles, and poverty headcount. Overall, the authors found that financial sector development reduces income inequality and poverty levels far more positively than it does the rich or middle class. The impact of financial development works 40% through income inequality and 60% through economic growth (Beck et al., 2007). Beck et al. (2012) identified a significant correlation between access to enterprise credit and economic growth. Enterprise credit is the lending that happens to businesses,

and the authors noted that this type of credit enhances economic growth through productivity and resource allocation (Beck et al., 2012). As economic growth is critical to changing the levels of poverty, then the development of a financing sector also becomes an important tool to reduce poverty.

The outcome of a stable financial sector is access to credit for both companies and individuals. Microfinancing is one tool that has been encouraged for poverty reduction as it targets the poor directly and those that are self-employed. Grameen Bank introduced microfinance to the third world, starting in Bangladesh and found success with its group loans focused on creating self-employment (Hossain, 2013). In a randomized trial in India, Banerjee, Duflo, Glennerster, and Kinnan (2015) introduced a microfinancing product called the canonical group loan from Spandana to understand how these loans changed the economics of the area and of the people who received them. The authors found that the number of small businesses grew from 24% to 42% and although they remained small regarding employment, revenues rose by 22% (Banerjee et al., 2015).

Washington and Chapman (2014b) studied the impact of microfinancing on entrepreneurial activity in Argentina, Brazil, Colombia, and South Africa and found mixed results. Microfinancing positively impacted early stage entrepreneurship among women but was not significantly correlated with late stage development or entrepreneurial activity conducted by men (Washington & Chapman, 2014b). The history started of microfinancing by Grameen bank was focused on women and self-employment which ties to the results found by Washington and Chapman (2014b). While

microfinancing has had some success among women and the self-employed, the most potent impact on poverty that comes from financial development is to the enterprise.

Current research by authors focused on developing countries continues to support the foundation that financial development is key to economic growth and ultimately poverty reduction. Dhrifi (2014) grouped countries between high, middle, and low-income countries and identified that financial development promoted economic growth in and reduced poverty in middle and high income countries, but found little impact on low income countries due to the illiquid and limited financial sector (p. 1171). Huang et al., (2016) in their analysis of China found that financial development promoted economic growth by improving total factor productivity. In India, Sehrawat and Giri (2016) used econometric techniques to establish a long run relationship between financial development and poverty reduction and identified that both economic development and financial development reduce poverty in the long run (p. 16). Providing access to financial capital is essential in enterprise development, entrepreneurial activity, and in reducing poverty. The next section starts with some of the foundational measures of poverty and concludes with measures of pro-poor growth.

Measures of Poverty

Measurements of poverty focus on rising incomes or consumption, inequality, and pro-poor growth. Sen (1976) identified the four axioms for constructing an index to measure poverty. It has been cited over 2,200 times and is a seminal work on poverty measurement. For an index to properly measure poverty, it must follow four axioms. First, a reduction in income of a person below the poverty line must increase the poverty

measure and second, relative equity must prevail in that there is a greater value for an increase in income for a poor person than a relatively richer one. Third construct weights are based on the income gap between the poor person as measured by their welfare, and fourth if all the poor had the same income, then poverty headcount and gap are equal (Sen, 1976). The axioms construct the formula for poverty that incorporates both headcount and income inequality. Poverty (P) equals H[I + (1-I)*G] where H is headcount, I is the normalized poverty gap on the total income of the community, and G is the Gini coefficient (Sen, 1976). The methods explained below follow these axioms.

The use of expenditure or income per person or household has been widely used as a measure when analyzing poverty (Edward & Sumner, 2014). Chen, Datt, and Ravallion (1994) used household expenditure per person as the preferred indicator of living standard, and income only if expenditure data was not available, to answer the question of if poverty was increasing in the developing world. The authors measured poverty consistently across all countries as the percentage of people living on one dollar per day or less (Chen et al., 1994). In a follow-study for the 1990s, Chen and Ravallion (2001) leveraged the same methodology with the primary use of consumption expenditure per capital to understand the changes in poverty in the developing economies. More recently, authors have continued to use expenditure or income but have also shed light on the debate about these measures as well as relative versus absolute poverty. In their 2013 study, Chen and Ravallion continued to rely on primary sample household survey data on expenditure per person but included the absolute poverty line

of one dollar per day as well as a measure of relative poverty based on national poverty lines.

The use of average expenditure or income per person from surveys is identified as the bottoms up approach, and Edward and Sumner (2014) distinguished this from the top down national account approach that utilizes national macroeconomic data (Edward & Sumner, 2014). When comparing the two approaches, the authors found that the use of national accounts in their model generated only slightly smaller reductions and increases in poverty based on different poverty lines (Edward & Sumner, 2014). Pinkovskiy and Sala-I.-Martin (2016) compared survey data versus national accounts to see what was a better proxy for income per capita. National accounts provide poverty estimates that are lower and fall faster than previous research concluded and these are better indicators of the outcomes of the poor outside of income alone (Pinkovskiy & Sala-I.-Martin, 2016).

Similar to the research above, household surveys that measure household expenditure per month, per person was used to measure poverty in this study. Household consumption is thought to be more relevant as a measure of standard of living and income only a proxy for consumption (Ravallion, 1994). Particularly relevant for this study is the limitations of survey data. Ravallion (2016) challenged the use of absolute poverty lines, the limitations of survey data, and cross-country comparisons of price levels to measure global poverty. The traditional headcount method does not tell the story of how the poor are doing or if they are at least reaching a minimum standard of living (Ravallion, 2016). Consumption data can be misleading when savings are positive, but to measure poverty, it is still widely used and stands out as a more appropriate welfare

indicator (Ravallion, 1994; Ravallion, 2016b). Recognizing the weaknesses in the survey data are imperative for a study on poverty, and while I used the expenditure per person approach, I highlighted the limitations that come with it. Not only is the measure itself of poverty important, but how growth has impacted the poor is also critical to measure.

When growth is pro-poor significant benefits accrue to those in the lowest income levels (Kakwani & Son, 2008). To measure whether growth is propoor, Ravallion and Chen (2003) defined the growth incidence curve (GIC). It measures incomes across the distribution for the poor. The GIC is the actual growth rate multiplied by the ratio of the actual change in the Watts index to the change that would have been observed with the same growth rate, but no change in inequality (Ravallion & Chen 2003). Kakwani and Son (2008) established the poverty equivalent growth rate (PEGR) that included a change in income inequality to measure propoor growth. It is the growth rate that would result in the same proportional change in poverty as the current growth rate if the rate was not accompanied by a change in inequality. It is calculated as the growth rate in mean income plus the distribution of benefits from growth between the poor and non-poor (Kakwani & Son, 2008).

These two measures are often used together in country studies on poverty. The GIC and PEGR were used in the study by Chukwuma and Ele-Ojo (2012) in a study on propoor growth in regional poverty in Nigeria. The study indicated a trickle-down effect where the poor benefit, but the rich captured more of the benefit from growth. Wang et al. (2014) measured the changes in China poverty and the impact on the poor by using the pro-poor growth rates by Ravallion and Chen (2003) and Kakwani and Son (2008). All

three measures were positive between 2006 and 2009 and showed that China during this period had growth that was propoor, but results were mixed in some of the earlier periods (Wang et al., 2014).

Measures proposed in the last few years are multidimensional in nature and include not only headcount and income inequality, but also non-income measures such as vulnerability, opportunity, and standards of a healthy life. May (2012) outlined three common approaches to measuring poverty. The first is household surveys on income and consumption which is what was used by the measures outlined above. Consumption is thought of as the most reliable as income fluctuates and is under-reported (May, 2012). A second way to measure poverty is by evaluating it versus a socially acceptable quality of life. The starting point is the national poverty line that is then adjusted to account for preferences and the national standards of living. Subjective evaluation based on those who consider themselves to be poor is a third way to measure poverty (May, 2012).

Kana Zeumo, Tsoukiàs, and Somé (2014) built upon the capability approach first advocated by Sen (1985) and used household capability and clustering to help guide policy design. The capability approach is built on the belief that measuring what the person has had an opportunity to achieve is also required when assessing poverty (Kana Zeumo et al., 2014). Weiak-Bialowolska (2014) computed a regional human poverty index (RHPI) that included a healthy life, standard of living, knowledge, and social exclusion to evaluate human poverty in the countries of the European Union. The at-risk of poverty or social exclusion (AROPE) rate that combines both income and non-income indicators is the official poverty measure in Europe. Across Europe, the best scoring

countries were Sweden, Austria, Finland, and the Netherland. The worse situations with the highest human poverty index were in Malta, Portugal, Greece, Slovakia, and Hungary (Weiak-Bialowolska, 2014). One of the most well-known multidimensional measures is the Human Poverty Index published by the United Nations. The human development index includes gross national income per capital, life expectancy at birth, mean years of schooling, and expected years of school (United Nations Development Programme, 2014).

The poverty measure for this study will be the expenditure measures as they are the most common and widely used (Edward & Sumner, 2014; Ravallion, 2016b). In particular, for South Africa, poverty headcount will be defined as the number of people below or near 620 Rands per month in expenditures based on population weighted household expenditures from general household surveys. The direct use of household surveys of expenditure data per person is similar to the historical studies by Chen et al. (1994) and Chen and Ravallion (2013). Population weighted consumption measures have also been used in studies on poverty and their relationship to business development and entrepreneurship (Beck et al., 2005; Yanya et al., 2013). These studies will be discussed more in the section on models of engagement for poverty alleviation. Before that review, the next section reviewed the literature on motivations for multinational companies to engage in poverty alleviation.

Multinational Motivations for Engagement in Poverty Reduction

Motivations and engagement by multinational corporations in developing economies and poverty reduction come from the trends of corporate social responsibility

and foreign direct investment for growth. Corporate social responsibility is the idea that corporations have a responsibility to society outside of making profits (Carroll & Shabana, 2010). The second trend is that developing markets offer opportunities for growth (Tasavori et al., 2015). These two factors provide motivations for companies to engage outside their home markets and in developing economies.

Corporate Social Responsibility (CSR)

In a historical overview of corporate social responsibility Carroll (2008) started with the social initiatives before the 1950s and the focus on employee well-being and philanthropy. The current terminology and definition of corporate social responsibility took shape in the 1950s first as s definition of a responsible businessman and accelerated in 1970 to include the balancing of multiple stakeholders and acting in the best interest of society (Carroll, 2008). Two views highlighted in the article are the thoughts by Milton Freidman and his dissent to corporate social responsibility as potentially undermining a free society. The second thought is by Vogel in that social responsibility will not be successful unless companies see it as critical to firm performance (Carroll, 2008).

The benefits of social responsibility in the literature are related to cost savings, brand loyalty, improved profitability, and lower financing costs. Carroll and Shabana (2010) documented the benefits companies can derive from corporate social responsibility such as a competitive advantage, cost savings, brand loyalty, and image. Savitz and Weber (2014) created the idea of the sweet spot of sustainability and profitability where firms can establish sustainable processes and still maintain or increase profitability. Outcomes from the study by Cheng, Ioannou, and Serafeim (2014) on

publicly listed firms between 2002 and 2009 indicated that firms with superior corporate social responsibility performance as measured by Thomson Reuters faced lower capital constraints. Stakeholder engagement and social responsibility disclosures were also tested and shown to have significant correlations to capital constraints (Cheng et al., 2014). In the experiment by Cherney and Blair (2015), the authors tested whether socially responsible activities influenced customer's perceptions of product performance. There is some halo effect of a consumer preferring a firm that conducts socially responsible activities that could lead to consumers choosing that product over another (Cherney & Blair, 2015). This halo effect disappears if the consumer is an expert with that product (Cherney & Blair, 2015). These are just a few of the examples of how companies can benefit from engaging in social projects.

The idea that corporations have a responsibility aside from making profits is the concept of corporate social responsibility. Yet, the literature revealed mixed results about the link between financial performance. Santoso and Feliana (2014) reviewed the association between corporate social responsibility and firm performance using the companies on the Indonesian Stock Exchange. When using the stock market based method there was no significant result, but using the accounting based method, there was a positive correlation with the corporate social responsibility index (Santoso & Feliana, 2014). Chetty, Naidoo, and Seetharam, (2015) examined, using an event study, the impact of corporate social responsibility with financial performance in South Africa between 2004 and 2012 and could not find a significant impact on financial performance. Simply participating in responsible activities does not seem to improve stock

performance over those companies that could potentially use the money to accept profitable projects instead (Chetty et al., 2015).

Social responsibility seems to be more of a factor impacting performance in some industries, like financial companies, but does not necessarily have a significant link with firm performance for consumer product companies (Daszynska-Zygadlo, Slonski, & Zawadzki, 2016). Taking a different approach by looking at the cost of debt, Cooper and Uzun (2015) found in their sample of companies in the US that those that engaged in social responsibility activities had a lower cost of debt. Given the mixed results on stock performance, the variability across industries, and some potential to lower the cost of financing, it is clear that just because a company has social responsibility initiatives, does not mean they will receive a financial benefit. One way companies can merge social responsibility and profitability is by investing in developing economies. The research on foreign direct investment was explored in the next section.

Foreign Direct Investment

Schrader, Freimann, and Seuring (2012) studied seven cases of multinational corporations involved in BoP projects. One of the reasons to engage was to learn about developing markets, but there was also some expectation that these ventures would yield a positive financial outcome. Developing markets offer opportunities for growth for multinational firms outside of their home market. The results for the host country can be economic growth and domestic firm creation and development (Albulescu, 2015; Schrader et al., 2012). In this section, the review included the variables that attract foreign direct investment and the impacts on the host country.

For host countries, what attracts foreign direct investment is essential to know so that firms can be courted into making the investment in a developing economy. Malhotra, Russow, and Singh (2014) studied the determinants of foreign direct investment in Brazil, Russia, India, and China (BRIC). Utilizing panel data analysis over the period, 1992 and 2012, the authors found that China had attracted the most foreign direct investment followed by Russia, Brazil, and India. Budget balance as a percentage of gross domestic product (GDP), foreign debt as a percentage of GDP, and per capital GDP have a statistically significant positive impact on the level of foreign direct investment in the BRIC countries. Negative factors included inflation and debt service as a percentage of exports (Malhotra et al., 2014). Dua and Garg (2015) found that in India, currency and competition for foreign direct investment flows with other emerging economics were significant and negatively correlated with foreign direct investment. Domestic interest rate and output were positively correlated (Dua & Garg, 2015). Davletshin, Kotenkova, and Vladimir (2015) found in their study that the easier it was to do business in the host country, the more foreign direct investment they received. Developing economies wanting to attract investment are best served with a balanced budget, low interest rates, a stable currency, and an *easy to do business* environment.

Financial market development can also be an advantage for foreign direct investment as foreign firms seek to raise capital in the host country. Hajilee and Nasser (2015) studied the impact of financial market development on foreign direct investment for 14 countries in Latin America between 1980 and 2010. Significant positive relationships were found with short-run financial market development, but the results

were mixed when it came to stock market development and banking sector indicators (Hajilee & Nasser, 2015). The authors also found a bidirectional relationship as foreign direct investment can enhance stock market development as large companies seek to raise equity to fund development (Hajilee & Nasser, 2015). The study links with the element of a strong financial sector being a key element to economic development and changes in poverty measures.

The reason that host countries put effort into attracting foreign investment is to reap the benefit of an improved economy, rising wages, and ultimately the reduction of poverty. The results from the research are mixed at certain levels of the impact that multinational corporations and foreign direct investment have on the host country. Malhotra et al. (2014) found in their study that the fastest growth in real wages from foreign direct investment was in China and India. Over this same period, Brazil and Russia showed a decline. Mihaylova (2015) studied the impact of foreign direct investment on income inequality in Central and Eastern Europe and indicated that there was no statistically significant relationship with income inequality, while education and GDP per capital had more exploratory power. In a study on 30 countries in Africa by Fowowe and Shuaibu (2014), the authors concluded that foreign direct investment contributed significantly to reducing poverty, and the better the institutional quality, human capital development, and financial sector of the domestic economy, the more foreign direct investment contributed. Ucal (2014) had similar findings across 26 developing countries in that foreign direct investment had a negative relationship with poverty. The answer on whether foreign investment changes income and wages for the

country, and ultimately reduces poverty may depend on how that country uses foreign direct investment to stimulate its domestic market and how prepared the country is to accept the investment.

When foreign direct investment can stimulate the creation of domestic enterprises, the host country receives the incremental benefit. Multinational enterprises are in the best position to facilitate the transfer of knowledge to local companies. Behera (2015) outlined the mixed results of the spillover effects of foreign direct investment from prior research and sought to clarify by researching the Indian manufacturing sector. Behera was able to reject the null hypothesis of no cointegration at the 1% significance level and noted that in the same industry (horizontal spillover) multinational corporations were not the reason for the advances in the domestic firms. The coefficients were positive when looking at vertical integration and spillover. Those domestic firms that were not significantly lagged behind the large company in technology reaped the most benefits (Behera, 2015).

Vai Io, Moxi, and Xiaowen (2015) offered insights into how multinational corporations can have more positive spillover effects in China. Vai Io et al. concluded that spillover effects are more likely to take place through domestically sold products versus exports, and technology spill over is more likely through traditional products versus new. Eregha (2015) focused on West Africa and using the panel data cointegration technique provided the insight that foreign direct investment inflow reduced domestic investment by .96 and suggested that domestic firms are crowded out, especially if they lack the capabilities to compete. The framework around foreign direct investment is

enabling host countries to achieve higher growth rates, but the efficient use of foreign direct investment for economic development depends on the absorptive capabilities of the domestic economy.

A host country can leverage foreign investment to its fullest if it can find the synergies between foreign direct investment and its domestic capabilities. An area of focus for this study is on entrepreneurship. Washington and Chapman (2014a) studied whether foreign direct investment spurred entrepreneurial activity in Argentina, Brazil, Colombia, and South Africa. The framework for the article was taken from two streams of literature: (a) spillover effects of foreign direct investment and (b) entrepreneurship environment. Again, as with the other studies, the results are not conclusive. Foreign direct investment was positive for service workers, but a negative for factory workers. No significant relationship was determined between skilled labor and entrepreneurship (Washington & Chapman, 2014a). There continues to be a gap in research when it comes to investment by multinational corporations, foreign direct investment, and whether the impact on the host countries produces the favorable outcomes expected.

As the trend in corporate social responsibility continues and foreign direct investment is still an opportunity for multinational corporations and host countries to grow, the environment for engagement with poverty alleviation thrives. Tasavori et al., (2015) noted that the BoP represents 70% of the world's population and in their case study of eight multinational enterprises in India one of the motivations for engagement was growth in new markets and avoiding intense competition. Large firms can use two

different models to engage in poverty alleviation projects profitably. The next section critiques those business models.

Models of Engagement in Poverty Alleviation

The premise of the book by Prahalad (2009) was to review the market at the BoP and explain how for-profit companies engaging in profitable partnerships can contribute to reducing poverty. Prahalad explained the two models of engagement between the poor and multinational corporations. The poor as consumer model has the company create a market to sell a product or service to the poor (Prahalad, 2009). One example is how Unilever created products at lower price points to sell to the poor (Prahalad, 2009). In contrast, the poor as producer model engages poor people to produce products that can be sold to the multinational company (Prahalad, 2009; Shivarajan & Srinivasan, 2013; Werhande et al., 2010). Prahalad noted that widespread entrepreneurship is core to solving the poverty problem. The second model has the advantage of raising income levels which is an essential factor in reducing poverty (Banerjee & Duflo, 2011; Kraay, 2006). In the seven cases studied by Schrader et al. (2012) of multinational corporations involved in BoP projects, always emphasized was the involvement of local stakeholders.

Creating entrepreneurs and establishing local businesses in the area to alleviate poverty is based on the second model of engaging the poor as producers (Calton, Werhane, Hartman, & Bevan, 2013; VanSandt & Sud, 2012; Werhane et al., 2010). Werhane et al. (2010) argued that multinational corporations should be involved in poverty alleviation and emphasized moral imagination, systems thinking, and deep dialogue to engage multinational enterprises in developing economies and poverty

reduction. VanSandt and Sud (2012) addressed the problem of eradicating poverty by leveraging business market intelligence and resources. The authors' model of engagement for business included social institutions, government, and entrepreneurs. Focused on the assumption that when self-interest and compassion are in conflict, self-interest will win, the authors proposed a four-quadrant model. The model proposed that institutions must create the environment for businesses to participate and that stakeholders recognize and incorporate inclusive growth that focuses on all dimensions. There is also a recognition by business that social development is imperative to long-term survival, and that entrepreneurs and large firms collaborate in poverty ridden markets (VanSandt & Sud, 2012).

Entrepreneurship

The idea that for-profit can collaborate with entrepreneurs is also supported by the ideas in the theory of foreign direct investment and the multinational enterprise. Multinational enterprises bring resources, infrastructure, and training that can be used by entrepreneurs to create system-wide value creation (Pitelis & Teece, 2010). In their historical account, Pitelis and Teece (2010) identified case studies such as McDonald's in Russia that illustrated how cross-border companies first import resources and then help create the local businesses that will sustain the multinational enterprise long-term. These dynamic capabilities that the large company injects into a new market generate value and shape the local ecosystem (Pitelis & Teece, 2010). Local entrepreneurs bring leadership in the community and local knowledge to support the growth of the market (Alvarez & Barney, 2014).

Alvarez and Barney (2014) suggested that for entrepreneurship to create economic growth, two factors were critical. First, the opportunities had to be scalable and could not be limited to self-employment or small businesses. Second, human capital, property rights, and access to financial capital are required to create scalable businesses (Alvarez & Barney, 2014). Popular methods such as microfinancing and cash transfers are too small to create the scalable businesses that are required for job creation and economic growth. Instead, by leveraging the ideas from foreign direct investment theory and the multinational enterprise, Alvarez and Barney emphasized the cocreation process that includes the collaboration of local entrepreneurs and large firms to create businesses with barriers to entry and a competitive advantage (Alvarez & Barney, 2014).

Entrepreneurship has two forms that can impact poverty. Social entrepreneurship addresses a particular social concern when establishing a new business (Estrin, Mickiewicz, & Stephan, 2013; Santos, 2012). Santos (2012) defined social entrepreneurship as the creation of business for a social purpose. It is distinguished from commercial entrepreneurship as a business that creates value for a society without always a clear link to profitability. Commercial entrepreneurship does not focus on a social concern but is created when a market opportunity exists (Estrin et al., 2013). In their correlation analysis on country and cross-individual data from the Global Entrepreneurship Monitor (GEM), Estrin et al. (2013) established significant relationships between social and commercial entrepreneurship and government regulations. The conclusion was that social entrepreneurship promoted commercial entrepreneurship and often precedes the development of commercial markets (Estrin et

al., 2013). Market-based approaches combined with social entrepreneurship can create sustainable business models that allow the multinational company to profit and poor communities to benefit (Zaefarian et al., 2015).

Case Studies and Quantitative Research on Profitable Engagement

Case studies. Most of the research on profitable engagement with the poor by multinational corporations have been case studies. Prahalad (2009) identified the example of Grameen Bank and their microfinancing business that supports self-employment. Grameen, started in Bangladesh, issues microloans in rural communities, especially to women, which allows for high repayment rates (Werhane et al., 2010). Jaipur Rugs employs the poor as producers in India and sells those products around the world (Prahalad, 2009). Nestle in India and Coca-Cola in Venezuela were studied in the article by Zaefarian et al. (2015) based on their ability to raise income levels and improve the quality of life in those areas.

E-inclusion launched in 2000 by Hewlett-Packard (HP) had the goal to close the digital divide between the rich and the poor. Microfinancing, microenterprises, and deep engagement were the three programs, and each one had the fostering of entrepreneurship as an objective (Schwittay, 2012). Schrader et al. (2012) studied seven cases of multinational corporations involved in BoP projects. One leading financial services company, Allianz, decided in 2004 to enter the Indian BoP market with microinsurance products with the aim of improving employee morale and a better company image in the international recruiting market (Schrader et al., 2012) These case studies highlighted the opportunities and projects that large companies have developed to help alleviate poverty.

Quantitative research. The quantitative research studies attempted to link poverty to economic development or focus on the impact of entrepreneurship. Beck, Demirguc-Kunt, and Levine (2005) studied the share of total manufacturing employment accounted for by SMEs from 1990 to 2000 to determine if the size of this sector had an impact on poverty. Beck et al. were not able to find strong support that small to medium size enterprises exerted a causal impact on growth and poverty reduction. Between GDP per capital and the size of the SME sector, the authors were able to show a 40% correlation coefficient at the 1% significant level (Beck et al., 2005). Yanya et al. (2013) used the same equations as Beck et al. to study regional poverty and entrepreneurship in Thailand. The authors found a significant relationship between new firm establishment and a decrease in income inequality and the number of people in poverty, but not with an increase in income for the poor.

Mahadea (2012) investigated whether employment responds to economic growth in South Africa to underscore that entrepreneurship is critical to job creation. The results from the regression model indicated that South Africa needed a seven percent growth rate over the next ten years to reduce unemployment and the author promoted formal sector entrepreneurship as a tool. Woodward, Rolfe, and Ligthelm (2014) completed a survey analysis to determine if Coca-Cola's business development program in South Africa had a quantifiable effect on local entrepreneurs. The regression analysis indicated a positive impact of start-up capital, firm size, and age of business on the income of the business. In conclusion, the authors determined that the sales of the businesses were boosted with business development support from Coca-Cola (Woodward et al., 2014). The examples of

the case studies provide anecdotal support for the engagement of MNCs in poverty reduction. The quantitative research was mixed, and shed light on the need for more quantitative research that could help businesses decide how to engage in poverty alleviation projects profitably with local entrepreneurs and other stakeholders. The next section reviewed the country of South Africa and its unique factors that make it an interesting study on poverty, entrepreneurship, and multinational corporation engagement.

South Africa and the Challenge of Poverty

South Africa consists of nine regions that differ in their population levels and economic development. As of 2014, the most populous region is Gauteng with 13 million residents and includes major metropolitan cities such as Johannesburg and Ekurhuleni. Gauteng has grown 29% since 2002 and was the fasting region growing in this period (Statistics South Africa, 2015, p 16.). The population of South Africa is made up of 80% Black, 9% Colored, 3% Indian, and 9% White (Statistics South Africa, 2015, p. 72). Its apartheid past and rapid growth since make it a unique country to understand the influences of poverty, foreign direct investment, and entrepreneurship.

Poverty and the regions. High levels of poverty continue to persist in South Africa despite high levels of foreign direct investment. The measure of poverty in the Poverty Trends in South Africa Report was based on income, consumption, access, and perceived well-being that was a multidimensional measure to poverty (Statistics South Africa, 2014). Based on this measure, in 2006, the extreme poor accounted for 26.6% of the population and overall poverty was at 57.2%. By 2011 overall poverty was 45.5% and

the extreme poor was at 26.6% (Statistics South Africa, 2014). Poverty levels vary among the regions with Limpopo having a poverty headcount of 63.8% in 2011. The lowest poverty levels are in Western Cape, 24.7%, and Gauteng, 22.9%, the most populous region (Statistics South Africa, 2014). Figure 2 below shows the poverty share by province in 2011.

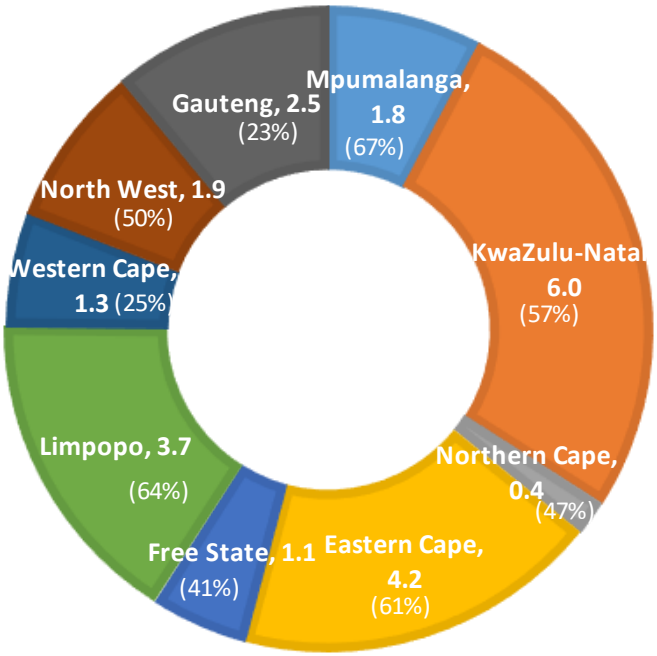


Figure 2. Diagram of the number of people in poverty by province in South Africa. A total of 23 million people in poverty in 2011. In parenthesis is the percentage of the province population that the poor represent. Adapted from *Poverty Trends in South Africa: An Examination of Absolute Poverty Between 2006 and 2011*, by Statistics South Africa, 2014 (http://www.statssa.gov.za). Copyright 2014 by Statistics South Africa. Adpated with permission.

Given its apartheid past, the poverty levels also vary among the races. In 2011, 54% of the Black African population was in poverty, with less than 1% of White Africans (Statistics South Africa, 2014). May (2012) explained that the poverty in South Africa is more deliberate due to years of apartheid policies designed to extract cheap labor and

institutionalize discrimination. These policies led to the exclusion of the majority of the South Africans and underdevelopment (May, 2012). Khumalo (2013) confirmed this statement and described the challenge of black poverty and its relation to successive colonialism and apartheid administrations. The outcomes of systematic racism have meant an excluded black majority (Khumalo, 2013).

The household makeup of poverty and the perception of poverty in South Africa are also indicators of the challenges. Rogan (2013) studied the household composition of poverty and found that 72% single-headed female households were poor, while 86% of those that are married but with no male living in the household are poor (p. 498). Jansen et al. (2015) used the National Income Dynamics Study (NIDS) to analyze poverty using objective and subjective measures in South Africa. The objective measures included absolute income and relative income poverty. The subjective measures were self-perceived relative income poverty, welfare, and well-being. More than 80% of blacks are classified as poor, and females and rural residents are more likely to be defined as poor across both types of measures (Jansen et al., 2015).

Foreign direct investment. Poverty has persisted despite foreign direct investment by multinational firms since apartheid. The reasons for the lack of impact from foreign direct investment on poverty originate from the crowding out effect, the type of investment, and disputes among the direction of the relationship between foreign direct investment and GDP. Washington and Chapman (2014a) reported that inward foreign direct investment in South Africa increased from $248 million in 1991 to $6.6 billion in 2005 with German and US-based multinational corporations investing the

greatest amount of assets. By 2011, capital inflows to South Africa were R120.8 billion, and foreign direct investment represented 28% of these flows (Gossel & Biekpe, 2014).

The theory of foreign direct investment is that foreign ownership is associated with higher productivity due to their dynamic capabilities and that domestic firms benefit from the transfer of knowledge (Pitelis & Teece, 2010). The term spillover is widely used in the literature to explain the benefit of foreign investment in the domestic economy. For South Africa, the results are mixed. Mebratie and Bedi (2013) identified no significant evidence of the spillover effect of foreign direct investment to domestic businesses in South Africa or that compliance with the black economic empowerment act had any impact on labor productivity. Ipek and Ayvaz Kizilgol (2015) found in South Africa that while foreign direct investment was positively correlated to GDP growth, it had a crowding out effect that meant domestic investment was reduced (p. 411). Gossel and Biekpe (2014) hypothesized that the equity nature of foreign direct investment in South Africa versus on the ground investment might be why they did not find the anticipated positive effect on trade. Having only an equity investment means no real on the ground assets (Gossel & Biekpe, 2014).

Studies on foreign direct investment in South Africa demonstrated mostly positive causality between foreign direct investment and growth. Gohou and Soumaré (2012) analyzed regional poverty in Africa and found a positive correlation between foreign direct investment and GDP growth, but no significant relationship with a change in poverty and welfare in the South Africa region. Agbloyor, Abor, Adjasi, and Yawson, (2013) linked market capitalization and capital account openness with positive capital

inflows in Africa. Seyoum, Wu, and Lin (2015) found that the relationship between foreign direct investment and growth runs from growth to investment, meaning as prospects for growth arise in South Africa, foreign direct investment increases. In contrast, Yaya (2015) noted a bidirectional causality between foreign direct investment and GDP for South Africa (p. 217). Based on the noted research, foreign direct investment seems to have a positive relationship with GDP, but its lack of spillover effects may be a clue to why poverty persists at high rates in South Africa.

Entrepreneurship. Studies on South Africa in the area of entrepreneurship highlight its low levels given its business environment and its potential to reduce poverty. In studying the impact of microfinance on entrepreneurial activity, Washington and Chapman (2014b) found low levels of entrepreneurship although South Africa has low barriers to registration. The level of early stage entrepreneurial activity in South Africa represented 7% of the adult population in 2014, a 34% decline, and only about 37% of this same population believed there were good opportunities to start a business (Herrington, Kew, & Kew, 2015). Apartheid policies are believed to be one reason why levels are low as they prevented black South Africans from creating small businesses and developing self-reliance (Mensah & Benedict, 2010). When it came to the entrepreneurial mindset, training, and management skills on business growth, Mensah and Benedict (2010) found that a high level, 95% in some cases, knew these measures were important but did not necessarily have access to them. South Africa presents an opportunity to measure whether multinational corporations and entrepreneurship together impact poverty. In the next section, the research variables are explained.

Research Variables

The dependent variable for the study was the percentage of people living in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month. This is called poverty headcount and is a weighted average of the population based on subgroup estimates from the general household surveys. Beck et al. (2005) used this method in their study on the small to midsize business sector and the relationship with growth and poverty. Poverty headcount is also measured this way in the World Bank reporting statistics on poverty. The use of expenditure levels is also used in the studies by Chen and Ravallion (2013) in their study on global poverty. It is still widely used in poverty assessment studies (Edward & Sumner, 2014).

The measure for the dependent variable, when compared to the report on poverty trends in South Africa published by Statistics South Africa, is only one aspect, the expenditure piece, and does not account for the income portion or other measures of multidimensional poverty. Use of household expenditures yields a different result than the underlying survey used by the report from Statistics South Africa. The data set for the report is only completed every two years, and the detailed data is only publicly available for the 2010/2011 survey. Thus, it was not an option for this study.

Two independent variables were at the foundation for answering the research questions. First, entrepreneurship is defined as the number of new businesses registered during the period on an annual basis in the province. Yanya et al. (2013) used this definition in their study on entrepreneurship and poverty in Thailand. The second

independent variable measures the level of participation by multinational corporations. To gauge presence, the number of multinational corporation locations registered in the province on an annual basis was used. On the ground locations were seen as most appropriate based on the study by Pitelis and Teece (2010), and the literature on foreign direct investment spillover effects (Gossel & Biekpe, 2014; Ipek & Ayvaz Kizilgol, 2015). These two independent variables were regressed with poverty headcount to understand their relationship and impact between 2002 and 2015.

Gap in the Literature

Many developing countries continue to struggle with how to reduce poverty. These countries are often stuck in some poverty trap such as those described by Kraay and McKenzie (2014) that are behavior or geographic in nature, but have the same outcome of keeping millions in poverty. To break these traps, and raise income levels, economic development and scalable entrepreneurship are seen as the best tools (Alvarez & Barney, 2014). The theoretical framework combines Schumpeter's (1934) theory of new combinations and economic development with Prahalad's (2009) theory on marketable solutions to alleviate poverty. Case studies show favorable outcomes when large corporations engage with local entrepreneurs, such as is the case in VanSandt and Sud (2012) and their review of India's Telecom Revolution and how it addressed rural communication challenges.

Empirical evidence on the impact of multinational firms and entrepreneurs working in developing areas to reduce poverty is also starting to build. Poverty in China has reduced from 84% of the population in 1981 to 11.8% in 2009 and from 835 million

people to 157 million (Wang et al., 2014). Pro-poor economic growth seems to be a key reason for the change, and Wang et al. (2014) found that between 2006 and 2009 economic growth benefited the poor due to changes in governmental policies. There is still empirical evidence to gather to support the idea for marketable solutions to poverty reduction and this study sets out to see the impact that continued investment, large multinational corporations and entrepreneurship have had on poverty in one developing country, South Africa. South Africa continues to see high levels of poverty (Statistics South Africa, 2014) and understanding if marketable solutions are truly impactful or not is one of the objectives of this study.

The problem statement and research questions were created from the gap related to a quantitative study that examined the impact of the activities of multinational corporations and entrepreneurship in a developing country. It builds on the current knowledge about economic development, entrepreneurship, and poverty. For this study, the problem to be examined is whether the levels of poverty in South Africa had been significantly impacted by the activities of multinational corporations and the level of entrepreneurship in its nine provinces. The two research questions leverage two independent variables related to large corporation activity and entrepreneurship, which have been researched in case studies, but not together in one quantitative study on South Africa. As this is a study in one country and developmental in nature, a quantitative longitudinal study was selected to review the impact of the two independent variables over time on poverty.

Summary and Conclusions

There are still billions of people living in poverty with multiple deprivations (United Nations Development Programme, 2014). From the literature review, it was determined that the economics of poverty comes down to self-reinforcing mechanisms whereby countries and people remain poor unless this trap can be broken and incomes raised (Kraay, 2006). The theoretical framework is made up of Schumpeter (1934) and Prahalad (2009) because both propose that economic development and entrepreneurship are the tools that will break the current equilibrium in a country. Schumpeter defined economic development as new combinations often developed by the entrepreneur. In addition to economics, financial sector development and the availability of credit is also important in breaking the cycles of poverty in a country (Beck et al., 2007).

What is known from the research is that economic growth can raise incomes and reduce poverty, and countries that spur development can gain by seeing lower levels of poverty. Foreign direct investment is a significant way that countries attract development and grow their economies and this investment has been shown across multiple countries to reduce poverty. What is not known is the right mix of foreign direct investment and domestic capabilities that lead to the most impactful reductions in poverty. Most of the direct foreign investment comes from multinational corporations; but, it is not clear how essential entrepreneurship may be along with the activities of these large companies to spur the development needed to reduce poverty.

Many developing countries struggle with how to reduce poverty, and South Africa is no different. In 2011, 45% of the population was considered poor (Statistics South

Africa, 2014); yet, South Africa has seen foreign direct investment and the lowering of barriers to starting a new business (Washington & Chapman, 2014a). Over time, the number of people considered poor has declined, and it raises the question of if entrepreneurship and the level of multinational corporation participation was one reason for the decline. The gap in the research is related to establishing more quantitative research to understand the relationship between poverty, entrepreneurship, and multinational corporation presence. In this study, I hope to extend knowledge in the field of poverty reduction to understand the impact of market based solutions such as selling to the poor with a focus on cost or using the poor as producers, entrepreneurship, and other for profit initiatives identified in Prahalad (2009). In this chapter, I have reviewed the literature on poverty economics, measures of poverty, multinational corporation engagement, and potentially profitable models of engagement to reduce poverty. From this review, the research variables were defined. In Chapter 3, the methodology, populations, sample, data analysis plans, and validity will be reviewed with the goal to provide a quantitative analysis to address the problem statement.

Chapter 3: Research Method

The specific problem examined in this study was whether the levels of poverty in South Africa have been significantly impacted by the activities of MNCs and the level of entrepreneurship in its nine provinces. Identifying the impact of entrepreneurship and MNC presence on the change in poverty levels in the nine provinces of South Africa was the purpose of this study. To address the gap in research, the study was a quantitative longitudinal study to identify the development over time of poverty in South Africa and its changes based on the levels of entrepreneurship and MNC presence. The next sections of this study cover the research design and rationale, methodology, data analysis, and threats to validity, concluding with a summary of the chapter.

Research Design and Rationale

The research design was a quantitative longitudinal study. Variables for the study included the dependent variable of poverty that was measured using the upper-bound poverty line, which in 2011 was 620 Rands per capita, per month (Statistics South Africa, 2014, p. 8). Specifically, the dependent variable was defined as the percentage of people living in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month. Using the poverty line within the country was appropriate because the focus was only one country; however, if the study had been conducted across multiple countries, a consistent poverty line would have been more appropriate (Chen et al., 1994; Chen & Ravallion, 2001). Each province in South Africa had a measure of poverty based on this upper-bound line.

The data for this measure came from the General Household Surveys, which since 2002 have been measuring household expenditures by provinces on an annual basis.

The two independent variables were the number of new businesses registered during the period on an annual basis in the province and the number of MNC locations registered in the province on an annual basis. The number of new businesses registered during the period on an annual basis in the province was the measure for entrepreneurship as defined by Yanya et al. (2013) in a study of entrepreneurship in Thailand (p. 335). More precisely, for South Africa, this number was expected to come from the firms that were registered in the year of measure with the Companies and Intellectual Property Commission. The number of MNC locations registered in the province on an annual basis were also pulled from the registered companies list within each region. MNCs were identified as large companies operating in one or more countries outside of South Africa (Caves, 2007). The list from the Companies and Intellectual Property Commission was checked against MNC lists for South Africa from the labor research service. Each year, the number of multinational locations is counted as a measure of the level of large company presence in the region.

The rationale for selecting the quantitative longitudinal method was to add empirical research to the abundance of qualitative research, including case studies, on the engagement of MNCs in poverty reduction projects. In particular, there are theoretical frameworks that support the idea of a partnership between MNCs and entrepreneurs in an area to reduce poverty (Alvarez & Barney, 2014; VanSandt & Sud, 2012). Similar quantitative studies have used multiple regressions focused across countries (Beck et al.,

2005) or only on entrepreneurship in one country (Yanya et al., 2013). A quantitative study that included the presence of MNCs along with entrepreneurship helped to test existing frameworks on partnerships between these two elements and was consistent with continuing to develop quantitative research in this area.

Beck et al. (2005) used a cross-sectional study across multiple countries to determine the impact of the SME sector on poverty. Cross-sectional studies apply to a single period and are used to measure differences across the sample or countries (Salkind, 2012), as was the case with Beck et al. In contrast, the longitudinal design focuses on describing patterns of change and magnitude of casual relationships (Diggle, Heagerty, Liang, & Zeger, 2013; Mendard, 2002). The developmental nature of the longitudinal design gives it certain advantages for this study. In studying the regions of South Africa, it allows the study of changes over time and among the regions when it comes to the variables of new firm establishment and change in the number of MNC locations.

The research questions were developmental in nature and required a times-series analysis given the number of cases and periods (Menard, 2002). Research Question 1 concerned the relationship of poverty, new firms, and MNC locations over 14 years in the nine provinces of South Africa. Research Question 2 addressed the fluctuations year-to-year. These questions covered the pattern of change as well as its magnitude. Use of the longitudinal design with a pooled cross-sectional time-series analysis seemed to fit best with answering the question of how South African poverty has developed over time based on the independent variables. It also fit given that the number of regions was less than 20 and the time period was less than 15 years (Menard, 2002).

Among the disadvantages of the longitudinal design are length of time and cost, especially for a prospective design that may go on for many years (Salkind, 2012). For this study, a longitudinal design was used that limited the period to 14 and relied on already-collected household survey data from the government of South Africa. This allowed the study to be completed quickly and did not have an extended time frame for measurement. The resources were publicly available but were constrained to what is collected by the agencies in South Africa.

Methodology

A quantitative longitudinal design was the method selected for this study. The analytical model was a pooled cross-sectional time-series analysis with the goal of understanding how the impact of entrepreneurship and MNC presence has impacted poverty over time. To accomplish this type of analysis, a mixed-method multilevel regression tool was used. In the sections that follow, the methodology is explained in detail, starting with the population and sampling procedures. Data collection procedures, use of archival data, and instrumentation follow. The section concludes with operational definitions and measurements of each variable.

Population

Population is defined as the group that a study represents. Ultimately, the results of a study are generalized to this group (Salkind, 2012). As this was an econometric study of an entire country, the population unit was defined as the nine provinces in South Africa. These provinces are well defined by the government of South Africa and are used in the published analysis of poverty headcount changes (Statistics South Africa, 2014).

The general household survey publishes the population statistics for each of the nine provinces and makes further breakdowns between rural and urban, but it does not necessarily call out specific cities unless they represent major population centers (Statistics South Africa, 2015). As of 2014, the approximate population size was 54 million people (Statistics South Africa, 2015).

The province unit has been used as the population to study multiple economic measures including home prices, land grants, and income inequality. Simo-Kengne, Bittencourt, and Gupta (2012) used the provinces as the population for an econometric study on the effect of home prices on economic growth (p. 102). All nine provinces were included with a focus on differentiating those that were more densely populated versus those that were not. The impact of land grants has also been studied using the provinces as the defined population. Valente (2009) used a general household survey that isolated province data to understand the impact of land redistribution on food insecurity and to account for province-specific factors (p. 1540). A third example that is directly linked to poverty is a study by Omilola and Akanbi (2014) on the impact of such factors as income, education, and land inequality on inequality in the provinces. These researchers illustrated the accepted use of the nine provinces of South Africa as the population for an econometric study.

Sampling and Sampling Procedures

To examine poverty at a regional level and its relationship with entrepreneurship and multinational activity, I relied on sample data from the government of South Africa published by Statistics South Africa. The general household survey was used for the

measures of poverty, as it records on an annual basis the household expenditure by province. It also includes types of wages, population demographics, and urban versus rural characteristics (Statistics South Africa, 2015). The sampling methodology for the general household survey was based on a master sample that used a two-stage stratified design with a probability-proportional-to-size sampling of primary sampling units from within strata, and systematic sampling of dwelling units from the sampled primary sampling units (Statistics South Africa, 2015, p. 64). The use of these data required relying on the adequacy of the sampling technique used by the South African Government. It is the same technique also used in the survey on income and expenditure (Statistics South Africa, 2015, p. 64).

The number of newly registered businesses and the number of MNC locations came from the Companies and Intellectual Property Commission in South Africa. Historical data were collected by year to match with the income data from the general household survey. The selected 14-year period from 2002 to 2015 represented a period with a significant decline in poverty, occurred after apartheid ended, and represented the most consistent data sets readily available for household expenditures. The data derived from 14 years for nine provinces consisted of 126 (14 years x 9 provinces) cases and three variables, for a total of 378 observations. One case is considered one set of province data for 1 year with all three variables.

Three research studies were triangulated to determine if 126 cases was an appropriate sample size for a time-series mixed method regression. The *R*-squared measures were converted to effect sizes ($f2 = R2 / 1\text{-}R2$) to be used in the calculation of

sample size (Cohen, 1988). First, the research study by Yanya et al. (2013) on Thailand and regional entrepreneurship was used as the basis to determine the effect size for entrepreneurship, as they found a significant relationship. For the number of new businesses, which is used as a proxy for entrepreneurship, the adjusted *R*-squared for just the entrepreneurship variable in relation to poverty headcount was .32 ($f2 = .47$) using an ordinary least squares (OLS) model (Yanya et al., 2013). This indicates a large impact using the conventional guidance of large effect size equals $f2 = .35$ (Cohen, 1988), but, because this study pertained to Thailand, it may not be generalizable to South Africa.

Mahadea (2012) studied South Africa job creation and growth and used data from the South Africa Reserve Bank (SARB) and Statistics South Africa for the years 1994 to 2010. The *R*-squared for the simple regression of real GDP growth and employment was .5 ($f2 = 1$; Mahadea, 2012). While not directly comparable to the study on poverty, it does indicate a significant effect size for economic development. The third study by Woodward et al. (2014) focused on the beverage industry in South Africa and the impact on the informal economy. This links well with how MNCs may encourage business development. Three hundred returned surveys were analyzed, and a regression was completed to predict sales and owner's income using independent variables such as business support from a multinational, training, and start-up capital (Woodward et al., 2014). For the regression model on sales, the *R*-squared was .4 ($f2 = .67$), and multinational support and start-up capital were significant predictors (Woodward et al., 2014). These two predictors individually would have effect sizes materially less than .67.

Based on these three studies, a sample range was established between a small effect size of .02 and a large effect size of .47, the lowest of the three studies. An 80% power was used. This ensured a large enough sample size for statistical power. G*Power was used to calculate the sample size for the *F* tests family, and the statistical test of the linear multiple regression fixed model, R^2 increase. The effect size was calculated with a variance explained by special effect of .06, assuming that the predictors would add at least this amount to the R^2 when added last. A residual variance of .87 was the second input to come up with a final effect size of .0689, closer to a small effect size as defined and calculated by Cohen (1988). Along with this effect size, the alpha was set to .05 and power at 80%. There were two predictors tested and two in total. The outcome was a sample size of 143. One hundred twenty-six cases served as a reasonable sample size for the study but indicated a lower power of approximately 75%. A lower power means a higher probability that a study model will not detect the phenomenon and will accept the null hypothesis (Cohen, 1988). Including more cases in the study would have helped to raise the statistical power, but 2002 was as far back as the current general household survey was available, and there were only nine defined provinces in South Africa.

Archival Data

The data for this study came from two government sources in South Africa. Data from Statistics South Africa were used to measure household expenditure levels. The general household survey is completed each year and since 2002 has included household expenditure by province. All of the data are publicly available, and the archival data are pulled using a tool called SuberWEB2. SuperWEB2 holds a catalog of data from

Statistics South Africa including income, expenditure, and living condition surveys. The copyright and disclaimer permit the use of these data by the public and allow users to apply it as they wish as long as they acknowledge Statistics South Africa as the source of the basic data.

There is no cost to access, review, or download the data through SuperWEB2. The user can log in as a guest and download the available data into Microsoft Excel or other formats. Statistics South Africa has been used as a source in multiple studies; including Akanbi (2016); Akinboade and Kinfack (2014); Omilola and Akanbi (2014**);** and Simo-Kengne et al. (2012). These researchers used data or quoted sources of reports from Statistics South Africa in their studies on economic growth and inequality in South Africa. Statistics South Africa is the only agency that publishes this level of data for South Africa on a regular basis.

The second source of archival data was the Companies and Intellectual Property Commission of South Africa. Data on newly registered companies by province as well as a total number of companies registered are available through this agency. To access the data, one must sign up as a customer, and there is a small fee to obtain the historical data through electronic data sales. There are two ways to obtain the data: One is through a standard data sales request, and the other is through an ad hoc data sales request. New registration on a monthly basis can be obtained through the standard request form. Information to identify multinational corporations was completed through the ad hoc range that allows for selecting all of the registered companies and all of the provinces. Similar to Statistics South Africa, the data are available to the public—in this case, for a

fee—but the Companies and Intellectual Property Commission must be identified as the source. As the Companies and Intellectual Property Commission is the primary source and all formal companies must register with this entity, this is seen as the best source of data for company registration and information.

Instrumentation and Operationalization of Constructs

The tool for the regression analysis consisted of empirical equations from the work by Beck et al. (2005) on small and medium enterprise growth and adapted by Yanya et al. (2013) for their research on entrepreneurship in Thailand. Both of these studies found significant relationships between headcount and income inequality and business creation, making the tool a validated instrument for this research plan. Permission was sought from the original author, Beck, to use the regression line in the dissertation study. Urdan (2010) noted that multiple regressions include the ability to have many predictor variables that could explain the change in the independent variable and the ability to understand the strength of each while controlling for the others. It can also be leveraged into a predictive formula for calculating the independent variable (Urdan, 2010).

The poverty regression equation from Beck et al. (2005) was as follows:

$$(P_{i,t}\text{-Pit-1})/t = \alpha Pi,t\text{-}1+\beta[(\gamma_{i,t} - y_{i,(t-1)}]/10+\gamma SMEi + X_i + \varepsilon_i$$

Where P was the log of the headcount, SME250 represented the share of the small to medium size enterprise sector in the total formal labor force in manufacturing with a level of 250 employees taken as the cut-off. Time t was equal to 2000, and time t-1 was equal

to 1990. This instrument also includes conditioning variables such as business environment, ethnic diversity, and political factors represented by the X.

Using this same equation as a starting point, Yanya et al. (2013) replaced SME250 with a factor for entrepreneurship as follows:

$$(P_{i,t}\text{-Pit-1})/t = \alpha Pi,t\text{-}1+\beta[(\gamma_{i,t} - y_{i,(t-1)}]/10+\gamma Ei + X_i + \varepsilon_i$$

Where P represented the log of headcount ratio and E the log of the number of new business created as the factor for entrepreneurship. Yanya et al. also used three regression model types, ordinary least squares, fixed effects, and random effects (p. 335). Ordinary least squares is the most common and simplest to use (Urdan, 2010). Fixed effects and random effects were used to acknowledge the heterogeneity among the provinces (Yanya et al., 2013).

Focusing on one country and using an instrument from previous research, explanatory factors such as the business environment and political factors could be controlled. Multiple factors could explain the change in the population living in poverty, so it was essential to use an instrument flexible enough to incorporate these elements. As this study was on South Africa and its provinces, a consistent business and political environment was assumed, and the focus was on differences in the poverty levels in the region that might also impact poverty, including urban versus rural, infrastructure, labor market, and education levels. The study was quantitative longitudinal in nature and thus needed to account for time. The modified model used in this study included a second factor for the number of MNC locations operating in the region.

$$(Pi,t\text{-}Pi,t\text{-}1)= \alpha Pi,t\text{-}1+\beta Ei,t + \beta MNCi,t + X_i + \varepsilon_i$$

where P equals the headcount ratio, E equals the number of new firms established, and MNC equals the number of multinational locations. The provinces are identified as i, and t is the measure for time. X represents alternative factors, and ε is the error term.

The alternative factors come from the General Household Survey that has been conducted in South Africa since 2002. Its focus is on education, health and social development, housing, household access to services and facilities, food security, and agriculture (Statistics South Africa, 2015). Data were collected by province, and for this study the alternative factors by category are noted in Table 2.

Table 2

Alternative Factors by Category

Category	Alternative factors
Education	Percentage of persons who attended higher education institutions or further education and training
Health and social development	Percentage of people satisfied with healthcare facilities
Employment	Percentage of workers with official employment status of unemployed
Household access to services and facilities	Percentage of households with a functional landline and cellular telephone
Food security	Percentage of persons who more often than not have insufficient food (adult)
Geography	Percentage of people living in tribal or rural areas

Note. Alternative factors identified from the general household survey conducted by Statistics South Africa.

All the alternative factors were selected based on use in prior research and availability in the survey. Jansen et al. (2015) in their study on the determinants of poverty in South Africa, included variables on geography type (rural versus urban), education level including attainment of bachelor degree, labor market, and health status. Geography type had a significant relationship on likelihood to be poor as well as education level (Jansen et al., 2015, p. 160). The labor market status also had a significant effect across multiple models, especially unemployment (Jansen et al., 2015, p. 160). Based on these results it seemed necessary to include factors related to education, geography, and employment.

When evaluating the impacts on inequality in South Africa, Omilola and Akanbi (2014) examined macroeconomic, institutional, and structural factors. Physical infrastructure had a significant impact on income and education (Omilola & Akanbi, 2014, p. 561). The inclusion of a factor related to infrastructure such as access to telecommunications was due to this finding. Other studies also focused in on education, urban/rural, and labor status to understand elements related to household change, inequality, and middle class composition (Akanbi, 2016; Grieger, Williamson, Leibbrandt, & Levinsohn, 2014; Visagie & Posel, 2013). The alternative factors for this study came from those areas identified in the prior research on poverty, inequality, and other structural changes in South Africa.

Measurements and levels. Frankfort-Nachmias and Nachmias (2008) defined measurement based on having three properties of (a) numerals, (b) assignment, and (c) rules. The dependent variable, percentage of people living in poverty as measured by the

weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month, is identified as a numeral. The two independent variables, the number of new businesses registered during the period on an annual basis in the province, and the number of multinational corporation locations registered in the province on an annual basis are also identified as the numerals. Each of these numerals needs to be assigned a meaning that fits with the objectives of the study. Poverty is measured as the percentage of people living at or below the national poverty line. As an example, Statistics South Africa (2014) noted that 45% of the population was considered poor based on its survey data related to multidimensional poverty. New businesses established in a year by province is the factor for entrepreneurship activity. Its measurement was the count of businesses that have an original registration date of that year. For instance, in 2002 there were +11,000 businesses that were newly registered in South Africa.

Finally, the number of multinational corporation locations operating in the region was used to indicate the activity level of an international firm operating in more than one country. To score multinational corporations, if an entity operates in a province and also operate outside of South Africa it was scored as 1. The final component of measurements are the rules. South Africa and the World Bank have identified poverty levels based on establishing a poverty line, as well as people living on less than $5.00 a day. The change in the population living at or below the poverty lines will indicate a reduction or increase in poverty. A high level of new businesses established will point to a rise in the degree of

entrepreneurship. The presence of a multinational corporation was viewed as economic participation in the local community.

Multiple regression models require values that are at a ratio or interval level (Urban, 2010). Values that are on a continuous scale, such as ratio and interval, have the greatest ability to transform and allow for the most flexibility in statistical analysis (Martin & Bridgmon, 2012). The independent variable and the two major explanatory variables were at the interval level. The number of people in the lowest income levels, as well as the number of business entrants, are values with true zeros. While the number of multinational firms in the province was collected at the interval level, it may also be turned into a scale. Discrete variables, nominal or ordinal, was used for alternative factors depending on their characteristics.

Measurement validity. There are three levels of measurement validity; construct, content, and empirical. Construct validity ties the measurement to the theoretical framework of the study (Frankfort-Nachmias & Nachmias, 2008). For this research plan, prior research has a significant role. Previously tested models and instruments are used as the foundation. One aspect of the theoretical framework for this study is economic development and the disruption of the current equilibrium state. The foundational instrument and multiple regression used by Beck et al. (2005) addressed the impact of economic development on poverty by gauging the relevance of the size of the small to midsize enterprise sector across 45 countries in a cross sectional study. It was clear from this study that the size of this sector was directly related to economic growth as measured by the growth of gross domestic product per capita (Beck et al., 2005). The article by

Beck et al. has been cited over 400 times since its original publication and recent articles such as those by Das and Thomas (2016), Rupasingha and Goetz (2013), and Rupasingha (2016) continue to reference it in relation to foundational work on the relationship between economic growth and small to midsized businesses.

The theory of market-based solutions for alleviating poverty by Prahalad (2009) is used to support the inclusion of entrepreneurial and multinational enterprise locations together in the same analysis as variables. Including entrepreneurship versus a factor for small to medium size enterprises, Yanya et al. (2013) developed the instrument to more closely align with the market-based solution theory to economic development. The study was focused on one country, Thailand, and involved its 76 provinces (Yanya et al., 2013), similar to this study. The benefit of using prior instrumentation is that it has been validated, and the current research can build on its credibility

The use of prior research is not only used for construct validity, but also for content validity. Content validity is concerned with ensuring that all the attributes are captured in what the researcher is trying to measure (Frankfort-Nachmias & Nachmias, 2008). Beck et al. (2005) identified business environment factors as well as a change in education levels as possible explanations for the change in poverty levels and included them in the study to address validity. Research specifically on South Africa provides insight into other factors impacting poverty and entrepreneurship success such as business size, education, rural versus urban, and ethnicity (Mahadea, 2012; van Wyk & Adonisi, 2012; Woodward et al., 2014). These variables identified in the prior research were used as alternative factors to improve the content validity of the regression model.

The third measurement validity factor is empirical and requires validating that the results produced from the measurements exist in the real world (Frankfort-Nachmias & Nachmias, 2008). Two procedures were used to ensure empirical validity. First, the plan will complete two types of regression models, fixed effects, and random effects. Consistent results from both models gave some confidence in the predictive abilities of the variables. The correlation coefficient was computed and used to establish the strength of the model's predictive capabilities.

Reliability. Ensuring consistency and reducing variable errors is the goal of measurement reliability (Frankfort-Nachmias & Nachmias, 2008). Utilizing two model types will also ensure reliability of the regression model. The fixed, and random effects procedures acknowledge the presence of regionally specific effects that could be impacting the error rate (Yanya et al., 2013, p. 335). In addition, the use of multilevel modeling allows regions to be counted as subjects and time to be factored into the model. Interactions can be included that would help drive model reliability.

Data Analysis Plan

I used archival information from publicly available data obtained from South African government agencies. Collection of the data was done through online retrieval tools that contained the secondary data from the relevant South African government agencies. Data for the dependent variable came from the government's measurement of household expenditure for each of its regions through household surveys. Information on registered businesses came from the Companies and Intellectual Property Commission

that reports a registry of businesses for South Africa. All data were retrieved from valid sources and collected in SPSS for analysis.

Statistical Analysis

Data screening and cleansing. Once the data were collected, they were screened for biases and tested for assumption validation. For the multiple regression analysis, it is essential to identify outliers, missing data, and potential influential cases (Field, 2013). Using SPSS, descriptive statistics was used to calculate the mean, mode, variance, standard deviation, and to acknowledge missing data. Time series data requires six assumptions are tested for adherence that include (a) linearity, (b) no perfect collinearity, (c) zero conditional mean, (d) homoscedasticity, (e) no serial correlation, and (f) normality (Wooldridge, 2013). In addition to the descriptive statistics, histograms were used to assess whether the data were normally distributed. To test for linearity and homoscedasticity scatterplots of the measures and their errors were used. Independence is assumed as the data relies on the sampling techniques used by general household surveys in South Africa; but, the Durbin-Watson test was also used. A correlation analysis between the independent variables were part of the study to establish if perfect collinearity existed. If biases were found, the data were cleansed by data transformation, such as using the log (Field, 2013). Both Beck et al. (2005) and Yanya et al. (2013) used the log of the variables.

As the data included repeated measures, the provinces and time series data, it was expected that the data would violate the assumption of homogeneity of regression slopes and independence among the measurements. To account for these expected violations,

multilevel/mixed modeling was used in SPSS. By incorporating the hierarchical and repeated nature of the data multilevel modeling can overcome these violations of assumptions and build a model that accounts for the within and between subject variability (Field, 2013; Heck et al., 2014).

Descriptive analysis of data. Descriptive statistics are not only used for assumption testing, but also to understand the data and tell the emerging story (Field, 2013; Urban, 2010). The mean rates of poverty among the regions, as well as the average number of new businesses, and multinational corporation locations allowed me to identify characteristics of regions with lower poverty rates. The variances and standard deviations will show the disparity among the regions. Reporting on the averages, modes, and deviations will be included in the results section.

Research Questions

Research Question 1: What impact do the two independent variables, the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis have on the dependent variable, the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month in the nine provinces (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng, Mpumalanga, Limpopo) during 2002 to 2015?

$H1_0$: The percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound

poverty line of 620 Rands per capita per month is not affected by the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis in each of the nine provinces between 2002 and 2015.

$H1_A$: The percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month is affected by the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis in each of the nine provinces between 2002 and 2015.

If the null hypothesis was rejected for both variables, I would have conducted a detailed review of the differences in the nine regions and how the levels of the independent variables may explain some of the differences in poverty levels across the regions.

Analysis Plan H1. To address Research Question 1 and the two hypotheses, a mixed method linear regression was conducted. The purpose of the analysis was to examine the impact on the change in poverty from changes in the independent variables between 2002 and 2015. Given the repeated measures with the provinces and the expected high level of collinearity among the measurements, a mixed method model allowed for modeling flexibility (Heck et al., 2014). The dependent variable was the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per

month in the nine provinces between 2002 and 2015. Data between 2002 and 2015 of the new businesses registered annually and the number of multinational corporation locations registered in the province are the independent variables. The data were organized by period from 2002 to 2015. The study was carried out across all periods and the nine provinces. In SPSS, the method for estimation was maximum likelihood to compare between fixed and random models. As the data are also over time, the covariance type chosen was an autoregressive covariance structure, AR(1).

The model used was as follows:

$$(P_{i,t}-P_{i,t-1})= \alpha P_{i,t-1}+\beta E_{i,t} + \beta MNC_{i,t} + X_i + \varepsilon_i$$

where P equals the headcount ratio, E equals the number of new firms established, and MNC equals the number of multinational locations. The provinces are identified as i and t is the measure for time. X will represent the alternative factors and ε is the error term. The first step in using the mixed model approach is to start with a basic model that identifies the subject as the provinces, and includes the two predictors, number of new firms and number of multinational corporation locations as the fixed effects covariants. To assess the fit of the model the chi-square likelihood ratio test, using the -2 log likelihood from SPSS was evaluated (Field, 2013). For the fixed effects, the F statistic assessed the level of significance and for the covariants the Wald Z statistics was evaluated (Field, 2013). One feature of using a mixed model is to also include random effects, so the second step is to change the intercept and slopes to random to see if this model fits better than the fixed effects model. Making the slope and intercepts random means changing the model slightly as follows:

$$(Pi,t-Pi,t-1)= (Pi,t-1+u_{0j})+(\beta Ei,t+ u_{1j}) + (\beta MNCi,t+u_{2j}) + X_i + \varepsilon_{ij}$$

Where u_{0j} represents the variability in the intercept, and u_{1j} and u_{2j} are added to each predictor indicate the random slopes. All other symbols retain the same meaning as the first model. The -2 log likelihood from the random model was compared to the fixed effects model to determine which model fits best based on a significant chi-square statistic. Once the best model is determined, the effects of each predictor can be evaluated by reviewing the variance estimates for the slopes and the significance based on the Wald test. The covariance estimates indicated if the relationship is positive or negative. In addition, if the null hypothesis were rejected the within subject variability would be evaluated to understand how the predictors explain the variances among the nine regions. The size of the error term determined how much variability is still left to explain after accounting for the two predictors.

Research Question 2: How do the three variables, percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month, the number of new businesses registered annually, and the number of multinational corporation locations registered on an annual basis fluctuate over the period 2002 to 2015?

$H2_0$: There are no significant fluctuations in the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month or in the number of new businesses registered annually

and the number of multinational corporation locations registered on an annual basis over the period 2002 and 2015.

$H2_A$: There are significant fluctuations in the dependent variable, percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month, and the independent variables, the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis over the period 2002 and 2015.

As the null hypothesis was rejected, I conducted a detailed review of the fluctuations among the three variables.

Analysis Plan H2. For Research Question 2, trend analyses were completed to look for changes over time among the three variables; percent of poverty, number of registered businesses, and number of multinational corporation locations in each province. The trend analysis was done in three steps. First, the three variables were trended separately in total for each province, and in total for South Africa. The objective of the first step was to understand the fluctuations for each variable independently to identify significant trend changes. Between 2002 and 2015, there is a recession period 2007 to 2009 that may change the trends on all three variables. The second step was to graph the trends for all three variables together on a chart to see if any changes in trends align with the other variables. To answer the research question, this second step was necessary to determine consistent trends that may occur among the three variables. The

third step was to analyze the trends for all three variables by province. In South Africa, the regions have different characteristics, such as more rural versus urban and the amount of infrastructure in place (Statistics South Africa, 2015). Paying particular attention to province differences also highlighted changing trends that may be impacting the overall analysis.

The tools to use include both graphs and trend statistics. Data visualization is the first step and is best accomplished through graphs (Chandler & Scott, 2011). Time series plots that graph the observations against time was used first, and followed by boxplots to show the structure and outlying observations (Chandler & Scott, 2011). A third type of chart, bar graphs was used as these were helpful to visualize all three variables in one chart or present an alternative view of the data. While graphs potentially helped with data visualization, it did not pick up on those trends that are not detectable by eye. SPSS was also used to test for trends using their trend commands. The Seasonal Kendall test also works well in nonparametric tests and is one of the most resilient in detecting trends (Chandler & Scott, 2011). Using SPSS in combination with the Kendall tests should detect key trends that are not visible with the graphs.

Threats to Validity

External Validity

External validity assesses if the results of the study can be generalized to another sample and thus to the population (Salkind, 2012). For a time series study, a researcher is trying to confirm that the selected independent variables across time is typical of the population and no other reaction is typical (Campbell & Stanley, 1963). The researcher

and data collection method play a role in reducing external validity in that the effects of both will mean an increase or decrease in generalizability (Salkind, 2012). This quantitative longitudinal study dealt with external validity by the use of secondary historical data that utilizes random sampling procedures and recognizing the effect of time in the study through multilevel modeling.

Within the population of South Africa, external validity can first be protected with the use of actual historical data that has utilized consistent random sampling procedures. The general household studies used in the study outline sampling techniques that are consistent as of 2002 and set up to draw a random sample from the population (Statistics South Africa, 2015). The use of actual data being pulled from real-life settings using probability samples helps to increase the external validity of a time series cross-sectional study (Frankfort-Nachmias & Nachmias, 2008). Recognizing the effect of time in the study is also a factor to help improve external validity. Time is one of the factors in the instrument and described in the data analysis plan as follows:

$$(P_{i,t}-P_{i,t-1})= \alpha P_{i,t-1}+\beta E_{i,t} + \beta MNC_{i,t} + X_i + \varepsilon_i$$

where $\alpha P_{i,t-1}$ incorporates the effect of the time period before.

Internal Validity

Internal validity judges the quality of the research design and if the results obtained can be attributed to the changes in the independent variable (Frankfort-Nachmias & Nachmias, 2008; Salkind, 2012). In a time-series cross-sectional study internal validity deals with the notion of causality and whether the researcher can truly be confident that the manipulation of the independent variable is what caused the change in

the dependent variable. There may be other competing hypotheses that explain the shift in the dependent variable (Campbell & Stanley, 1963). To ensure internal validity for this study, the competing hypotheses must be acknowledged in three ways (a) through the literature review, (b) through tests of significance, and (c) through the use of alternative factors.

A thorough literature review will help identify other plausible conclusions and help to deal with the impacts of history (Salkind, 2012). As an example, in the review of South Africa in Chapter 2, it is acknowledged that the history of apartheid may play a role in the levels of entrepreneurship (May, 2012). The second way to ensure a valid design is to use the tests of significance when performing the multiple regression. Two-tailed tests with high significance levels, 95% or better, on large enough sample sizes, will help to rule out the null hypothesis and give some validity to the design and model (Field, 2013). The third way to deal with internal validity is through the use of alternative factors (Campbell & Stanley, 1963; Salkind, 2012). From the research review, other variables such as education level, rural versus urban, and employment may play a role in the changes of poverty, and thus these should be included as alternative factors. The goal of each of these three methods was to identify that other explanations may also be relevant to the change in poverty.

Construct Validity

Content validity deals directly with the instrument and ensuring it covers all the attributes the study is trying to measure and that nothing significant is left out (Frankfort-Nachmias & Nachmias, 2008). Two elements of construct are face and sampling validity.

Face validity deals with if the right instrument is used to measure and sampling validity is whether the population is adequately sampled by the measuring instrument (Frankfort-Nachmias & Nachmias, 2008). In the section on instrumentation, construct was specifically addressed through the theoretical framework, and use of an instrument from prior research.

The theoretical framework for the study comes from Schumpeter (1934) and his theories on economic development and Prahalad (2009) theories on market-based solutions to alleviate poverty. Both of these frameworks highlight the importance of disruption of the current environment with entrepreneurship and the creation of new combinations. The instrument in use was first developed by Beck et al. (2005) to identify the impact of the small to medium sized business sector size on gross domestic product growth and poverty. Their instrument was useful in finding a significant relationship between growth in gross domestic product per capita and the size of the small to midsize enterprise sector. Their research has been cited numerous times in the research.

The adaptation of this instrument by Yanya et al. (2013) illustrated the importance of entrepreneurship in poverty alleviation. It supports the ideas by Prahalad (2009) on market-based solutions and the rise of the entrepreneur to help reduce poverty. Including a factor for multinational corporations is also supported by prior research and qualitative case studies that showed positive trends with employment and income when corporations engage in profitable projects (Werhane et al., 2010; Zaefarian et al., 2015).

Ethical Procedures

I used archival data and secondary sources from the government of South Africa. Statistics South Africa publishes general household surveys used in the study and allows use of this data as long as credit is given, but also notes it does not guarantee the data (Statistics South Africa, 2015). The data on business registrations come from the Companies and Intellectual Property Commission. Use of the data are available to the public for a small fee and credit must be given to the organization. While ethical concerns when using live participants can be much more severe, there are a number of ethical considerations for the use of archival data that include confidentiality of the data, and handling of the data.

The general household surveys from South Africa do not have specific names or other personal identifiers. Similar to the study by Beck et al. (2005), I leveraged populated-weighted subgroup estimates from household surveys determined by Statistics South Africa (2015). There are no confidentiality issues with this data as they do not identify specific people. The dataset is already anonymous in nature. Registration information from the Companies and Intellectual Property Commission does have company identification information as these data are publicly available. Having the business name for this study was not necessary, other than to help in the identification of it as a multinational corporation. The names will not be published as part of the dissertation.

The data were downloaded from the government agencies noted above and kept in SPSS 22.0 as well as in Microsoft Excel. Security has been set up for the wireless

connection to try and keep third parties from accessing the data. Only I handled the data. Data was kept on my computer that is protected by a password. Data was backed up to OneDrive cloud. Any confidential data will be destroyed after the final dissertation has been approved. There are no further ethical considerations for this study. I received approval by Walden University's Institutional Review Board (IRB) to conduct the research through IRB #01-13-17-0393295.

Summary

The problem examined in this study was whether the levels of poverty in South Africa have been significantly impacted by the activities of multinational corporations and the level of entrepreneurship in its nine provinces. To review this problem, a quantitative longitudinal method was selected for this study and the analytical model was a pooled cross-sectional time series analysis. The population was the nine provinces in South Africa that includes approximately 54 million people. Archival data were collected from Statistics South Africa and the Companies and Intellectual Property Commission. The percentage of people living in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month was the dependent variable, and the independent variables were number of new businesses established during the period on an annual basis and the number of multinational corporation locations in operation on an annual basis. Data included the periods 2002 to 2015, and included 126 cases. The sample size was determined appropriate first by triangulating three relevant research studies to determine an effect size range, then by using G*Power to calculate an appropriate sample size. The 378

observations with 126 cases fit with a small size effect, power of approximately 75%, and an alpha of .05.

The instrument used was from prior research and was expanded to include entrepreneurship and multinational corporations. Using an instrument and model from prior research helped to alleviate validity concerns, especially construct validity. Other validity concerns were addressed through alternative factors and the use of two types of regression models. Ethical concerns were minimal as the general household surveys were anonymous, and the registered company information is already publicly available and will not be published as part of the dissertation. In this chapter, I have addressed the overall methodology and plan to answer the research questions for the quantitative longitudinal study. In Chapter 4, I review the results for each research question along with the data descriptions and assumption tests. The relationships and trends are analyzed in order to answer each research question and review its statistical significance.

Chapter 4: Results

The purpose of the study was to identify the impact of entrepreneurship and MNC presence on the change in poverty levels in the nine provinces of South Africa. More specifically, the problem examined in this study was whether the levels of poverty in South Africa had been significantly impacted by the activities of multinational corporations and the level of entrepreneurship in the country's nine provinces. The two research questions assessed the impact and evaluated the trends and changes in the variables between 2002 and 2015. Research Question 1 concerned the impact of the two independent variables, the number of new businesses registered annually and the number of MNC locations registered on an annual basis, on the dependent variable, the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month in the nine provinces (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng, Mpumalanga, Limpopo) from 2002 to 2015. The related null and alternative hypotheses addressed the impact of entrepreneurship and MNC locations on the nine provinces.

The second research question concerned how the three variables, percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per capita per month, the number of new businesses registered annually, and the number of MNC locations registered on an annual basis, fluctuated over the period from 2002 to 2015. Related

hypotheses addressed the null of no significant changes in the variable and the alternate of finding significant variances.

Chapter 4 starts with a description of the data collection process and a report of baseline descriptive statistics. The data collection section addresses discrepancies in data collection from the plan presented in Chapter 3. The study results and findings related to the research questions are then presented. Chapter 4 concludes with a summary of the findings and a transition to Chapter 5.

Data Collection

Data collection was completed over 3 months between January and March 2017. All data were secondary data and were collected as noted in Chapter 3. The household expenditures and alternative factors were collected from the general household surveys using the databases for Statistics South Africa. All of the information in Statistics South Africa is available to the public. The data were reached via the Internet at http://www.statssa.gov.za/. The general household surveys are kept in a tool called SuperWeb2. Anyone can enter this tool using a guest login and access the database called Household Surveys, then General Household Survey revised. New business registration information was received from the Companies and Intellectual Property Commission through an electronic request on its website (http://www.cipc.co.za /index.php/find-enterprise-ip-informatr/data-sales/).

New business registration information was sent by the Companies and Intellectual Property Commission in Microsoft Excel files that were then input into the database to perform the count required for new businesses. Only four records were not matched to a

province through either the physical address or the postal code. There were 60 registrations without a physical location post code; when there was no physical post code, the company post office box or physical address was used.

To identify the post code for a province, an online database called GeoPostCodes was used. The online database was validated through sample lookups in the data and through post office code ranges published online for South Africa. A Microsoft Access database was created to store the data and match the new business registration to a province. Field types were defined consistently across each variable with province as a long text and year as a long integer. All of the ratios (percents) were expanded at least eight decimals. Data cleansing was completed to ensure that no zip codes were duplicated in the GeoPostCodes file and all new business registration information was not duplicated in any one year.

Data Discrepancies

There were three discrepancies from the plan presented in Chapter 3. First, the independent variable, the number of multinational corporation locations, was identified using a database on South Africa multinational corporations published by Business Monitor International (BMI) Research. BMI Research is a FitchGroup company that has been in business for more than 30 years and collects data by country on MNCs. For South Africa, the company had validated 1,276 multinational companies and 1,380 locations. A file from BMI was used as the primary source for MNCs and the number of MNCs in South Africa by province. Each company on the list was looked up by name on the website of the Companies and Intellectual Property Commission. Approximately 91% of

the locations (1,253) were identified through this search. Another 100 were identified from company websites and a secondary search. There were 13 found to be government or public organizations. In total, 1,340 were identified to a province and included in the count for the MNC variable.

Two alternative factors were not consistent throughout the 14 years. The unemployment data were not consistent across the 14 years as far as categories and population statistics. Between 2002 and 2007, the population total in the statistic was not the same as the total population. For these years, I took the numbers and divided by the actual population count to come up with the percentage employed by region. The third discrepancy was that insufficient food for 2009 was indicated by *yes* or *no* for the item "Eat less than should." For this year, I categorized *yes* as *always* and *no* as *never* to avoid having missing data for this year for the insufficient food alternative factor. However, when reviewing the data, I found that 2009 was a significant outlier unless the other categories were grouped together except for *never* and *always*. For insufficient food, I grouped the categories *seldom*, *sometimes*, *often*, and *always* together to indicate sufficient food. All of the other alternative factors were consistent through the years. In some cases, I grouped similar categories together, but the variable ultimately defined in Chapter 3 as the alternative factor was consistent.

Characteristics of the Sample

The study included three main variables, one dependent and two independent variables, along with six alternative factors. The variable definitions and naming conventions are outlined in Table 3.

Table 3

Variable Naming Conventions

Code	Name	Definition
Study variables		
DV1_PP_Poverty	Percentage of people living in poverty	Measured by the weighted population with household expenditures between 0 and 799.
DV1_PP_Poverty_Log	Natural log of percentage of people living in poverty	Natural log of the weighted population with household expenditures between 0 and 799.
IV1_No_New_Bus_Reg	New businesses registered	Measured as the count of new businesses registered with the CIPC.
IV2_MNC_Loc	Multinational corporation locations	Number of MNC locations registered in the province on an annual basis from BMI database.
Alternative factors		
AF1_PP_diploma_higher	Education level	Percentage of persons who attended higher education institutions or further education and training.
AF2_PP_Sat_w_HC_Fac	Health and social development	Percentage of people satisfied with healthcare facilities.
AF3_PP_Unemployed	Employment	Percentage of workers with official employment status of unemployed.
AF4_PP_w_func_phone	Household access to services and facilities	Percentage of households with a functional landline and cellular telephone.
AF5_PP_w_Food_Insec	Food security	Percentage of persons who more than often have insufficient food (adult).
AF6_PP_Rural	Geography	Percentage of people living in tribal or rural areas.

Note. Naming codes and conventions for the study.

For the dependent variable, the proxy for poverty was the weighted population with household expenditures below or near the upper-bound poverty line of 620 Rands per month. The general household surveys grouped household expenditures by level, and the level closest to the poverty line was 400 to 799. Thus, the population with household expenditures per month between 0 and 799 was used to measure poverty levels. Using this level and only the expenditure data, the 2009 poverty headcount was 25% and for 2011 18% versus 56.8% and 45.5%, respectively, using the multidimensional surveys in the report by Statistics South Africa. While the magnitude of the change is similar, the measure used in this study is only picking up one aspect of how South Africa measures poverty.

The naming conventions are used in the output tables and were used as identifiers in SPSS. The sample contained 126 cases over 14 years and across the nine provinces. Each province had a measure for the three main variables and six alternative factors. There were no missing data for the sample. In Chapter 3, the population was defined as the nine provinces in South Africa, and data were found for all provinces for the three study variables and six alternative factors; thus, the data were representative of the population. I collected secondary data and had to rely on the sampling techniques of Statistics South Africa. Given the small sample size and expected effect, the study had a power of 75% and a higher probability of not detecting the phenomenon (Cohen, 1988). The descriptive statistics are outlined in Table 4 and display the means, standard deviations, and values for skewness and kurtosis. The mean poverty level in the sample was .302 or 30.2% of the population between 2002 and 2015. People at this level had

expenditures between 0 and 799 and were considered in poverty for this study. There was an average of 873 new business registered on an annual basis and an average of 128 MNC locations between 2002 and 2015 across the nine provinces. The variations across the provinces and time were reviewed in relation to Research Question 2.

Table 4

Descriptive Statistics for Dependent and Independent Variables

		DV1_PP_Poverty	IV1_No_New_Bus_Reg	IV2_MNC_Loc
	Min	0.018	2	2
	Max	0.800	7866	956
	M	0.302	873	128
	SD	0.196	1940	256
SK	Statistic	0.43	2.509	2.337
	SE	0.216	0.216	0.216
Rku	Statistic	-0.912	4.986	4.071
	SE	0.428	0.428	0.428

Note. $N = 126$. *SK* = skewness; *Rku* = kurtosis.

Along with the range of values, descriptive statistics were calculated to determine any distortions in the data, as in *z*-scores above 2.58 were isolated for poverty, new business registration, and MNC locations to determine the percentage of the sample and whether the total fell within 1% of the sample. Both new registrations and MNC locations had 7% of the cases with *z*-scores above 2.58. The outliers for new registered businesses were all within the province of Western Cape, and the outliers for multinational locations were all in the province of Gauteng. Potential influential cases were attributed to two provinces, Western Cape and Gauteng. Table 5 shows the mean across provinces for the dependent and two independent variables. In this table, Western Cape stands out with the highest average among the number of new registered businesses at 5 times the next

highest mean in Eastern Cape. Gauteng had the highest mean for MNCs at 820. The number of new business registrations and MNCs were clustered in the provinces of Eastern Cape, Western Cape, and Gauteng.

Table 5

Province Mean Averages for the Dependent and Independent Variables

	DV1_PP_Poverty	IV1_No_New_Bus_Reg	IV2_MNC_Loc
Eastern Cape	0.365	1184	19
Free State	0.325	17	6
Gauteng	0.202	146	820
KwaZulu-Natal	0.292	63	84
Limpopo	0.447	10	4
Mpumalanga	0.328	14	7
North West	0.332	54	9
Northern Cape	0.294	279	2
Western Cape	0.136	6095	196

Note. Adapted from descriptive statistics run with SPSS

Study Results

The following section contains the results of the assumption testing for multiple regression and time-series data and the results of the study by research question. It is organized first to understand if the data meet the assumptions for linear regression and for time series data. It identifies any changes in the data necessary to meet the assumptions. Then for each research question, a description of the procedures and the results are reported.

Assumption Tests

There were six tests performed to determine the validity of the assumptions made for fitting regressions for time-series data: (a) normality, (b) linearity, (c) homoscedasticity, (d) no perfect collinearity, (e) zero conditional mean, and (f) no serial correlation. To perform each test, a series of graphs and statistics was run. For normality, the test was to determine whether the dependent and independent variables were normally distributed. The descriptive statistics in Table 4 indicate that poverty is positively skewed with negative kurtosis. The histograms displayed in Appendix B confirm that there are more cases toward the lower end. Registered new businesses and MNC locations are both positively skewed with positive kurtosis. The histograms confirm that there is very little in the middle and most data are on the tails, especially the lower tail. The Kolmogorov-Smirnov and Shapiro-Wilk were both significant and thus indicated that the distributions are not normally distributed.

The data were transformed to address normality assumptions. Given that the tests on the initial data showed normality problems, similar to Yanya et al. (2013), the dependent and independent variables were transformed to their natural log, and the descriptive statistics and histograms were run again. For poverty, the natural log made it negatively skewed with a kurtosis that was now negative. For new business and MNC locations, there was still a positive skew, but less so, and kurtosis became positive. Now all statistics were less than before, but the Kolmogorov-Smirnov and Shapiro-Wilk were still significant, and the transformations did not make the distributions normal.

An OLS regression was conducted on both the normal data and the natural logs. This process created the residual information and scatterplots to test the assumptions of linearity and homoscedasticity. Figure 3 shows the scatterplot of the standardized residuals and predicted value from the regression model with poverty as the dependent variable and the two independent variables of new business registrations and MNC locations. The funnel shape of the scatterplot indicates a violation of homoscedasticity, as it has increasing variance across the residuals (Field, 2013). The Levene statistic was also significant, indicating that the assumption of homogeneity has been violated. Appendix C includes the outputs from the multiple regression analysis. The graph in Figure 3 does not seem to show a curve so appears to meet the assumption of linearity. Based on the fact that these were time-series data, it was expected that the homogeneity assumption would be violated, and thus that is one reason to use the mixed modeling procedures in SPSS.

Independent errors were assumed, given that the underlying data came from the sampling techniques of South Africa and the test of zero conditional mean seemed to hold as an assumption based on the plot of the residuals against the predictors. To test perfect collinearity, a correlation analysis was run, and collinearity statistics were reviewed. Between the two independent variables, the correlation is $r = .079$, $p = .190$, indicating no significant correlation. Between poverty and new business registration, $r = .320$, $p < .01$, and with MNC locations, $r = .290$, $p < .01$. There seems to be a significant correlation between the dependent and independent variables, but no perfect collinearity. The variance inflation factors (VIF) confirm that there is not perfect collinearity, as the VIF for each independent variable is 1.006 and the tolerance is .994 (see collinearity statistics

in Appendix C). Finally, for serial correlation, the Durbin Watson statistic is .388, indicating a problem with serial correlation among the errors. The Durbin Watson for sample size of 100 or more is between 1.6 and 1.7 if the errors are uncorrelated (Field, 2013).

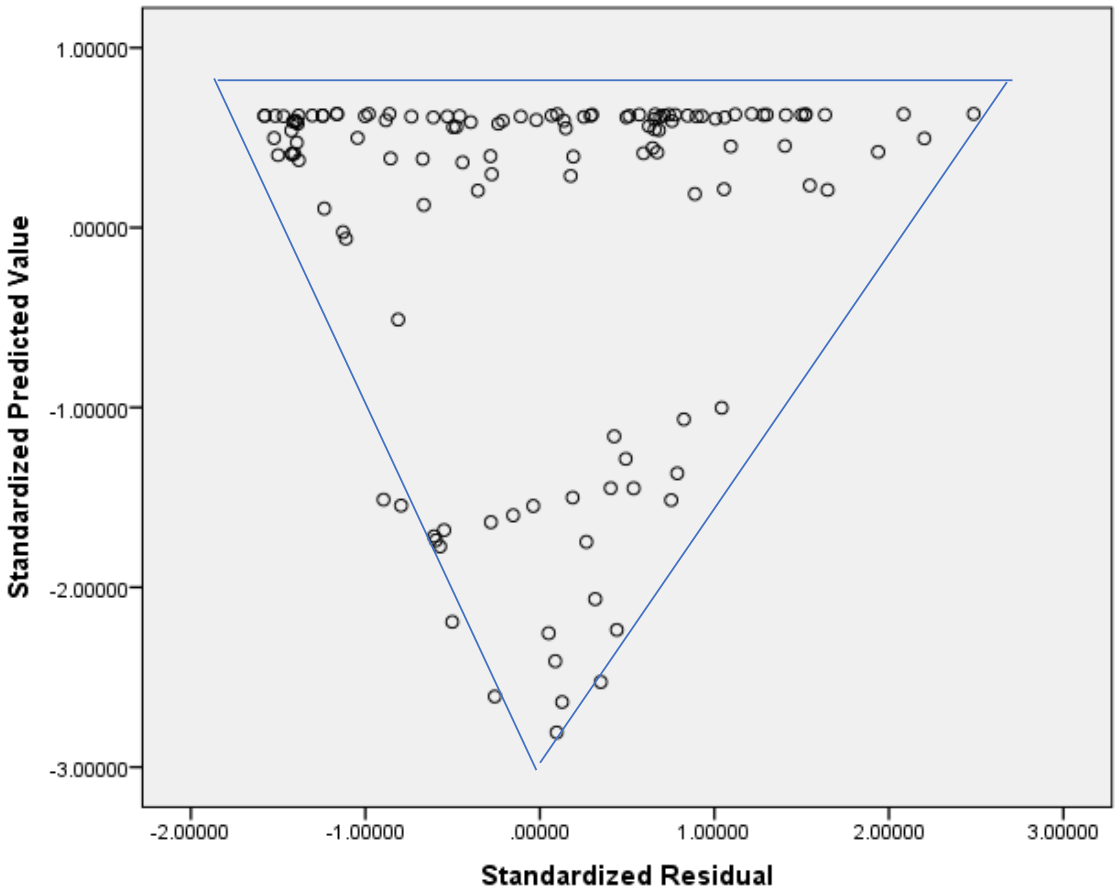


Figure 3. Scatterplot of residuals to test for linearity and homoscedasticity. Adapted from the scatterplot created from the SPSS output. Analyzed using p. 192 of Fields (2013).

Given that the natural log transformations did not make the independent variables more normal and made them more correlated, I continued with the original data set. For the dependent variable, I selected the natural log, similar to the research studies by Beck

et al. (2005) and Yanya et al. (2013), as now the dependent variable seemed to contain less heteroscedasticity. With the transformations and dataset, the Durbin Watson statistics did not improve and the data still had serial correlation and I could not assume the data had independent errors. Given the inherit serial correlation, lack of homogeneity, and lack of independent errors, it made sense to use mixed model regression instead of a standard OLS model to answer Research Question 1 as the results may not be reliable.

Research Question 1

Research Question 1: What impact do the two independent variables, the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis have on the dependent variable, the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month in the nine provinces (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng, Mpumalanga, Limpopo) during 2002 to 2015?

$H1_0$: The percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month is not affected by the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis in each of the nine provinces between 2002 and 2015.

$H1_A$: The percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month is affected by the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis in each of the nine provinces between 2002 and 2015.

Procedures. To answer Research Question 1, a mixed model regression was used. The mixed method regression allowed me to ignore assumptions about the independence of errors and homogeneity, and I could treat both time and province as subjects and repeated measures to determine the best model (Field, 2013). In addition, I included both random and fixed effects in the models. A basic fixed effects model was run first that treated the province as subjects, but did not include it as a random effect. The dependent variable was the log of the poverty measure, DV1_PP_Poverty_Log and the two independent variables were treated as fixed effect covariants. Maximum likelihood was used as the estimation method in SPSS so that this model could be compared to other models that were created using random effects.

The basic model was then altered to incorporate the random effect of the subject province with the two independent variables left as fixed effects. Given this was just one random effect, the covariance structure was scaled identify. A third model only incorporated the random effect of province to determine how much of the variance was explained by the effect of province. Other models were also run to use time as the subject and random effect or to treat the independent variables as random instead of fixed. For

the models with both time and province as subjects and repeated measures, the autoregressive covariance structure, AR(1) was used. To compare among the models, the chi-square likelihood ratio test, using the -2 log likelihood from SPSS was evaluated. For fixed effects, the F statistic was evaluated and for the covariants, the Wald Z was evaluated. Covariance estimates were calculated using SPSS to indicate a positive or negative relationship between the dependent and independent variables. In total, 19 different models were used to assess the best model and predictors.

Results. Table 6 shows the results of the best models run as compared to the basic fixed effect model. In Appendix D are the results of all 19 models versus the basic fixed effects model. Model 16 was run specifically to answer Research Question 1. It used time as the subject with a random effect and treated the province as repeated. The two predictors were treated as fixed effects. This model was significantly better than the fixed effects basic model. The best model as compared to the fixed effects was Model 17, which used time as subject with a random effect and treated the province as fixed effects. It included the two independent variable as well as the six alternative factors.

Table 6

Comparison of Models Using the Mixed Method Regression

Model no.	Description	Error	-2LL	-2LL change	Chi-statistic .050
1	Basic model that identifies the subject as the provinces, and includes two predictors as fixed effects covariants.	No	277.99		
10	Province as subject, six alternative factors and two independent variables as fixed effects.	No	60.59	217.40	14.07
11	Province as subject and random, with significant variables p < .02, including IV2 MNC as fixed effects.	No	62.16	215.83	11.07
16	Time as subject with random effect only and province as repeated. Two predictors as fixed effects.	No	35.07	242.93	5.99
17	Time as subject with random effect only and province as repeated. Two predictors as fixed effects along with six alternative factors.	No	-21.55	299.54	15.51
18	Time as subject with random effect only. Two predictors as fixed effects along with six alternative factors.	No	-20.55	298.55	14.07
19	Time as subject with random effect only. Two predictors as fixed effects.	No	37.18	240.82	3.84

Note. In all models, dependent variable isDV1_PP_Poverty_Log.

Table 7 indicates the results of Model 16 and the significance of the fixed and random estimates. The test of fixed effects was significant with the intercept $F = 45.33$, $p < .01$, IV1_No_New_Bus_Reg $F = 193.92$, $p < .01$, and IV2_MNC_Loc $F = 96.82$, $p < .01$. The estimates for both new business registrations and multinational corporations were significant at $p < .01$. The coefficients were negative indicating that as new business

registrations increased and the number of multinational corporations increased, the poverty levels declined. The estimates for new business registrations was -.0001 and MNC locations was -.0007. The alternative factors were used in the next model to determine whether the significance of new business registrations and MNC locations was maintained from Model 16 once other variables were added.

Table 7

Model 16 Mixed Regression Results

	Fixed effects				95% confidence interval	
	Estimate	Std. error	*t*-value	Sig.	Lower bound	Upper bound
Intercept	-1.2590	0.1870	-6.7328	0.000	-1.6598	-0.8583
IV1_No_New_Bus_Reg	-0.0001	0.0000	-13.9254	0.000	-0.0002	-0.0001
IV2_MNC_Loc	-0.0007	0.0001	-9.8400	0.000	-0.0009	-0.0006
	Random effects				95% confidence interval	
	Estimate	Std. error	Wald *Z*	Sig.	Lower bound	Upper bound
Repeated measures AR1 diagonal	0.0463	0.0062	7.4255	0.0000	0.0356	0.0603
Repeated measures AR1 rho	-0.1803	0.1196	-1.5075	0.1317	-0.4008	0.0599
Intercept [subject = Year] Variance	0.4839	0.1843	2.6255	0.0087	0.2294	1.0208

Note. Adapted from SPSS output.

The six alternative factors were used to determine if the two independent variables continued to maintain their strength or if the model with the six alternative factors would be a better fit. Model 17 estimates and significance are displayed in Table 8. By adding the alternative factors, the significance levels of the two independent variables changed. New business registrations maintained its significance, $t = -3.49$, $p <$

.01, but multinational corporations became insignificant, at $t = .26$, $p = .794$ and the estimate was close to zero and now positive versus negative. Of the alternative factors, education level (diploma), satisfaction with healthcare (Sat_w_HC), functioning phone, and food insecurity were significant, and had estimates well above zero that were negative. The model outcome indicated that as the percentage of the population obtained higher diplomas, and had more functioning phone lines and food security, then poverty declined. Time as the random intercept was significant with estimate = .1207, $p = .0310$.

Table 8

Model 17 Mixed Regression Results

	Fixed effects				95% confidence interval	
	Estimate	Std. error	*t*-value	Sig.	Lower bound	Upper bound
Intercept	0.6228	0.3561	1.7490	0.0834	-0.0838	1.3293
IV1_No_New_Bus_Reg	-0.0001	0.0000	-3.4867	0.0007	-0.0001	0.0000
IV2_MNC_Loc	0.0000	0.0002	0.2622	0.7937	-0.0003	0.0004
AF1_PP_diploma_higher	-5.7933	2.5860	-2.2403	0.0271	-10.9180	-0.6686
AF2_PP_Sat_w_HC_Fac	-0.9361	0.2440	-3.8367	0.0008	-1.4397	-0.4326
AF3_PP_Unemployed	-0.2919	1.1096	-0.2630	0.7930	-2.4906	1.9069
AF4_PP_w_func_phone	-2.1800	0.5722	-3.8100	0.0002	-3.3137	-1.0464
AF5_PP_w_Food_Insec	-1.4159	0.3229	-4.3848	0.0000	-2.0562	-0.7755
AF6_PP_Rural	0.2032	0.1128	1.8007	0.0745	-0.0204	0.4268

	Random effects				95% confidence interval	
	Estimate	Std. error	Wald *Z*	Sig.	Lower bound	Upper bound
Repeated measures AR1 diagonal	0.0351	0.0055	6.4147	0.0000	0.0258	0.0476
Repeated measures AR1 rho	0.1395	0.1434	0.9732	0.3305	-0.1451	0.4028
Intercept [subject = Year] Variance	0.1207	0.0559	2.1576	0.0310	0.0486	0.2993

Note. Adapted from SPSS output.

Another factor that was evaluated was the random effect of province and time as well as treatment of the independent variables as random. These were part of the 19 models run and determined if treating these variables as random would improve the model. Model four used province as a random intercept only and was insignificant in explaining the between subject variances, $p = .148$. Time was also used as a random effect, and without no predictors was significant with a $p = .011$. Finally, the two independent variables were also included as random effects, but the output was not significant with $p = .676$. Time was the only variable that when included as a random effect was significant in explaining the between subject variance.

Overall, given the results of Model 16 and 17, the null hypothesis could be rejected for new business registrations, but could not be adequately rejected for MNC locations. It could be adequately determined through the modeling completed for Research Question 1 that poverty, as measured by household expenditures, was impacted by the level of new business registration on an annual basis. For MNC locations, this factor was significant when used only with new business registrations, but when other factors were included it was no longer a significant factor. The use of the alternative factors produced a better model than the one with only the two independent variables, and thus gave further indication that poverty was not only impacted by the two independent variables, but with the alternate variables as well.

Research Question 2

Research Question 2: How do the three variables, percentage of people in poverty as measured by the weighted population with household expenditures below

or near the upper bound poverty line of 620 Rands per capita per month, the number of new businesses registered annually, and the number of multinational corporation locations registered on an annual basis fluctuate over the period 2002 to 2015?

$H2_0$: There are no significant fluctuations in the percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month or in the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis over the period 2002 and 2015.

$H2_A$: There are significant fluctuations in the dependent variable, percentage of people in poverty as measured by the weighted population with household expenditures below or near the upper bound poverty line of 620 Rands per capita per month, and the independent variables, the number of new businesses registered annually and the number of multinational corporation locations registered on an annual basis over the period 2002 and 2015.

Individual trends. The first step to answer Research Question 2 was to trend the variables separately by province to understand the level of fluctuation, if any, in the individual variables. For South Africa, the population with household expenditures below 799 had reduced between 2002 and 2015 from 57% of the population to 8%. This is a 49 ppts decline over the 14 year period. This declining trend is significant as measured by

the Mann Kendall Trend test, Kendall's tau = -.950, $p < .01$, $\alpha = .05$ (two tailed). The test value indicates a declining trend and rejects the null hypothesis that there is no trend in the series. Each province displays a negative trend of declining poverty over the 14 year period. Figure 4 is a graph of the percent of the population with household expenditures below 799 by province between 2002 and 2015.

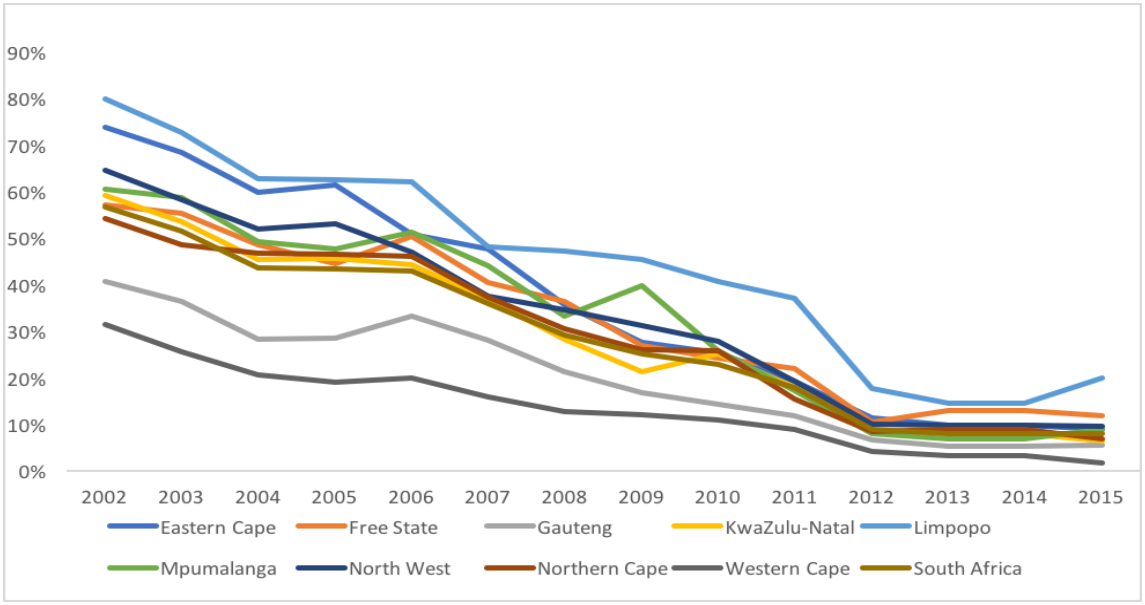


Figure 4. Percentage of population with household expenditures less than 799 by province (proxy for headcount poverty). Adapted from original data set for study.

The lowest percentages were in the provinces of Gauteng, 6%, and Western Cape, 2%, as of 2015. The highest percentages were in Limpopo, 20%, and Free State, 12%. Both Limpopo and Free State provinces experienced significant declines in poverty from 80% in Limpopo and 57% in Free State. The steepest declines in the percentage of people with household expenditures below 799 was in Eastern Cape at 65 ppts, which went down from 74% to 9%. Table 9 shows the percent point change for each province between 2012 and 2015.

Table 9

Point and Percentage Changes for Variables Between 2002 and 2015

	DV1_PP_Poverty point change	IV1_No_New_Bus_Reg percent change	IV2_MNC_Loc percent change
Eastern Cape	-65%	325%	71%
Free State	-45%	-33%	133%
Gauteng	-35%	-34%	48%
KwaZulu-Natal	-53%	18%	27%
Limpopo	-60%	-33%	0%
Mpumalanga	-52%	-33%	50%
North West	-55%	470%	160%
Northern Cape	-47%	466%	0%
Western Cape	-30%	-12%	55%
South Africa	-49%	14%	49%

Note. For DV1, represents the percent point change in poverty between 2002 and 2015. Eastern Cape in 2002 was 74% and 9% in 2015 (.09-.74=-.65). For IV1 and IV2 represents the percent change between 2002 and 2015. For example, South Africa grew in new business registrations by 14% and in multinational corporations by 49%.

New business registration in South Africa increased from 5,309 in 2002 to 6,059 in 2015, with a lot of variability between the years and among the provinces. The trend was not linear and in 2008 and 2009 the level of new registration declined from 2007 levels. The year that experienced the highest level of new registration was 2012. To detect a trend, the Mann Kendall trend test was performed. Kendall's tau = .363, p = .080, α =.05 (two tailed). For new business registration, it is not possible using this statistic to reject the null hypothesis of no trend in the series. The graph shown in Figure 5, displays the fluctuations in the data.

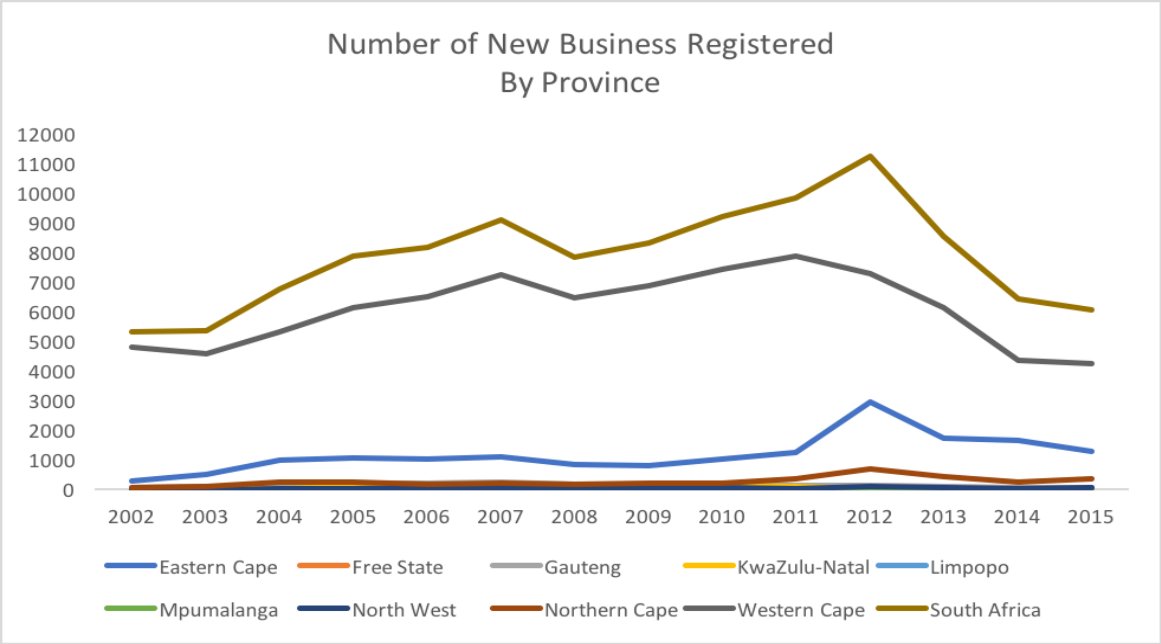


Figure 5. Number of new business registrations by province. Adapted from original data set for study.

The two provinces with the highest level of new business registrations were Eastern and Western Cape. Eastern Cape new registrations was 303 in 2002 and 1,288 in 2015, an increase of 32%. This was not the same type of trend across the provinces. Western Cape had new registrations of 4,807 in 2002 and 4,246 in 2015, a decline of -12%. The average registrations over the period for Western Cape was 6,095 and this province experienced the same decline in 2008 and 2009 from 2007 as overall in South Africa. Its maximum number of new registrations was 7,866 in 2011. Most regions experienced their highest level of registrations in 2007 or between 2010 and 2012. Referring back to Table 9, it shows that five of the nine regions experienced declines in new business registrations between 2002 and 2015.

Prior to 2002, there were approximately 859 multinational corporations in South Africa based on the BMI Research database. Between 2002 and 2015, 481 new multinational locations were created from 901 to 1340. Given the dataset only accounted for new locations and could not distinguish between those that may have exited South Africa, it was expected that a strong positive trend would be detected. The Mann Kendall trend test was significant, Kendall's tau = 1, $p < .01$, $\alpha = .05$ (two tailed). It is possible to reject the null hypothesis with this dataset that no trend exists. Figure 6 shows the graph of multinational corporations by province.

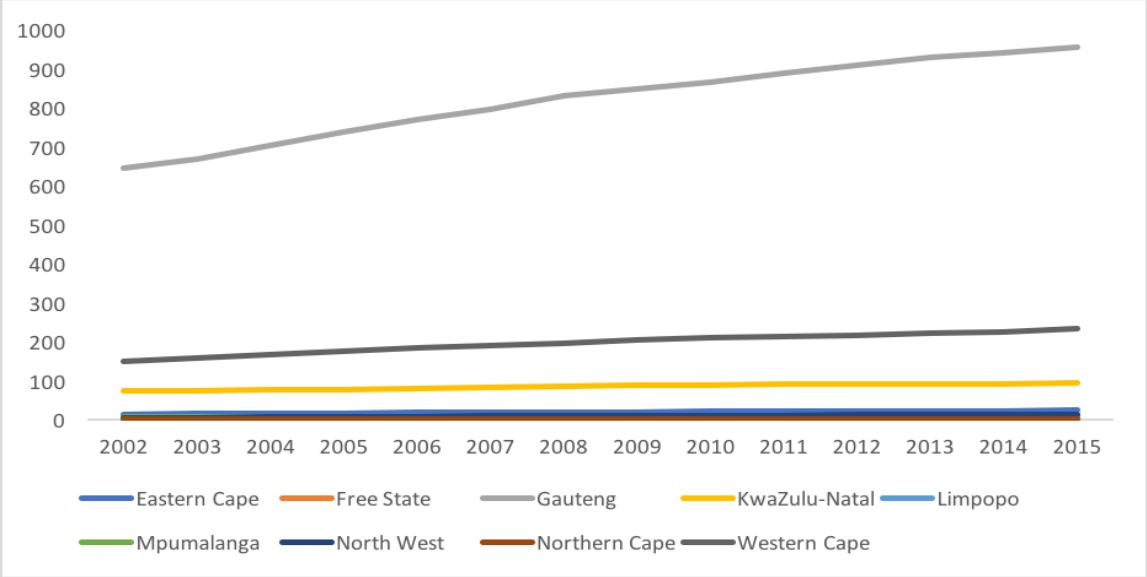


Figure 6. Number of multinational corporation locations by province. Adapted from original data set for study.

The two provinces with the most multinational corporation locations were Gauteng and Western Cape. Gauteng clearly stands out as the provinces with the most multinational corporation locations with 71% of the total. Western Cape makes up 17% of the total locations. Between 2002 and 2015, Gauteng increased in locations by 48%

and Western Cape by 55%. More than 90% of the multinational corporations are located in the three provinces of Gauteng, 71%, Western Cape, 17%, and KwaZulu-Nata, 7%.

Overall trends. To review all three variables together and the variation, boxplots and combination charts were created. The boxplots can be seen in Appendix E. The boxplots for poverty show the variation by province. Eastern Cape, Limpopo, and KwaZulu-Natal shows the largest variances as confirmed by the percentage point changes in Table 9. Boxplots for new business registrations show variations for Western Cape and Gauteng; but, the variation between the provinces is significant, and both these provinces are clearly outliers. From the boxplots for the multinational corporations, it is clear that the three outliers are Gauteng, Western Cape, and KwaZulu-Natal.

The combination charts for each province are displayed in Appendix F and Figure 7, is the combination chart for South Africa. The line graph shows the dependent variable poverty and its declining trend. At the same time the light blue bar chart shows the number of new business registrations with an increasing trend overall, from 5,309 to 6,059 but declines in 2008 and 2009. In 2012 the level of poverty declined from 18% to 9% based on the household expenditures, and this is also the year with the highest level of new registrations at 11,238. After 2012, poverty levels stabilized at 8% and new registrations were back to their levels between 2003 and 2004 at over 6,000. South Africa continued to add multinational locations throughout the period as shown in the dark blue bar bars, from 901 to 1,340.

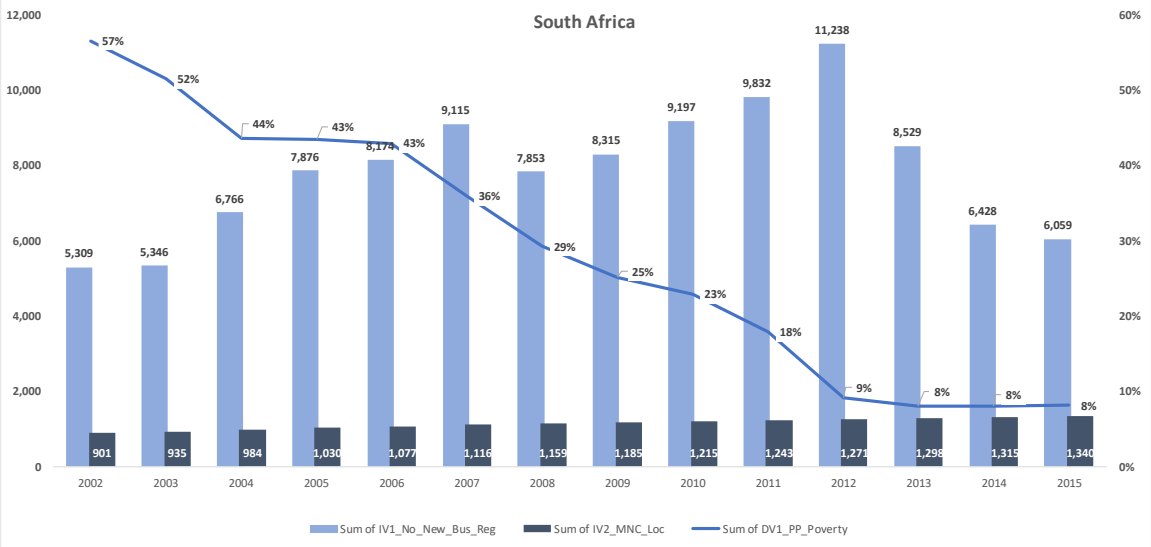


Figure 7. Combination chart for South Africa that graphs the three variables together. The light blue bars are the number of business registrations (IV1) for all of South Africa between 2002 and 2015. In the dark blue boxes are the number of MNC locations (IV2). The line graph shows the percentage of people in poverty in each year (DV1). Adapted from original data set for study.

There are significant fluctuations in poverty and MNC locations between 2002 and 2015 and thus the null hypothesis can be rejected for these two variables. For poverty, the line graphs show a declining trend and Kendall's tau was significant at $p <$ .01. For multinational corporations, the line graph has an increasing trend, but the limitation is that the database only accounts for new additions and not for exits. New business registration increased overall for South Africa, but by province the outcome varied. Four of the nine regions saw increases in new business registrations and five saw declines. The Kendall tau was not significant, $p >$.05 as no consistent trend could be detected. A review of the line graphs show fluctuations, but no detectable up or down trend. The null hypothesis could not be rejected for new business registrations based on the statistic.

Summary

To answer the first research question on the impact of the two independent variables on the dependent variable a mixed model regression was used. Assumption testing confirmed that the data failed the tests of homogeneity and independent errors, thus mixed method regression modeling in SPSS was used. This method allowed for isolation of province and time as random effects to determine the best fitting model. In total, 19 models were run and the best fitting versus the fixed effect model was the one that included time as a random effect with the two independent variables as fixed effects. In Model 16 that featured only the two independent variables, the fixed effects were significant and negative. Further modeling with the six alternative factors (Model 17) demonstrated that this model was a better fit. This model continued to have new business registrations as significant with a negative estimate and thus the null hypothesis of no impact on poverty could be rejected for new business registrations. For MNC locations, the null hypothesis could not be rejected because the use of alternative factors in Model 17 made this independent variable insignificant.

Research Question 2 asked about significant fluctuations in the data. Through the use of visualization tools such as line graphs, boxplots, and combination charts the null hypothesis could be rejected for poverty and MNC locations as there are significant fluctuations in the data. Poverty and multinational corporations had significant detectable trends at $p < .01$, $\alpha = .05$ (two tailed). New business registrations did not have a significant detectable trend, but the line graphs and table by province show significant fluctuations among the years and by province.

While the modeling could reject the null hypothesis for new business registrations as part of Research Question 1, it could not reject the null hypothesis for MNC locations. The modeling and trend analysis gave useful information about poverty trends and the potential impact on new businesses and multinational corporations that yield areas of future study. In Chapter 5, I will interpret the results in relation to the literature, describe the limitations of the study, and how it extends knowledge in the area of poverty research and economic development.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative longitudinal study was to examine the impact of entrepreneurship and MNC presence on change in poverty levels in the nine provinces of South Africa. Using mixed method modeling and visual trend analyses, two questions were answered about whether the two study variables, new business registration and MNCs, had an impact on poverty, and what the fluctuations were during the period of study. Based on the theoretical framework of economic development and market-based solutions, the study was developed to determine whether entrepreneurship and large company participation caused changes in poverty. Without understanding of whether engagement by for-profit firms in market-based solutions is impactful in relation to poverty alleviation, it is unlikely that these firms would participate in these types of community projects.

Taking a similar approach to the quantitative research and incorporating the aspect of MNCs, I was able to find a significant relationship using the mixed method regression approach between poverty and entrepreneurship, but could not consistently find a significant impact between poverty and MNC locations. Also, I was able to detect significant trends and province differences as well as identify significant fluctuations in the variables between 2002 and 2015 that could support economic development as one mechanism in poverty alleviation. Chapter 5 contains interpretations of the findings from Chapter 4, which are linked with prior research. Limitations and recommendations for future research are discussed after the interpretations. Finally, areas of social change

related to the study are identified. Poverty reduction is not as simple as movement in one or two variables, and this chapter highlights some of the complexities.

Interpretation of Findings

The results of the study identified three major elements. First, the declining trend in poverty is not solely explained by the increase in MNC presence or the increase in new business registrations. Other factors also seemed to have impacted the trend, such as education and infrastructure. Second, South Africa experienced poverty declines between 2002 and 2015, and at the same time, the number of MNCs grew; depending on the province, the level of new business registration rose as well. The trends in these three variables do indicate that they are correlated, but a closer look at the type of development is warranted. Third, the sample size of the study may have been too small to properly detect the trend; this was a limitation of the study.

Research Question 1 Interpretations

To answer Research Question 1, a mixed model regression was used, and in total, 19 models were run. Two of the best-fitting models, 16 and 17, treated the two independent variables as fixed effects and used time as a random effect. The estimates for both new business registrations and MNC locations were significant, $p < .01$, when run together in one model without the alternate factors. The estimates identified a negative relationship, which showed that increases in these two variables were tied to declines in the log of poverty. Two studies that indicated a negative relationship between growth and poverty were conducted by Vijayakumar (2013), who studied growth and poverty among multiple developing countries, and Beck et al. (2005), who focused on small to medium-

size enterprises and poverty. Based on the theoretical framework used for this study, if an increase in entrepreneurship and MNCs serves as a proxy for development, then the outcomes from this study are consistent with the prior research.

Similar to this study, Yanya et al. (2013) looked to determine the impact of entrepreneurship and poverty in Thailand. Using new business registrations in Thailand, the authors found a significant negative relationship between poverty and entrepreneurship. The same effect was detected in this study and the results of Model 16 are consistent with findings from other studies. Model 17 confirmed this position even when other factors were incorporated. It is more than just these elements of growth and entrepreneurship that contributed to South Africa's decline in poverty, but both models show that the level of new business registration is a significant factor.

Table 8 shows the estimate and significance for the two independent variables and the six alternative factors. When the six alternative factors were included in the model, new business registrations remained significant and MNCs became insignificant. Other factors such as the percentage of people with a higher-level diploma and a functional telephone or cell phone were also significant in the model. While this may also not be the strongest model, it shows that other factors should be evaluated in relation to the decline in poverty. Growth is one factor, but the literature also distinguishes pro-poor growth. Hyacinth Eme et al. (2012) evaluated whether growth in Nigeria had benefited the poor and found that it had not directly benefited them. Their study raised questions about the complexity of poverty alleviation. China has experienced sharp declines in poverty, and a

study by Wang et al. (2014) indicated that growth had benefited the poor due to changes in government policies.

In South Africa, Arndt et al. (2016) noted the existence of sluggish growth and persistent inequality. One factor not evaluated in this study was inequality; Arndt et al. identified that declining inequality may be a significant factor in poverty reduction. Similar to South Africa, Swaziland had high poverty and inequality, and Nindi and Odhiambo (2015) found that growth did not cause poverty reduction. The authors linked these findings to the fact that where there is high inequality, economic growth does not have the same impact on poverty (Nindi & Odhiambo, 2015). Not being able to reject the null hypothesis for MNC locations when including alternative factors opened the possibility to other, more significant factors that may have impacted poverty. A model with only entrepreneurship and MNC locations explained only a part of the variance in poverty among the regions. If these two factors are seen as proxies for economic growth, the complicated relationship of growth and poverty reduction is evident.

Research Question 2 Interpretations

To answer Research Question 2, visual trend analyses using graphs, boxplots, and combination charts were used. A detectable declining trend was found in poverty as measured by the level of household expenditures under 799 a month. MNCs had an increasing trend that was also detectable but expected, as the data only factored in existing MNCs. New business registrations did not have a detectable trend, and a closer examination of the line graphs showed fluctuations throughout the years and by province. The null hypothesis was rejected for Research Question 2 in relation to poverty and MNC

locations, but not for new businesses. Based on the visual depictions, there were significant fluctuations in all three of the study variables. While a material estimate and significance could not be found that correlated all three variables, the combination chart for South Africa shows the declining trend of poverty as new businesses rose overall over the period and the number of MNC locations grew.

Especially as it related to MNCs, the estimate was small and insignificant, as other factors were included, but the data indicated that those provinces with the highest number of MNCs or new business registrations had lower poverty. Gohou and Soumaré (2012) studied regional poverty in Africa and identified a positive correlation between growth and direct investment but no significant relationship with poverty and the welfare in the South Africa region. Ipek and Ayvaz Kizilgol (2015) found in South Africa that while foreign direct investment was positively correlated to GDP, it had a crowding-out effect that meant that domestic investment was reduced. Between 2002 and 2015, new business registrations increased but not in a straight line, and some provinces saw declines in new business registrations even though they had an increased number of MNCs. Western Cape was one example where new business registrations declined and the number of MNCs increased.

It is not enough just to look at the quantities of these two independent variables, as the quality and type of investment may also be factors. Abu Bakkar (2016) identified that development strategy matters, and those developing countries that deployed a strategy of capital-intensive and technologically advanced development saw poverty worsen. The author promoted development policies geared toward the country's

economic advantages (Abu Bakkar, 2016). Berardi and Marzo (2017) compared the quality of growth in Africa and connected various industry sectors to household income to find that all industries do not affect the income of poor households in the same way. For South Africa, the elasticity of poverty with respect to growth was more impactful and negative in manufacturing and construction but was positive when it came to agriculture, mining, and public administration (Berardi & Marzo, 2017). Growing MNCs as a total seems to have some correlation in the visual depictions (see Figure 7), but as the model showed for Research Question 1, just having a large quantity of MNCs may not be enough to reduce poverty.

Interpretations Related to the Theoretical Framework

The theoretical framework for this study was based on theories from Schumpeter (1934) and Prahalad (2009) and emphasized entrepreneurship and large corporation participation as keys to development and ultimately reduction in poverty. In this study, new business registration was used as a proxy for entrepreneurship, and MNC location served as a proxy for large company participation. The objective was to identify in South Africa whether these two factors impacted poverty and how the study variables had changed between 2002 and 2015. Using a mixed model regression, the model using the two independent variables was able to reject the null hypothesis. Both new business registrations and MNC locations had a statistically negative relationship with poverty. When adding the six alternative factors, only MNC locations lost its significance. The outcomes of this study were consistent with prior research that showed that entrepreneurship had a negative impact on poverty (Gallardo & Raufflet, 2014; Si et al.,

2015; Yanya et al., 2013) but were mixed when it came to MNC locations and the impact of large corporation and foreign direct investment on poverty and social welfare (Gohou & Soumaré, 2012; Ipek et al., 2015).

I can interpret these results as supportive of the theoretical framework, especially when it comes to new business registrations, which had a significant negative effect. In the line graph for new business registrations, those provinces with the most new business registrations had the lower rates of poverty. Gauteng and Western Cape had the highest levels of new business registrations and MNCs, with the lowest rates of poverty. Eastern Cape had the highest percentage-point decline in poverty (see Table 9), with significant changes in new business registrations and MNCs. In contrast, Limpopo also had a large decline in poverty but a decline in the number of new business registrations and no change in the number of MNCs. These two factors are not the only elements that can change poverty; in the case of Limpopo, which is 80% rural, there were improvements in food security and infrastructure, but not in the study factors related to development. The outcomes for the study research questions support the conclusion that poverty is a problem solved with many factors, not just one or two related to development.

Limitations of the Study

There were three areas in which this study was limited: (a) the data collected, (b) the size of the sample, and (c) and the focus on one country. Data were collected from South Africa general household surveys, BMI Research, and the Companies and Intellectual Property Commission of South Africa. The dependent variable was measured based on household expenditures below 799, which does not capture as much of the

poverty headcount as a multidimensional index, such as that used by Statistics South Africa in their poverty trends report. Thus, the study was not able to replicate a total poverty similar to that in published reports for South Africa. This study could only capture one aspect of measured poverty. For the independent variable, MNC locations, the BMI Research database only showed those companies currently in existence and thus did not give an indication of those that might have exited South Africa. The study was limited in that it could not incorporate companies that had gone out of business; thus, a true historical scope was not available. New business registrations focused the study only in the formal economy and did not address the informal economy, which might also have a sizeable share of entrepreneurship.

The period under study was 2002 to 2015. Starting from 2002, the data were consistently collected in general household studies; the last year such data were available (as of the date of this study) was 2015. With only nine formal provinces in South Africa, the size of the sample was limited to 126 observations, which reduced the power to 75% and made the study less likely to detect the phenomenon. A larger sample size would have given a higher power. Generalizability is also an issue because of the focus on one country. Given that South Africa has its own unique characteristics and structural factors (Davids & Gouws, 2013; May, 2012), it is difficult to extend the results to other countries.

Recommendations

The recommendations for future research from this study follow the three themes of data extension, evaluation of other variables, and in-depth research on the two

independent variables. In Model 16 from Research Question 1, the model showed a significant estimate that could be further explored through an increase in sample size by extending the study over more years. Future research could go back in time to earlier than 2002 by working with Statistics South Africa, or the study could be repeated in 3-to-5 years. To reach a higher power and the ability to detect a smaller effect among correlated variables, the sample size should reach above 140. Adding three more years to the study would bring the sample size up to 168, and adding five more years would bring the sample size to 196.

Adding more data to the sample would also help to improve the assumptions regarding normality and linearity, and the assumptions of the central theorem limit could be accepted. For mixed modeling, the larger the sample and number of observations, the more this type of modeling can detect the proper outcome (Fields, 2013; Wooldridge, 2013). Breaking the sample between repeated subjects with province or time requires a large amount of data to be reliable. With only nine provinces in South Africa, the sample needed to pick up more years to ensure reliability.

Evaluation of Other Variables

Model 17, run to answer Research Question 1, showed that MNC locations was not as significant as other factors such as education, healthcare satisfaction, employment, access to a phone, food, security, and urbanization. The model with one of the lowest residuals, Model 17, demonstrated that the alternative factors may be better at explaining the deviations over time and by province. The alternative factor of AF1_PP_diploma_higher measured the percentage of persons who attended higher

education institutions or further education and training. Table 8 shows a significance of $p = .0271$ and a negative estimate of -5.7933, indicating that the more people who obtain education beyond high school, the lower the poverty levels. Having a functioning phone and food security were also significant, $p < .01$.

Future research could focus on a more exclusive model grounded in the literature that incorporates more independent variables, including those related to development. Education and food security are clearly elements to study with poverty in future research, as well as healthcare satisfaction and employment. Employment has been one area studied in research by Vijayakumar (2013) that found a negative relationship between poverty and employment. In this study, that variable was not as significant in Model 17 but warrants further consideration because this has been validated in prior research. Other factors such as income inequality should also be studied in relation to these variables and poverty. Enhancing the model with more independent variables based on the significant ones from this study, inequality, and others from the literature is another area of future research on poverty.

Extension of the Independent Variables

In relation to the independent variables, a more in-depth analysis of either or both variables reveals additional areas of future research. Only the quantities of new business registrations were used in the study, and there was no further evaluation of the type of industry or size of business. It was not cost effective to review all of the data from the Companies and Intellectual Property Commission, but the information sent from the commission also included company name and Standard Industrial Classification (SIC)

description. Future research could break down this information by industry classification and size to determine whether the type of industry and size matter to development and ultimately to poverty. Overall, instead of taking just new business registrations, future research could evaluate the entire database to complete a cross-sectional study by province on new registrations, industry type, company size, and the relation of these variables to province poverty.

A similar type of evaluation could also be completed on the multinational corporation location data from BMI research. The database included industry and nationality information. Future research could focus on the type of industries that have invested in South Africa over time and relate that to poverty. In addition, researchers could review company size and how many local firms in South Africa have gone multinational. The two databases on new business registrations and multinational corporations were rich in additional information that could help break out sector and size impacts on poverty. While not cost or time effective for this study, a more in depth study that isolates industry and size could provide more information on if the type of development matters to poverty reduction.

Implications for Social Change

To Theory

One of the objectives of this study was to add a quantitative study that reviewed both entrepreneurship and multinational corporation locations in the same study. While there had been multiple case studies on partnerships between entrepreneurs and multinational corporations and the impact on poverty (Kolk, Rivera-Santos, & Rufín,

2014), there was not a study that specifically dealt with the interaction of these two elements in one model. It was not a direct bottom of the pyramid study, but was designed to determine if there was a link between poverty and the number of new businesses started in a year and the number of large companies that were located in an area.

I could reject the null hypothesis that new business registrations had no impact on poverty, but could not consistently reject it for MNC locations in the nine provinces of South Africa between 2002 and 2015. Graphical depictions show definite trends and fluctuations in the dependent and independent variables over time and among the provinces. Those provinces with the most business activity had the lowest amount of people in poverty. Kolk et al. (2014) analyzed the articles on the bottom of the pyramid and in their sample for 104 articles found the number of conceptual articles exceeded the empirical studies. This study contributes to theory but providing an empirical article that contributes more information about the impact of entrepreneurship and multinational corporation participation on poverty and identifies future areas of research related to the two independent variables and poverty.

To Practice

Gauteng and Western Cape had the lowest levels of people with household expenditures below 799 at 6% and 2% respectively in 2015. While different in their location they both are considered urban centers, with only 3% to 6% of their population living in rural areas, they have developed differently in respect of the two independent variables. Gauteng has the highest concentration of multinational corporations, with 71% being concentrated in this province and it is city of Johannesburg. Western Cape has the

highest level of new business registrations among all the provinces with 70% of the new registrations concentrated in this area. I identified the characteristics in these two areas while reviewing the trend analysis and it has important implications for practice.

A significant link was made with new business registrations and practitioners in poverty alleviation can use this to make the connection between entrepreneurship and poverty in a province, community, or region. Development alone may not be the answer, but clearly driving economic growth through entrepreneurship and large corporation investment is going to change the income and household expenditures of an area. This study visually depicts that a level of development is still a factor in poverty reduction. Practitioners can leverage this study as another empirical study for poverty alleviation.

To Society

Trying to change the future for billions in poverty I focused only on the impact of new business registrations and multinational corporation locations on poverty in one country. Both elements seem to have a negative correlation showing that continued investment in entrepreneurship and large firm foreign direct investment are factors in poverty alleviation. Sharma (2015) argued that multinational corporations can invest when and where governments are not able, and while the author did not promote a market based approach, instead the focus is on corporate social responsibility and its indirect benefits.

The benefit of this study to society is that it continues to support the idea that development can impact poverty; but, further study is warranted as this factor alone is not the only one that will reduce poverty in developing countries. Education and

infrastructure also play a role in poverty alleviation. The study does not solve the problem of poverty, nor was the intent; but, it does give another study for governments, for-profit companies, and other policy makers to have as they determine the best approaches to reduce poverty in their countries or communities.

Conclusions

The general problem of this study was to understand the factors that could lift billions of people out of poverty. Part of the millennium goals in 2000 was to use private business as a way to bring development and reduce poverty. Focused only on the element of development and using a theoretical framework built on market-based approaches to poverty alleviation, this study evaluated the elements of entrepreneurship and multinational corporation location on the changes in poverty levels in South Africa between 2002 and 2015. Using a quantitative longitudinal approach with mixed method modeling and trend analysis, the study indicated that there were significant fluctuations in poverty, new business registrations, and multinational corporation locations between 2002 and 2015. The null hypothesis for Research Question 1 could be rejected for new business registration, but not for MNC locations on a consistent basis. The modeling and trend analysis highlighted some areas of future research including expanding the sample size to better detect the trend and going in depth on the industry and size of the new business registrations and multinational corporation locations by province.

Prahalad (2009) theorized that large companies could impact poverty through profitable models, but for this study, while multinational corporations increased in South Africa, it could not be reliability correlated with the reduction in poverty. The results

from the study showed that South Africa's decline in poverty has come from some factors and new business registrations and investment from large corporations are only a couple of them. Education levels and infrastructure elements also had correlations indicating that it is not just the economic development that contributes to declines in poverty, but also policies that promote higher education levels, and improved infrastructure. Development as it relates to entrepreneurship and foreign direct investment is only one element in the fight against poverty, and it must be carefully planned along with other elements that improve overall social welfare in a country.

References

Abu Bakkar, S. (2016). Comparative advantage defying development strategy and cross country poverty incidence. *Journal of Economic Development, 41*(4), 45-78. Retrieved from http://www.jed.or.kr/

Agbloyor, E. K., Abor, J., Adjasi, C. D., & Yawson, A. (2013). Exploring the causality links between financial markets and foreign direct investment in Africa. *Research in International Business and Finance*, *28*, 118-134. doi:10.1016/j.ribaf.2012.11.001

Ahlstrom, D., & Ding, Z. (2014). Entrepreneurship in China: An overview. *International Small Business Journal, 32*(6), 610-618. doi:10.1177/0266242613517913

Akanbi, O. A. (2016). The growth, poverty and inequality nexus in South Africa: Cointegration and causality analysis. *Development Southern Africa*, *33*(2), 166-185. doi:10.1080/0376835X.2015.1120654

Akinboade, O. E., & Kinfack, E. E. (2014). An econometric analysis of the relationship between millennium development goals, economic growth and financial development in South Africa. *Social Indicators Research, 118*(2), 775-795. doi:10.1007/s11205-013-0442-4

Albulescu, C. T. (2015). Do foreign direct and portfolio investments affect long-term economic growth in Central and Eastern Europe? *Procedia Economics and Finance*, *23*, 507-512. doi:10.1016/S2212-5671(15)00539-0

Alvaredo, F., & Gasparini, L. (2015). Chapter 9: Recent trends in inequality and poverty in developing countries. In A.B. Atkinson & F. Bourguignon (Eds.), *Handbook of*

income distribution, 2, 697-805. Oxford, UK: Elsevier B.V. doi:10.1016/B978-0-444-59428-0.00010-2

Alvarez, S. A., & Barney, J. B. (2014). Entrepreneurial opportunities and poverty alleviation. *Entrepreneurship: Theory & Practice, 38*(1), 159-184. doi:10.1111/etap.12078

Alvarez, S., Barney, J., & Newman, A. (2015). The poverty problem and the industrialization solution. *Asia Pacific Journal of Management 32*(1), 23-37. doi:10.1007/s10490-014-9397-5

Arndt, C., McKay, A., & Tarp, F. (2016*). Growth and poverty in Sub-Saharan Africa*. Oxford, UK: Oxford University Press.

Banerjee, A. V., & Duflo, E. (2011). *Poor economics: A radical rethinking of the way to fight global poverty*. New York, NY: PublicAffairs.

Banerjee, A. V., Duflo, E., Glennerster, R., & Kinnan, C. (2015). The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics, 7*(1), 22-57. doi:10.1257/app.20130533

Barrett, C. B., & Carter, M. R. (2013). The economics of poverty traps and persistent poverty: Empirical and policy implications. *Journal of Development Studies 49*(7), 976-990. doi:10.1080/00220388.2013.785527

Barros, C. P., & Gupta, R. (2017). Development, poverty and inequality: A spatial analysis of South African provinces. *Journal of Developing Areas, 51*(1), 19-32. doi:10.1353/jda.2017.0001

Beck, T., Büyükkarabacak, B., Rioja, F. K., & Valev, N. T. (2012). Who gets the credit?

And does it matter? Household vs. firm lending across countries. *B.E. Journal of Macroeconomics, 12*(1), 1-44. doi:10.1515/1935-1690.2262

Beck, T., Demirguc-Kunt, A., & Levine, R. (2005). SMEs, growth, and poverty: Cross-country evidence. *Journal of Economic Growth, 10*(3), 199-229. doi:10.1007/s10887-005-3533-5

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of Economic Growth, 12*(1), 27-49. doi:10.1007/s10887-007-9010-6

Beck, T., Demirgüç-Kunt, A., & Peria, M. M. (2008). Banking services for everyone? Barriers to bank access and use around the world. *World Bank Economic Review, 22*(3), 397-430. doi:10.1093/wber/lhn020

Behera, S. R. (2015). Do domestic firms really benefit from foreign direct investment? The role of horizontal and vertical spillovers and absorptive capacity. *Journal of Economic Development, 40*(2), 57-86. Retrieved from http://www.jed.or.kr/

Ben Amar, M., & Zghidi, N. (2016). The relationship between inclusive growth, inequality and poverty in Africa. *Theoretical & Applied Economics, 23*(2), 117-126. Retrieved from http://www.ectap.ro/

Berardi, N., & Marzo, F. (2017). The elasticity of poverty with respect to sectoral growth in Africa. *Review of Income & Wealth, 63*(1), 147-168. doi:10.1111/roiw.12203

Bradley, S. W., McMullen, J. S., Artz, K., & Simiyu, E. M. (2012). Capital is not enough: Innovation in developing economies. *Journal of Management Studies, 49*(4), 684-717. doi:10.1111/j.1467-6486.2012.01043.x

Bruton, G., Ahlstrom, D., & Si, S. (2015). Entrepreneurship, poverty, and Asia: Moving

beyond subsistence entrepreneurship. *Asia Pacific Journal of Management 32*(1), 1-22. doi:10.1007/s10490-014-9404-x

Calton, J. M., Werhane, P. H., Hartman, L. P., & Bevan, D. (2013). Building partnerships to create social and economic value at the base of the global development pyramid. *Journal of Business Ethics, 117*(4), 721-733. doi:10.1007/s10551-013-1716-0

Calvo, C., & Dercon, S. (2013). Vulnerability to individual and aggregate poverty. *Social Choice & Welfare, 41*(4), 721-740. doi:10.1007/s00355-012-0706-y

Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Belmont, CA: Wadsworth, Cengage Learning.

Carroll, A. B. (2008). A history of corporate social responsibility: Concepts and practices. In Crane A., McWilliams A., Matten D., Moon J., Siegel D. S. (Eds.), *The Oxford handbook of corporate social responsibility* (pp. 19-46). Oxford, UK: Oxford University Press.

Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews 12*(1), 85-105. doi:10.1111/j.1468-2370.2009.00275.x

Caves, R. E. (2007). *Multinational enterprise and economic analysis*. Cambridge, UK: Cambridge University Press.

Chandler, R. E., & Scott, E. M. (2011). *Statistical methods for trend detection and analysis in the environmental sciences*. West Sussex, United Kingdom: John Wiley & Sons, LTD.

Chari, M. D., & Banalieva, E. R. (2015). How do pro-market reforms impact firm profitability? The case of India under reform. *Journal of World Business, 50,* 357-367. doi:10.1016/j.jwb.2014.05.004

Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal, 35*(1), 1-23. doi:10.1002/smj.2131

Chernev, A., & Blair, S. (2015). Doing well by doing good: The benevolent halo of corporate social responsibility. *Journal of Consumer Research, 41*(6), 1412-1425. doi:10.1086/680089

Chen, S., Datt, G., & Ravallion, M. (1994). Is poverty increasing in the developing world? *Review of Income & Wealth, 40*(4), 359-376. doi:10.1111/j.1475-4991.1994.tb00081.x

Chen, S., & Ravallion, M. (2001). How did the world's poorest fare in the 1990s? *Review of Income & Wealth, 47*(3), 283-300. doi.10.1111/1475-4991.00018

Chen, S., & Ravallion, M. (2013). More relatively-poor people in a less absolutely-poor world. *Review of Income & Wealth, 59(*1), 1-28. doi:10.1111/j.1475-4991.2012.00520.x

Chetty, S., Naidoo, R., & Seetharam, Y. (2015). The impact of corporate social responsibility on firms' financial performance in South Africa. *Contemporary Economics 9*(2), 193-214. Retrieved from http://we.vizja.pl/en/home

Christiaensen, L., Demery, L., & Kuhl, J. (2011). The (evolving) role of agriculture in poverty reduction—An empirical perspective. *Journal of Development Economics, 96*(2), 239-254. doi:10.1016/j.jdeveco.2010.10.006

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum Associates.

Cooper, E. W., & Uzun, H. (2015). Corporate social responsibility and the cost of debt. *Journal of Accounting & Finance, 15*(8), 11-29. Retrieved from http://www.na-businesspress.com/jafopen.html

Das, M., & Thomas, N. J. (2016). The role of small and medium enterprises in structural transformation and economic development (No. 255). *Centre for Development Economics, Delhi School of Economics*, 1-26. Retrieved from http://cdedse.org/

Daszynska-Zygadlo, K., Slonski, T., & Zawadzki, B. (2016). The market value of CSR performance across sectors. *Engineering Economics, 27*(2), 230-238. doi:10.5755/j01.ee.27.2.13480

Davids, Y. D., & Gouws, A. (2013). Monitoring perceptions of the causes of poverty in South Africa. *Social Indicators Research, 110*(3), 1201-1220. doi:10.1007/s11205-011-9980-9

Davletshin, E., Kotenkova, S., & Vladimir, E. (2015). Quantitative and qualitative analysis of foreign direct investments in developed and developing countries. *32 (Emerging Markets Queries in Finance and Business 2014, EMQFB 2014, 24-25 October 2014, Bucharest, Romania),* 256-263. doi:10.1016/S2212-5671(15)01389-1

Dhrifi, A. (2014). Financial development and the “growth-inequality-poverty” triangle. *Journal of the Knowledge Economy,* (4), 1163-1177. doi:10.1007/s13132-014-0200-0

Diggle, P., Heagerty, P., Liang, K-Y., & Zeger, S. (2013). *Analysis of longitudinal data* (2nd ed.). Oxford, UK: Oxford University Press.

Dollar, D., Kleineberg, T., & Kraay, A. (2014). Growth, inequality, and social welfare: cross-country evidence. *World Bank Policy Research Working Paper*, 6842, 1-49. doi:10.1596/1813-9450-6842

Dua, P., & Garg, R. (2015). Macroeconomic determinants of foreign direct investment: Evidence from India. *Journal of Developing Areas*, *49*(1), 133-155. doi:10.1353/jda.2015.0025

Edward, P., & Sumner, A. (2014). Estimating the scale and geography of global poverty now and in the future: How much difference do method and assumptions make? *World Development, 58,* 67-82. doi:10.1016/j.worlddev.2013.12.009

Eregha, P. B. (2015). Foreign direct investment inflow, volatility, and domestic investment in West Africa. *Journal of Developing Areas, 49*(2), 273-294. doi:10.1353/jda.2015.0018

Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory & Practice, 37*(3), 479-504. doi:10.1111/etap.12019

Fitzmaurice, G. M., Laird, N. M., & Ware, J. H. (2011). *Applied longitudinal analysis*. Hoboken, NJ: John Wiley & Sons, Inc.

Fowowe, B., & Shuaibu, M. (2014). Is foreign direct investment good for the poor? New evidence from African countries. *Economic Change & Restructuring 47*(4), 321-339. doi:10.1007/s10644-014-9152-4

Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York, NY: Worth Publishers.

Gallardo, J., & Raufflet, E. (2014). Extreme poverty alleviation through community-based entrepreneurship: PRODECO in Paraguay. *Development in Practice, 24*(1), 140-146. doi:10.1080/09614524.2014.867301

Global Agenda Councils. (2012). Poverty & economic development. Geneva, Switzerland: *World Economic Forum Network of Global Agenda Councils Reports 2011-2012*. Retrieved from http://reports.weforum.org/global-agenda-council-2012/#view/global-agenda-council-2012/councils/poverty-economic-development/

Gohou, G., & Soumaré, I. (2012). Does foreign direct investment reduce poverty in Africa and are there regional differences? *World Development, 40*(1), 75-95. Retrieved from https://www.journals.elsevier.com/world-development/

Gossel, S., & Biekpe, N. (2014). Economic growth, trade and capital flows: A causal analysis of post-liberalised South Africa. *Journal of International Trade & Economic Development, 23*(6), 815-836. doi:10.1080/09638199.2013.786118

Grieger, L., Williamson, A., Leibbrandt, M., & Levinsohn, J. (2014). Evidence of short-term household change in South Africa from the national income dynamics study. *Development Southern Africa 31*(1), 146-167. doi:10.1080/0376835X.2013.851022

Hajilee, M., & Al Nasser, O. M. (2015). The relationship between financial market development and foreign direct investment in Latin American countries. *Journal*

of Developing Areas, 49(2), 227-245. doi:10.1353/jda.2015.0043

Heck, R. H., Thomas, S. L., & Tabata, L. N. (2014). *Multilevel and longitudinal modeling with IBM SPSS*. New York, NY: Routledge.

Herrington, M., Kew, J., & Kew, P. (2015). *2014 GEM South Africa report: South Africa: The crossroads - a goldmine or a time boom?* London, UK: Global Entrepreneurship Monitor.

Hossain, D. M. (2013). Social capital and microfinance: The case of Grameen Bank, Bangladesh. *Middle East Journal of Business*, *8*(4), 13-21. doi:10.5742/MEJB.2013.84311

Huang, Y., Liu, Y., & Wu, H. (2016). The finance–growth nexus and poverty reduction in Western China. *Emerging Markets Finance & Trade, 52*(2), 513-521. doi:10.1080/1540496X.2016.1110469

Hyacinth Eme, I., Chukwuma, A., & John Ele-Ojo, A. (2012). What do we know about pro-poor growth and regional poverty in Nigeria? *International Journal of Economic Sciences & Applied Research, 5*(3), 147-172. Retrieved from http://ijbesar.teiemt.gr/

Ipek, E., & Ayvaz Kizilgol, O. (2015). The contribution of FDI flows to domestic investment: An econometric analysis of developing countries. *Journal of Management & Economics*, *22*(2), 401-413. Retrieved from http://www2.bayar.edu.tr/yonetimekonomi/engindex.php

Jansen, A., Moses, M., Mujuta, S., & Yu, D. (2015). Measurements and determinants of multifaceted poverty in South Africa. *Development Southern Africa, 32*(2), 151-

169. doi:10.1080/0376835X.2014.984377

Jensen, M. C. (2010). Value maximization, stakeholder theory, and the corporate objective function. *Journal of Applied Corporate Finance, 22*(1), 32-42. doi:10.1111/j.1745-6622.2010.00259.x

Kakwani, N., & Son, H. H. (2008). Poverty equivalent growth rate. *Review of Income and Wealth, 54*(4), 643-655. doi:10.1111/j.1475-4991.2008.00293.x

Kana Zeumo, V., Tsoukiàs, A., & Somé, B. (2014). A new methodology for multidimensional poverty measurement based on the capability approach. *Socio-Economic Planning Sciences, 48*(4), 273-289. doi:10.1016/j.seps.2014.04.002

Khumalo, P. (2013). The dynamics of poverty and poverty alleviation in South Africa. *Gender & Behaviour, 11*(2), 5643-5652. Retrieved from http://www.ajol.info

Kolk, A., Rivera-Santos, M., & Rufín, C. (2014). Reviewing a decade of research on the "base/bottom of the pyramid" (BOP) concept. *Business & Society, 3*(3), 338-377. doi:10.1177/0007650312474928

Kraay, A. (2006). When is growth pro-poor? Evidence from a panel of countries. *Journal of Development Economics, 80*(1), 198-227. doi:10.1016/j.jdeveco.2005.02.004

Kraay, A., & McKenzie, D. (2014). Do poverty traps exist? Assessing the evidence. *Journal of Economic Perspectives 28*(3), 127-148. doi:10.1257/jep.28.3.127

Krishna, A. (2012). Characteristics and patterns of intergenerational poverty traps and escapes in rural north India. *Development Policy Review 30*(5), 617-640. doi:10.1111/j.1467-7679.2012.00591.x

Lopez, H., & Serven, L. (2006). A normal relationship? Poverty, growth, and inequality.

World Bank Policy Research Working Paper, (3814). doi:10.1596/1813-9450-3814

Mahadea, D. (2012). Prospects of entrepreneurship to the challenge of job creation in South Africa. *Journal of Developmental Entrepreneurship, 17*(4), 1250020-1-1250020-17. doi:10.1142/S1084946712500203

Malhotra, D. K., Russow, L., & Singh, R. (2014). Determinants of foreign direct investment in Brazil, Russia, India, and China. *International Journal of Business, Accounting, & Finance, 8*(1), 130-148. doi:10.1016/j.sbspro.2012.03.270

May, J. (2012). Smoke and mirrors? The science of poverty measurement and its application. *Development Southern Africa, 29*(1), 63-75. doi:10.1080/0376835X.2012.645641

Mebratie, A., & Bedi, A. (2013). Foreign direct investment, black economic empowerment and labour productivity in South Africa. *Journal of International Trade & Economic Development 22*(1), 94-115. doi:10.1080/09638199.2013.745287

Menard, S. (2002). *Longitudinal research*. Thousand Oaks, CA: Sage Publications.

Mensah, S., & Benedict, E. (2010). Entrepreneurship training and poverty alleviation: Empowering the poor in the Eastern Free State of South Africa. *African Journal of Economic & Management Studies 1*(2), 138. doi:10.1108/20400701011073464

McKay, A., & Perge, E. (2013). How strong is the evidence for the existence of poverty traps? A multicountry assessment. *Journal of Development Studies, 49*(7), 877-89. doi:10.1080/00220388.2013.785521

Mihaylova, S. (2015). Foreign direct investment and income inequality in Central and Eastern Europe. *Theoretical & Applied Economics*, *22*(2), 23-42. Retrieved from http://www.ectap.ro/

Morris, M. H., Neumeyer, X., & Kuratko, D. F. (2015). A portfolio perspective on entrepreneurship and economic development. *Small Business Economics, 45*(4), 713-728. doi:10.1007/s11187-015-9678-5

Nega, B., & Schneider, G. (2014). Social entrepreneurship, microfinance, and economic development in Africa. *Journal of Economic Issues (M.E. Sharpe Inc.) 48*(2), 367. doi:10.2753/JEI0021-3624480210

Nindi, A. G., & Odhiambo, N. M. (2015). Poverty and economic growth in Swaziland: An empirical investigation. *Managing Global Transitions: International Research Journal, 13*(1), 59-74. Retrieved from http://www.fm-kp.si/zalozba/ISSN/1581-6311.htm

Omilola, B., & Akanbi, O. A. (2014). Impact of macroeconomic, institutional and structural factors on inequality in South Africa. *Development, 57*(3/4), 559-577. doi:10.1057/dev.2015.31

Pinkovskiy, M., & Sala-I.-Martin, X. (2016). Lights, camera ... income! Illuminating the national accounts-household surveys debate. *Quarterly journal of economics, 131*(2), 579-631. doi:10.1093/qje/qjw003

Pitelis, C. N., & Teece, D. J. (2010). Cross-border market co-creation, dynamic capabilities and the entrepreneurial theory of the multinational enterprise. *Industrial & Corporate Change, 19*(4), 1247-1270. doi:10.1093/icc/dtq030

Prahalad, C. K. (2009). *The fortune at the bottom of the pyramid: Eradicating poverty through profits. Revised and updated 5th anniversary edition.* Upper Saddle River, NJ: Pearson Education, Inc.

Rogan, M. (2013). Poverty and headship in post-apartheid South Africa, 1997-2006. *Social Indicators Research, 113*(1), 491-511. doi:10.1007/s11205-012-0107-8

Ravallion, M. (1994). *Poverty comparisons.* London, England: Taylor & Francis.

Ravallion, M. (2016a). Are the world's poorest being left behind? *Journal of Economic Growth 21*(2), 139-164. doi:10.1007/s10887-016-9126-7

Ravallion, M. (2016b). Toward better global poverty measures. *Journal of Economic Inequality, 14*(2), 227-248. doi:10.1007/s10888-016-9323-9

Ravallion, M., & Chen, S. (2003). Measuring pro-poor growth. *Economics Letters, 78*(1), 93-99. doi:10.1016/S0165-1765(02)00205-7

Rudestam, K. E., & Newton, R. R. (2015). *Surviving your dissertation: A comprehensive guide to content and process.* Thousand Oaks, CA: Sage Publications, Inc.

Rupasingha, A. (2016). Local business ownership and local economic performance: Evidence from US counties. *Regional Studies*, 1-15. doi:10.1080/00343404.2015.1119264

Rupasingha, A., & Goetz, S. J. (2013). Self-employment and local economic performance: Evidence from US counties. *Papers in Regional Science 92*(1), 141-161. doi:10.1111/j.1435-5957.2011.00396.x

Salkind, N. (2012). *Exploring research*. Upper Saddle River, NJ: Pearson Education, Inc.

Santos, F. (2012). A positive theory of social entrepreneurship. *Journal of Business*

Ethics, 111(3), 335-351. doi:10.1007/s10551-012-1413-4

Santoso, A. H., & Feliana, Y. K. (2014). The association between corporate social responsibility and corporate financial performance. *Issues in Social & Environmental Accounting*, *8*(2), 82-103. doi:10.22164/isea.v8i2.86

Savitz, A., & Weber, K. (2014). *The triple bottom line*. San Francisco, CA: Jossey-Bass.

Schrader, C., Freimann, J., & Seuring, S. (2012). Business strategy at the base of the pyramid. *Business Strategy & The Environment, 21*(5), 281-298. doi:10.1002/bse.727

Schwittay, A. (2012). Incorporated citizens: Multinational high-tech companies and the BoP. *Information Technologies & International Development, 8*(1), 43-56. Retrieved from http://itidjournal.org/index.php/itid/index

Schumpeter, J. A. (1934). *Theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Cambridge, MA: Harvard University Press.

Sehrawat, M., & Giri, A. K. (2016). Financial development and poverty reduction in India: An empirical investigation. *International Journal of Social Economics 43*(2), 106-122. doi:10.1108/IJSE-01-2014-0019

Sen, A. (1976). Poverty: An ordinal approach to measurement. *Econometrica: Journal of the Econometric Society, 44*(2), 219-231. doi:10.2307/1912718

Sen, A. K. (1985). *Commodities and capabilities*. North-Holland: Elsevier Science Publishers B.V.

Seyoum, M., Wu, R., & Lin, J. (2015). Foreign direct investment and economic growth:

The case of developing African economies. *Social Indicators Research,* (1), 45. doi:10.1007/s11205-014-0679-6

Sharma, A. (2015). Who leads in a g-zero world? Multi-nationals, sustainable development, and corporate social responsibility in a changing global order. *Washington International Law Journal, 24*(3), 589-612. Retrieved from https://digital.lib.washington.edu/dspace-law

Shivarajan, S., & Srinivasan, A. (2013). The poor as suppliers of intellectual property: A social network approach to sustainable poverty alleviation. *Business Ethics Quarterly, 23*(3), 381-406. doi:10.5840/beq201323326

Si, S., Yu, X., Wu, A., Chen, S., Chen, S., & Su, Y. (2015). Entrepreneurship and poverty reduction: A case study of Yiwu, China. *Asia Pacific Journal f Management 32*(1), 119-143. doi:10.1007/s10490-014-9395-7

Simo-Kengne, B. D., Bittencourt, M., & Gupta, R. (2012). House prices and economic growth in South Africa: Evidence from provincial-level data. *Journal of Real Estate Literature 20*(1), 97-117. Retrieved from www.aresjournals.org

Simon, M. K., & Goes, J. (2011). Assumptions, limitations, delimitations, and scope of the study. *Dissertation and scholarly research: Recipes for success.* Seattle, WA: Dissertation Success, LLC. Retrieved from www. dissertationrecipes.com

Statistics South Africa. (2014). *Poverty Trends in South Africa: An examination of absolute poverty between 2006 and 2011*. Pretoria, South Africa: Statistics South Africa 03-10-06. Retrieved from http://www.statssa.gov.za

Statistics South Africa. (2015). *General household survey: 2014*. Pretoria, South Africa:

Statistics South Africa P0318. Retrieved from http://www.statssa.gov.za

Tasavori, M., Zaefarian, R., & Ghauri, P. N. (2015). The creation view of opportunities at the base of the pyramid. *Entrepreneurship & Regional Development, 27*(1/2), 106-126. doi:10.1080/08985626.2014.1002538

Ucal, M. Ş. (2014). Panel data analysis of foreign direct investment and poverty from the perspective of developing countries. *Procedia - Social and Behavioral Sciences, 109 (2nd World Conference on Business, Economics and Management)*, 1101-1105. doi:10.1016/j.sbspro.2013.12.594

Urdan, T. C. (2010). *Statistics in plain english (3rd ed.).* New York, NY: Routledge Taylor & Francis Group.

United Nations Development Programme. (2014). *Human development report 2014. Sustaining human progress: Reducing vulnerabilities and building resilience*. New York, NY: United Nations Development Programme. Retrieved from http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf

United Nations Economic Commission for Africa. (2015). *MDG report 2015: Assessing progress in Africa toward the millennium development goals*. Addis Ababa, Ethiopia Economic Commission for Africa. Retrieved from www.uneca.org

U.S. Census Bureau. (2015). *U.S. and World Population Clock*. Retrieved from https://www.census.gov/popclock/

Vanegas, M. (2014). The triangle of poverty, economic growth, and inequality in Central America: Does tourism matter? *Worldwide Hospitality & Tourism Themes, 6*(3), 277-292. doi:10.1108/WHATT-03-2014-0014

Vai Io, L., Moxi, S., & Xiaowen, T. (2015). FDI technology spillovers in China: Implications for developing countries. *Journal of Developing Areas, 49*(6), 37-48. doi:10.1353/jda.2015.0082

Valente, C. (2009). The food (in)security impact of land redistribution in South Africa: Microeconometric evidence from national data. *World Development, 37*(9), 1540-1553. doi:10.1016/j.worlddev.2009.01.005

VanSandt, C., & Sud, M. (2012). Poverty alleviation through partnerships: A road less travelled for business, governments, and entrepreneurs. *Journal of Business Ethics, 110*(3), 321-332. doi:10.1007/s10551-011-1160-y

Vijayakumar, S. (2013). An empirical study on the nexus of poverty, GDP growth, dependency ratio and employment in developing countries. *Journal of Competitiveness, 5*(2), 67-82. doi:10.7441/joc.2013.02.05

Visagie, J., & Posel, D. (2013). A reconsideration of what and who is middle class in South Africa. *Development Southern Africa 30*(2), 149-167. doi:10.1080/0376835X.2013.797224

Wang, X., Xu, L., & Shang, X. (2014). China's pro-poor growth: Measurement and implications. *Journal of Social Service Research 40*(4), 520-529. doi:10.1080/01488376.2014.922523

Washington, M. L., & Chapman, Z. (2014a). Entrepreneurial activity as an externality of inward foreign direct investment in emerging economies: Panel data from Argentina, Brazil, Colombia and South Africa. *Journal of Developmental Entrepreneurship, 19*(1), 1-17. doi:10.1142/S1084946714500046

Washington, M. L., & Chapman, Z. (2014b). Impact of microfinance on entrepreneurial activity in emerging economies: Panel data from Argentina, Brazil, Colombia & South Africa. *International Journal of Entrepreneurship, 18,* 59-67. Retrieved from https://link.springer.com/journal/10843

Weiak-Bialowolska, D. (2014). Poverty in the regions of the European Union - measurement with a composite indicator. *Contemporary Economics 9*(2), 113-154. doi:10.5709/ce.1897-9254.163

Werhane, P., Kelley, S., Hartman, L., & Moberg, D. (2010). *Alleviating poverty through profitable partnerships*. New York, NY: Routledge.

Whitfield, L. (2012). How countries become rich and reduce poverty: A review of heterodox explanations of economic development. *Development Policy Review 30*(3), 239-260. doi:10.1111/j.1467-7679.2012.00575.x

Woodward, D., Rolfe, R., & Ligthelm, A. (2014). Microenterprise, multinational business support, and poverty alleviation in South Africa's informal economy. *Journal of African Business*, *15*(1), 25-35. doi:10.1080/15228916.2014.881225

Wooldridge, J. M. (2013). *Introductory econometrics: A modern approach*. Mason, OH: South-Western Cengage Learning.

World DataBank. (2016). *Poverty and inequality database.* Washington, DC: The World Bank Group. Retrieved from http://databank.worldbank.org/data/databases.aspx

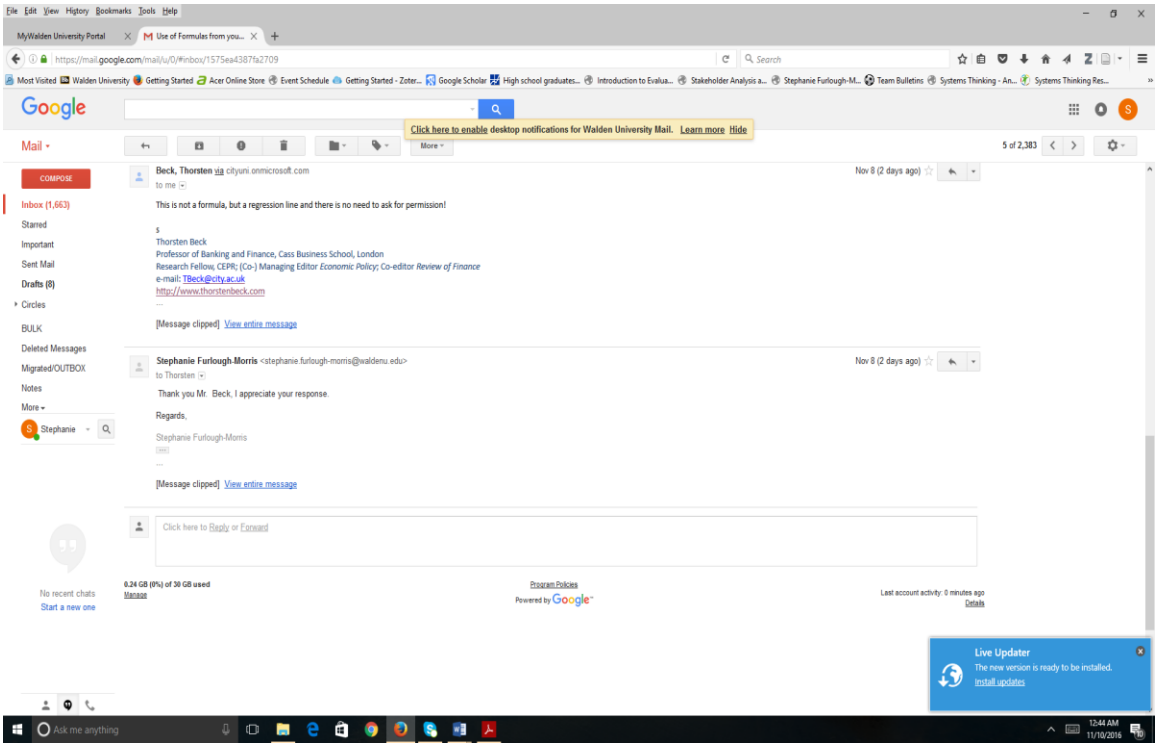
Yanya, M., Abdul-Hakim, R., & Abdul-Razak, N. A. (2013). Does entrepreneurship bring an equal society and alleviate poverty? Evidence from Thailand. *Procedia - Social and Behavioral Sciences 91(PSU-USM International Conference on*

Humanities and Social Sciences), 331-340. doi:10.1016/j.sbspro.2013.08.430

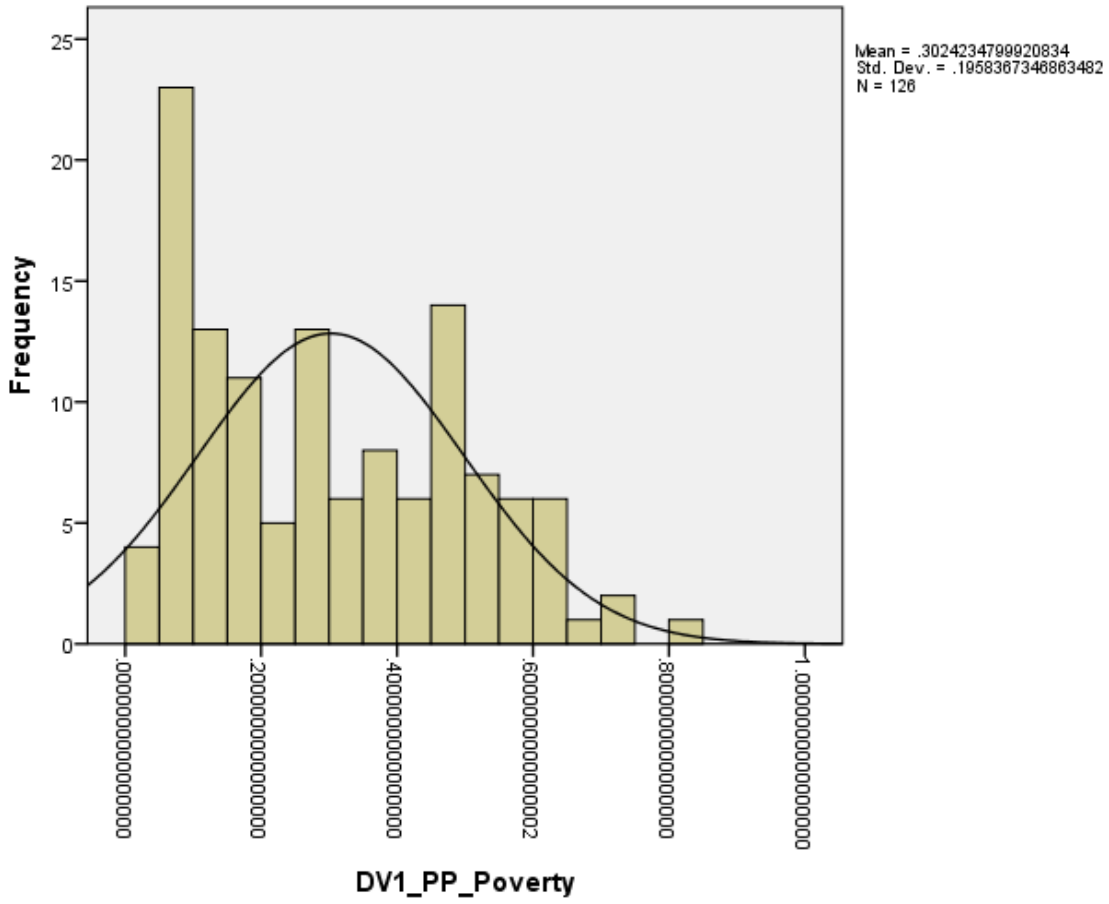
Yaya, K. (2015). Foreign direct investment, exports and economic growth: Some African evidence. *Journal of Applied Economics & Business Research, 5*(4), 209-219. Retrieved from http://www.aebrjournal.org/

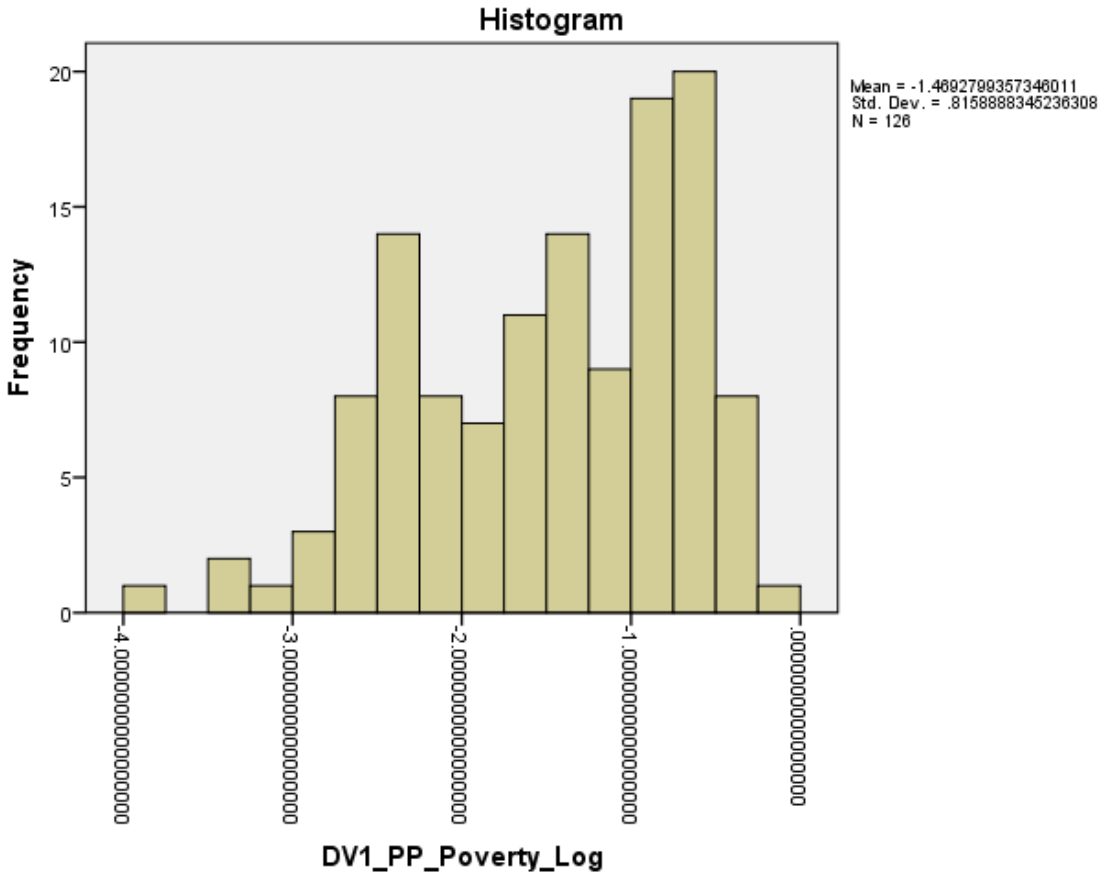
Zaefarian, R., Tasavori, M., & Ghauri, P. N. (2015). A corporate social entrepreneurship approach to market-based poverty reduction. *Emerging Markets Finance & Trade, 51*(2), 320-344. doi:10.1080/1540496X.2015.1021606

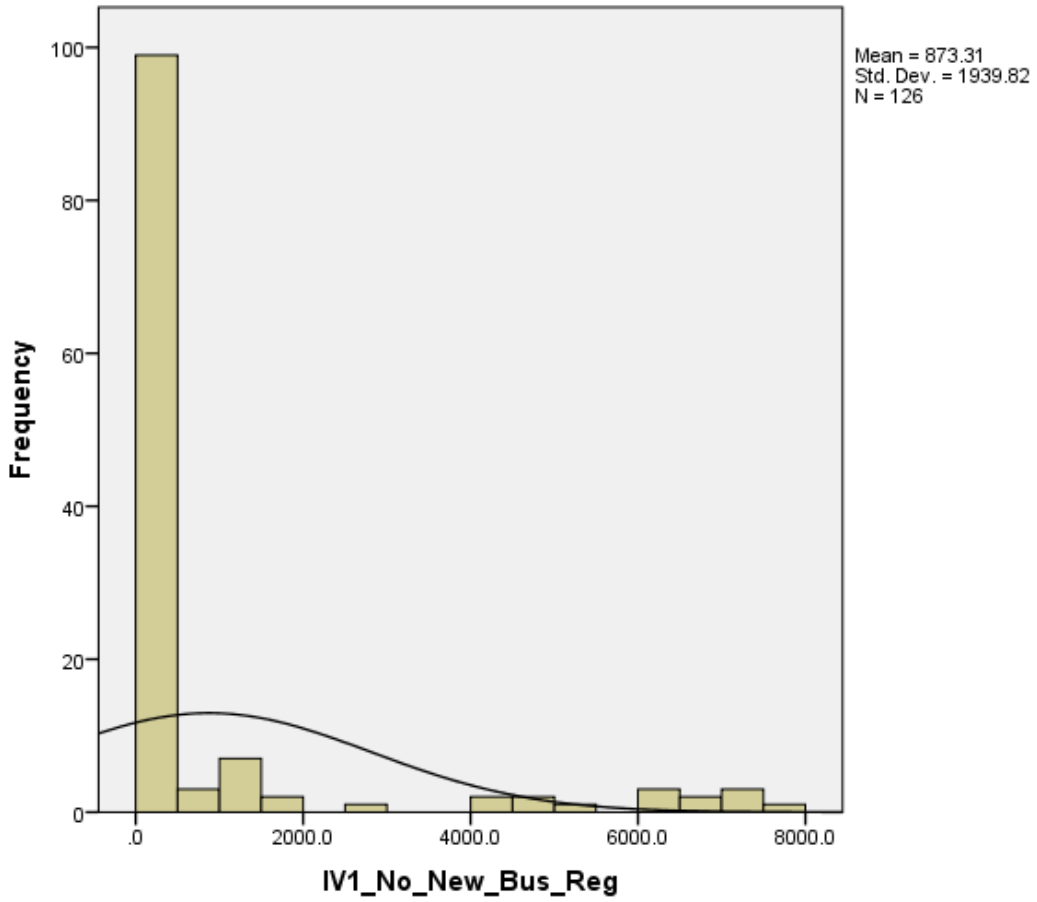
Appendix A: Permission from Author for Instrument

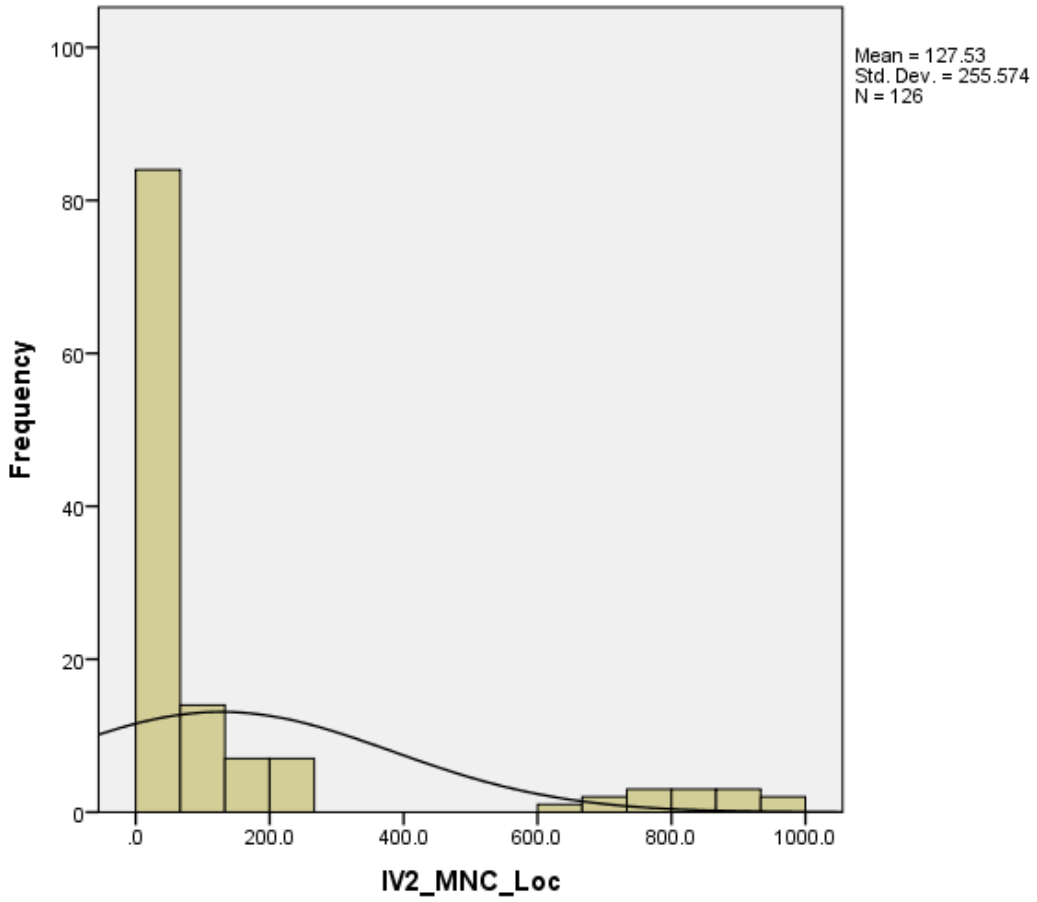


Appendix B: Histograms to Test for Normality




Histogram
Mean = -1.4692799357346011
Std. Dev. = .8158888345236308
N = 126
Frequency
20
15
10
5
0
-4.000000000000000
-3.000000000000000
-2.000000000000000
-1.000000000000000
.000000000000000
DV1_PP_Poverty_Log


Mean = 873.31
Std. Dev. = 1939.82
N = 126
Frequency
100
80
60
40
20
0
.0
2000.0
4000.0
6000.0
8000.0
IV1_No_New_Bus_Reg


Mean = 127.53
Std. Dev. = 255.574
N = 126
Frequency
100
80
60
40
20
0
.0
200.0
400.0
600.0
800.0
1000.0
IV2_MNC_Loc

Appendix C: Output of Regression Analysis for Assumption Testing

Test of Homogeneity of Variance[a,b]

		Levene Statistic	df1	df2	Sig.
DV1_PP_Poverty	Based on Mean	2.994	8	117	.004
	Based on Median	2.693	8	117	.009
	Based on Median and with adjusted df	2.693	8	93.032	.010
	Based on trimmed mean	2.975	8	117	.005
IV1_No_New_Bus_Reg	Based on Mean	23.650	8	117	.000
	Based on Median	18.907	8	117	.000
	Based on Median and with adjusted df	18.907	8	25.305	.000
	Based on trimmed mean	22.717	8	117	.000
IV2_MNC_Loc	Based on Mean	34.379	6	91	.000
	Based on Median	26.519	6	91	.000
	Based on Median and with adjusted df	26.519	6	14.768	.000
	Based on trimmed mean	33.297	6	91	.000

a. IV2_MNC_Loc is constant when Province = Limpopo . It has been omitted.

b. IV2_MNC_Loc is constant when Province = Northern. It has been omitted.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.416[a]	.173	.160	.179510273326337	.173	12.886	2	123	.000	.388

a. Predictors: (Constant), IV2_MNC_Loc, IV1_No_New_Bus_Reg

b. Dependent Variable: DV1_PP_Poverty

Descriptive Statistics

	Mean	Std. Deviation	N
DV1_PP_Poverty	.302	.196	126
IV1_No_New_Bus_Reg	873.310	1939.8197	126
IV2_MNC_Loc	127.532	255.5742	126

Correlations

		DV1_PP_Poverty	IV1_No_New_Bus_Reg	IV2_MNC_Loc
Pearson Correlation	DV1_PP_Poverty	1.000	-.320	-.290
	IV1_No_New_Bus_Reg	-.320	1.000	.079
	IV2_MNC_Loc	-.290	.079	1.000
Sig. (1-tailed)	DV1_PP_Poverty		.000	.000
	IV1_No_New_Bus_Reg	.000		.190
	IV2_MNC_Loc	.000	.190	
N	DV1_PP_Poverty	126	126	126
	IV1_No_New_Bus_Reg	126	126	126
	IV2_MNC_Loc	126	126	126

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.830	2	.415	12.886	.000[b]
	Residual	3.964	123	.032		
	Total	4.794	125			

a. Dependent Variable: DV1_PP_Poverty

b. Predictors: (Constant), IV2_MNC_Loc, IV1_No_New_Bus_Reg

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.355	.019		18.607	.000	.317	.393					
	IV1_No_New_Bus_Reg	-3.022E-05	.000	-.299	-3.640	.000	.000	.000	-.320	-.312	-.298	.994	1.006
	IV2_MNC_Loc	.000	.000	-.267	-3.241	.002	.000	.000	-.290	-.280	-.266	.994	1.006

a. Dependent Variable: DV1_PP_Poverty

Collinearity Diagnostics[a]

Model		Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	IV1_No_New_Bus_Reg	IV2_MNC_Loc
1	1	1.745	1.000	.16	.14	.14
	2	.753	1.523	.00	.62	.46
	3	.502	1.864	.84	.25	.40

a. Dependent Variable: DV1_PP_Poverty

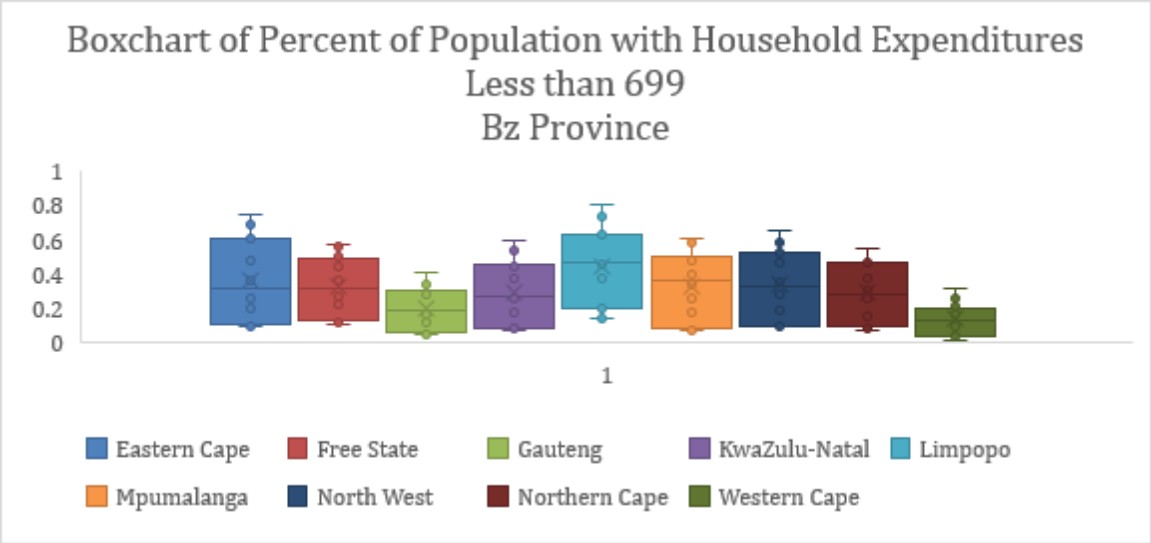
Appendix D: Comparison of 19 Models Using Mixed Method Regression

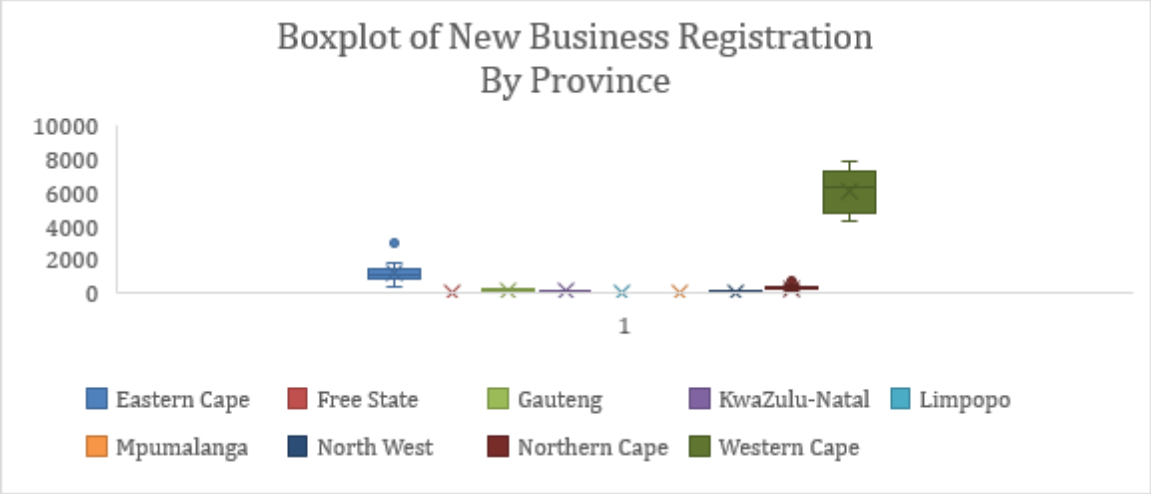
Model No	Description	Error	-2LL	df	-2LL Change	df Change	Chi-Statistic .050	Residual	Random Intercept Significance
1	Basic model that identifies the subject as the provinces, and includes two predictors as fixed effects covariants.	No	277.99	4.00				0.532	
2	Includes random intercept for Province with basic model that identifies the subject as the provinces, and includes two predictors as fixed effects covariants.	~~Yes~~	~~277.99~~	~~5.00~~	~~0.00~~	~~1.00~~	~~3.84~~		
3	Random Province and Slope, no predictors.	No	297.56	3.00	-19.56	-1.00	3.84	0.572	0.148
4	Random Province and Slope, with new business as predictors	No	288.25	4.00	-10.26	0.00	3.84	0.567	0.652
5	Random Province and Slope, with multinational corporations	No	289.94	4.00	-11.95	0.00	3.84	0.547	0.247
6	Time as repeated and province as subject with province left as random effect.No predictors	~~Yes~~	~~40.37~~	~~4.00~~	~~237.62~~	~~0.00~~	~~3.84~~		
7	Time as repeated and province as subject with random effect and two predictors	~~Yes~~	~~35.68~~	~~6.00~~	~~242.31~~	~~2.00~~	~~5.99~~		

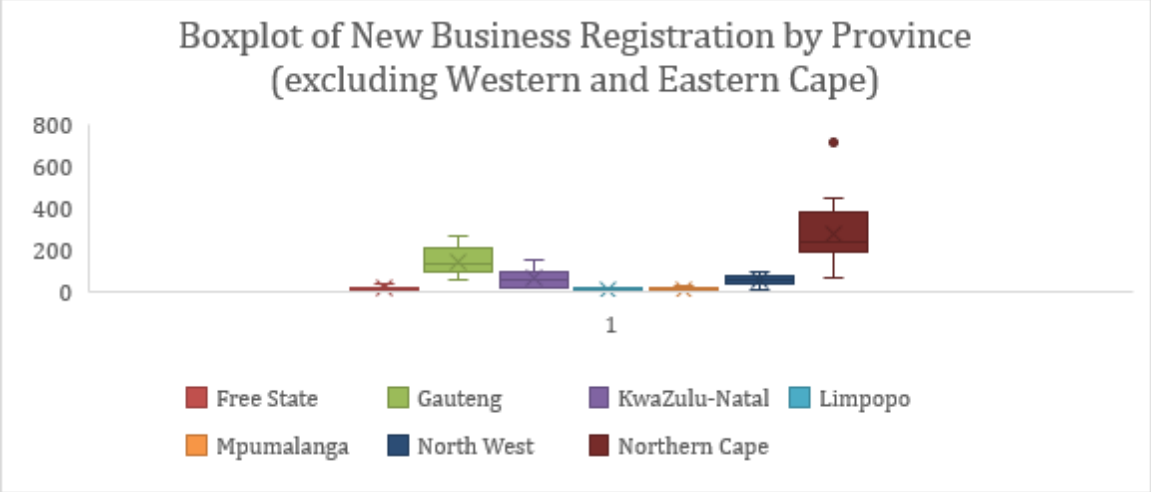
8	Province as subject groupings, two predictors as random effects. No fixed effects.	~~Yes~~	~~344.59~~	~~4.00~~	~~-66.59~~	~~0.00~~	~~3.84~~		
9	No subject groupings, two predictors as random effects. No fixed effects.	No	287.49	4.00	-9.49	0.00	3.84	0.542	0.676
10	Province as subject, six alternative factors and two independent variables as fixed effects.	No	60.59	11.00	217.40	7.00	14.07	0.085	0.202
11	Province as subject and random, With significant variables p < .02, including IV2 MNC as fixed effects	No	62.16	9.00	215.83	5.00	11.07	0.086	0.163
12	Province as subject and random, With significant variables p < .02, including IV2 MNC no random effect for province.	~~Yes~~	~~72.09~~	~~9.00~~	~~205.90~~	~~5.00~~	~~11.07~~		
13	Province as subject and random, With significant variables p < .02, including IV2 MNC as fixed effects. Time as a repeated measure with AR1	~~Yes~~	~~5.02~~	~~10.00~~	~~272.98~~	~~6.00~~	~~12.59~~		
14	Time as subject with random effect only. No predictors	No	175.92	3.00	102.07	-1.00	3.84	0.163	0.011
15	Time as subject with random effect only and province as repeated. No predictors	No	172.82	4.00	105.17	0.00	3.84	0.181	0.013

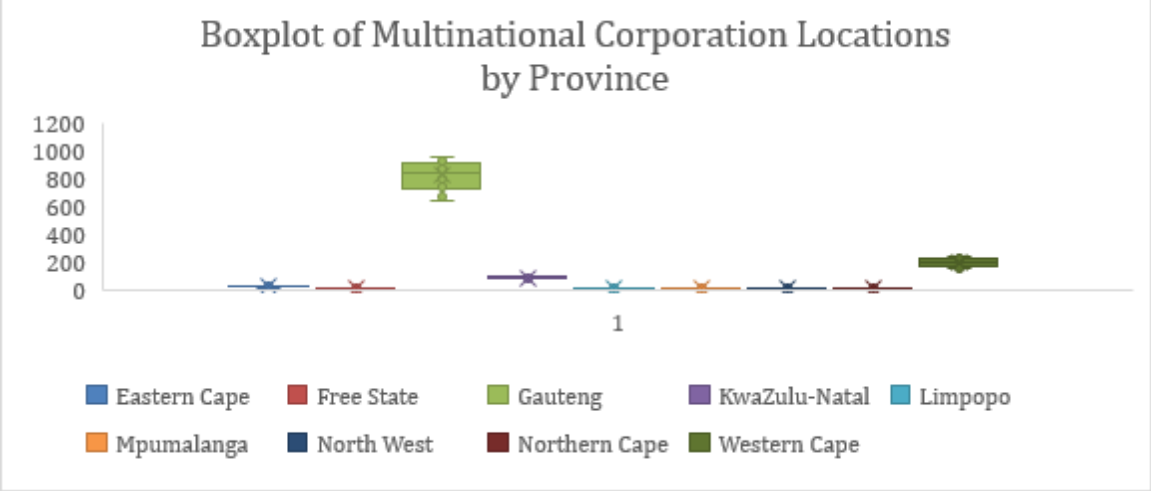
16	Time as subject with random effect only and province as repeated. Two predictors as fixed effects	No	35.07	6.00	242.93	2.00	5.99	0.046	0.009
17	Time as subject with random effect only and province as repeated. Two predictors as fixed effects along with six alternative factors.	No	-21.55	12.00	299.54	8.00	15.51	0.035	0.031
18	Time as subject with random effect only. Two predictors as fixed effects along with six alternative factors.	No	-20.55	11.00	298.55	7.00	14.07	0.034	0.040
19	Time as subject with random effect only. Two predictors as fixed effects.	No	37.18	5.00	240.82	1.00	3.84	0.048	0.009

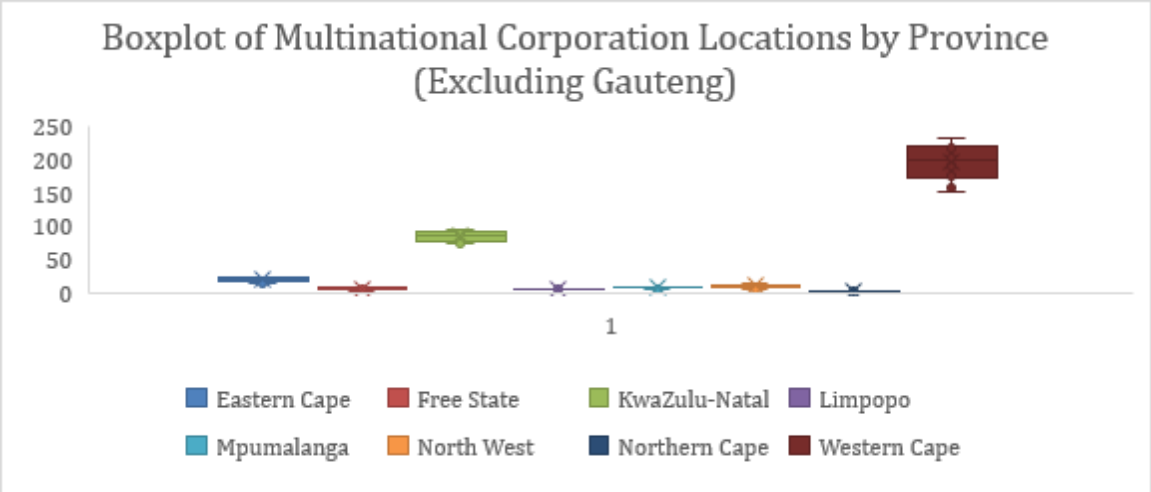
Appendix E: Box Plots for Study Variables by Province

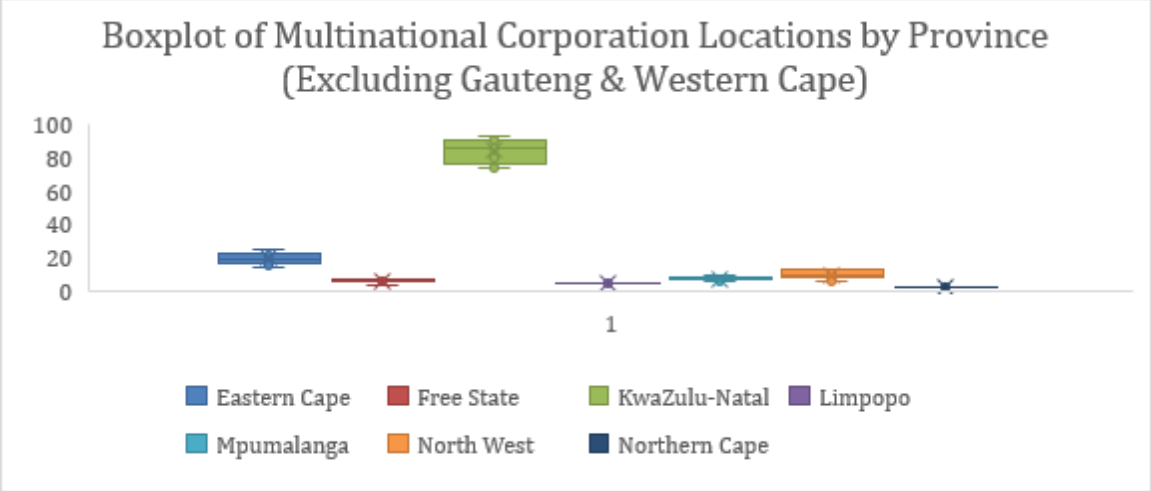




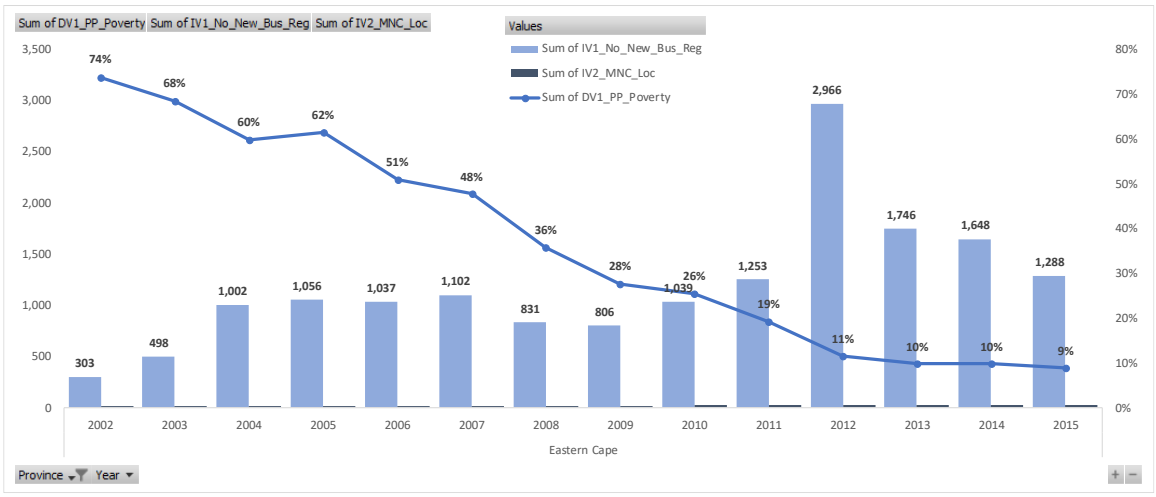

Boxplot of New Business Registration by Province
(excluding Western and Eastern Cape)
800
600
400
200
0
1
Free State
Gauteng
KwaZulu-Natal
Limpopo
Mpumalanga
North West
Northern Cape

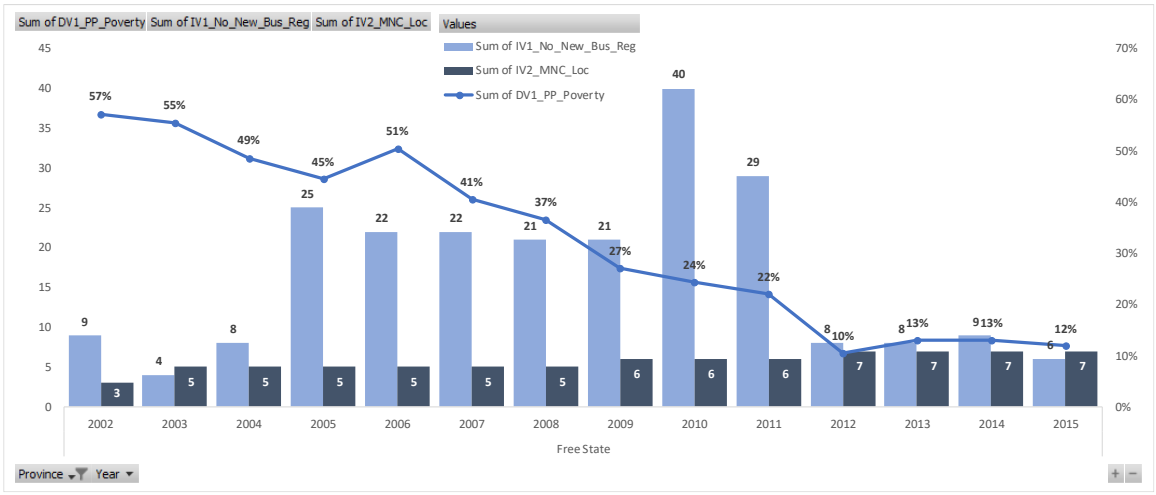

Boxplot of Multinational Corporation Locations
by Province
1200
1000
800
600
400
200
0
1
Eastern Cape
Free State
Gauteng
KwaZulu-Natal
Limpopo
Mpumalanga
North West
Northern Cape
Western Cape

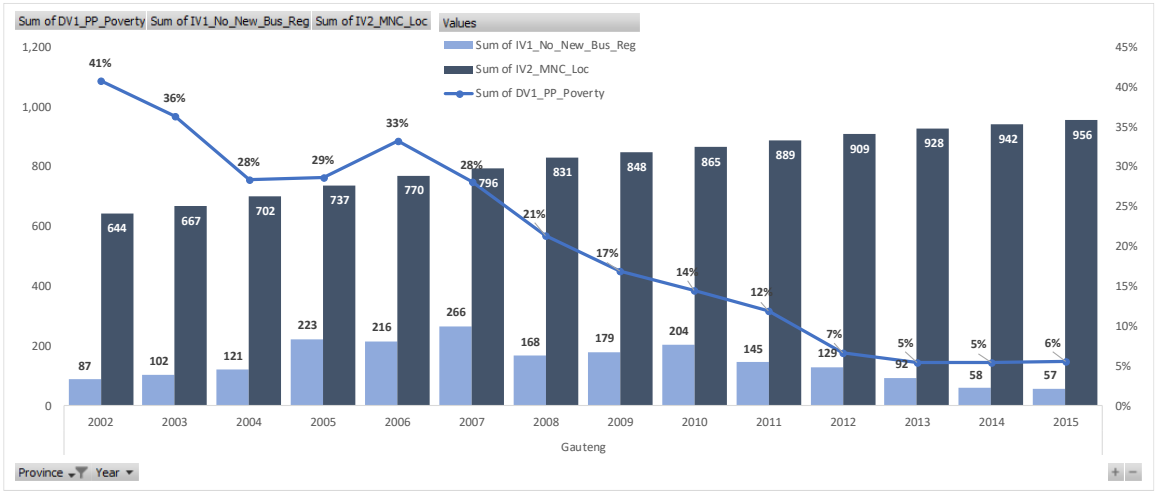

Boxplot of Multinational Corporation Locations by Province (Excluding Gauteng)
250
200
150
100
50
0
1
Eastern Cape
Free State
KwaZulu-Natal
Limpopo
Mpumalanga
North West
Northern Cape
Western Cape

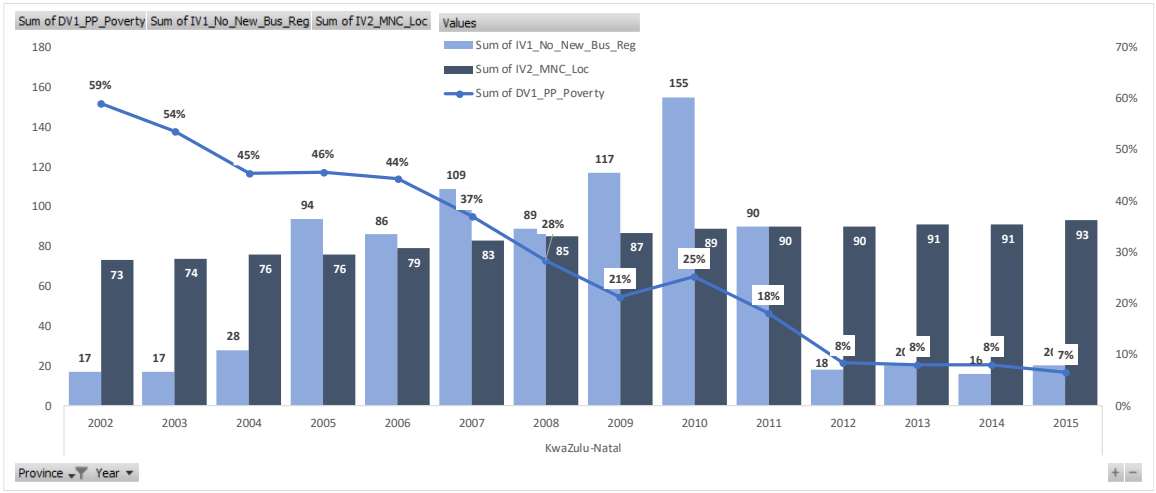

Boxplot of Multinational Corporation Locations by Province (Excluding Gauteng & Western Cape)
100
80
60
40
20
0
1
Eastern Cape
Free State
KwaZulu-Natal
Limpopo
Mpumalanga
North West
Northern Cape

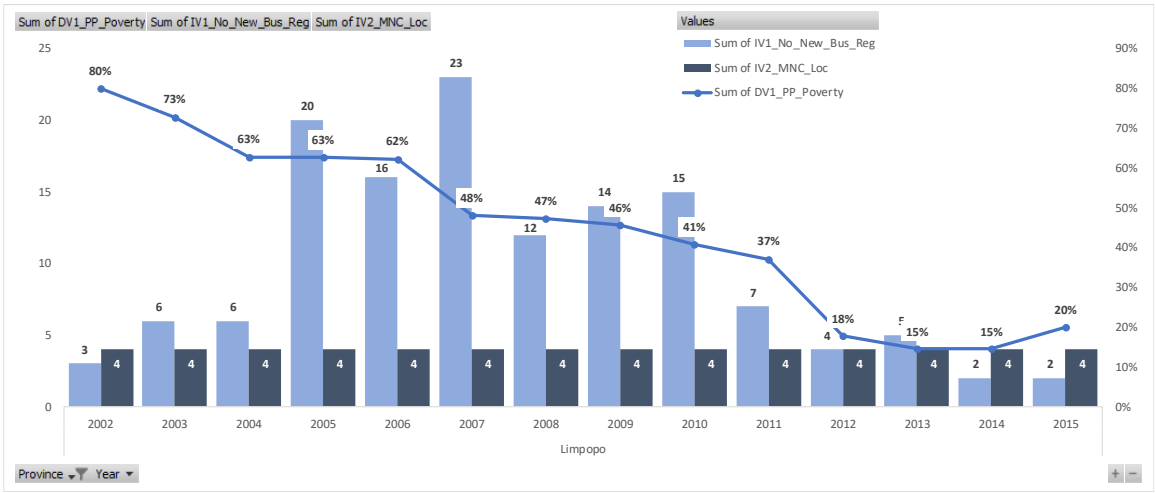
Appendix F: Combination Charts of the Three Study Variables for the Nine Provinces in South Africa

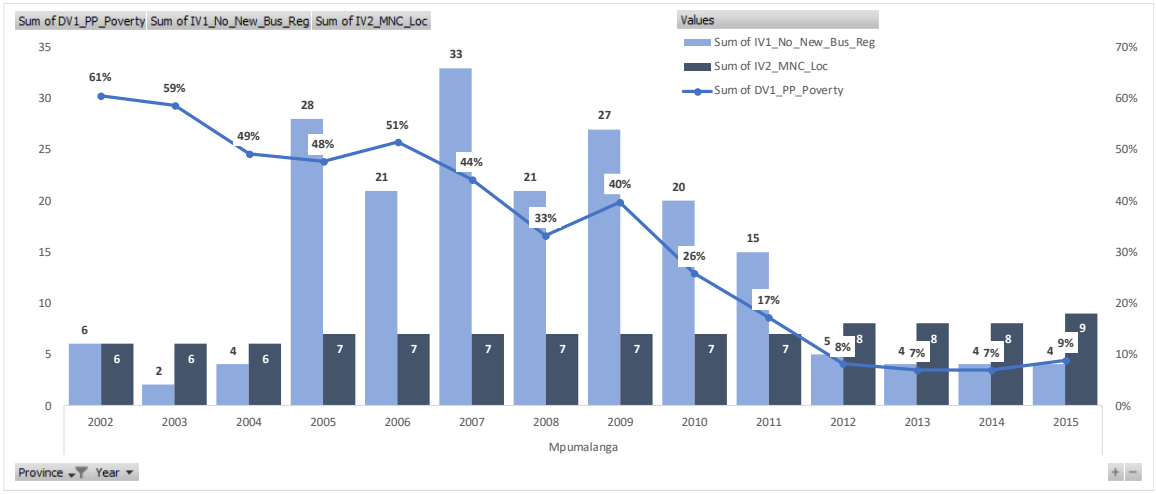


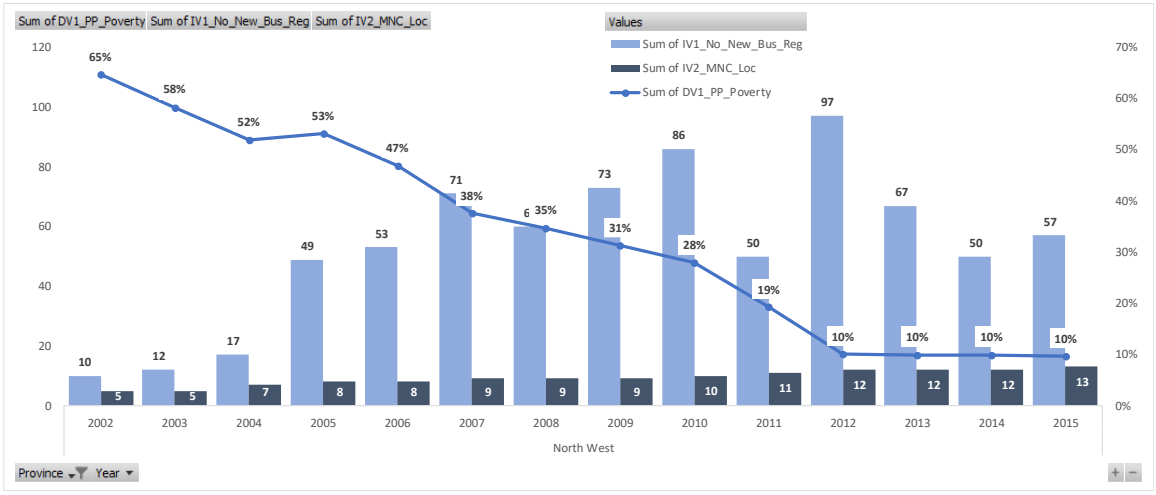


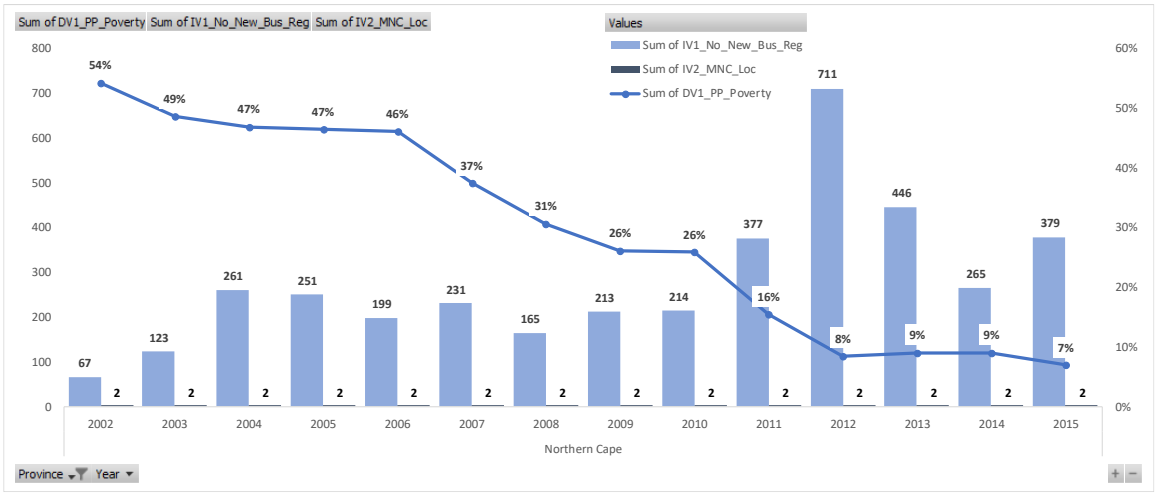

Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
Gauteng
Province
Year

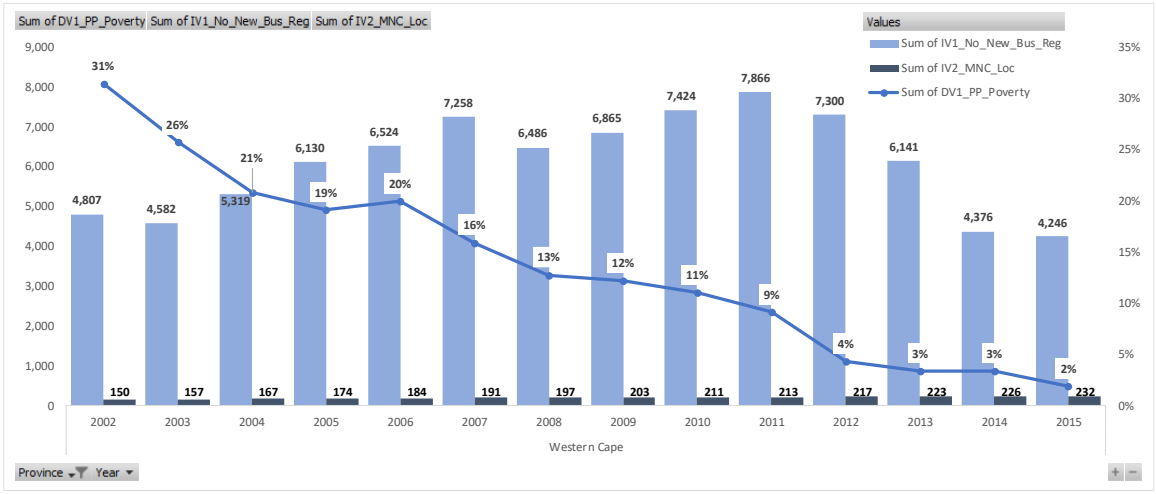

Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
KwaZulu-Natal
Province
Year


Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
Limpopo
Province
Year

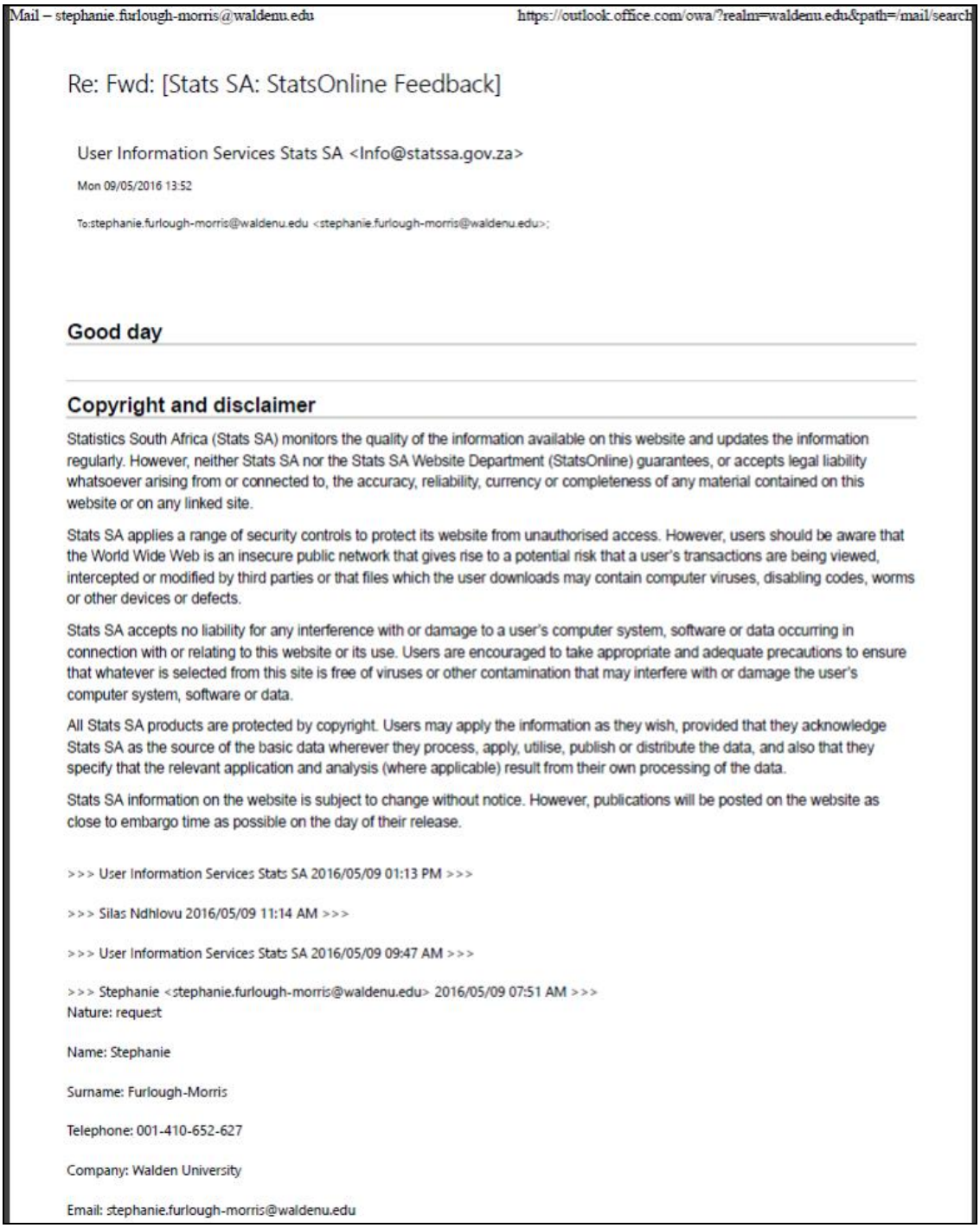

Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
Mpumalanga
Province
Year


Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
North West
Province
Year


Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
Northern Cape
Province
Year


Sum of DV1_PP_Poverty
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Values
Sum of IV1_No_New_Bus_Reg
Sum of IV2_MNC_Loc
Sum of DV1_PP_Poverty
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
35%
30%
25%
20%
15%
10%
5%
0%
31%
26%
21%
19%
20%
16%
13%
12%
11%
9%
4%
3%
3%
2%
4,807
4,582
5,319
6,130
6,524
7,258
6,486
6,865
7,424
7,866
7,300
6,141
4,376
4,246
150
157
167
174
184
191
197
203
211
213
217
223
226
232
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Western Cape
Province
Year

Appendix G: Permission from Statistics South Africa for Data Use



Mail – stephanie.furlough-morris@waldenu.edu https://outlook.office.com/owa/?realm=waldenu.edu&path=/mail/search

Re: Fwd: [Stats SA: StatsOnline Feedback]

User Information Services Stats SA <Info@statssa.gov.za>

Mon 09/05/2016 13:52

To:stephanie.furlough-morris@waldenu.edu <stephanie.furlough-morris@waldenu.edu>;

Good day

Copyright and disclaimer

Statistics South Africa (Stats SA) monitors the quality of the information available on this website and updates the information regularly. However, neither Stats SA nor the Stats SA Website Department (StatsOnline) guarantees, or accepts legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained on this website or on any linked site.

Stats SA applies a range of security controls to protect its website from unauthorised access. However, users should be aware that the World Wide Web is an insecure public network that gives rise to a potential risk that a user's transactions are being viewed, intercepted or modified by third parties or that files which the user downloads may contain computer viruses, disabling codes, worms or other devices or defects.

Stats SA accepts no liability for any interference with or damage to a user's computer system, software or data occurring in connection with or relating to this website or its use. Users are encouraged to take appropriate and adequate precautions to ensure that whatever is selected from this site is free of viruses or other contamination that may interfere with or damage the user's computer system, software or data.

All Stats SA products are protected by copyright. Users may apply the information as they wish, provided that they acknowledge Stats SA as the source of the basic data wherever they process, apply, utilise, publish or distribute the data, and also that they specify that the relevant application and analysis (where applicable) result from their own processing of the data.

Stats SA information on the website is subject to change without notice. However, publications will be posted on the website as close to embargo time as possible on the day of their release.

>>> User Information Services Stats SA 2016/05/09 01:13 PM >>>

>>> Silas Ndhlovu 2016/05/09 11:14 AM >>>

>>> User Information Services Stats SA 2016/05/09 09:47 AM >>>

>>> Stephanie <stephanie.furlough-morris@waldenu.edu> 2016/05/09 07:51 AM >>>
Nature: request

Name: Stephanie

Surname: Furlough-Morris

Telephone: 001-410-652-627

Company: Walden University

Email: stephanie.furlough-morris@waldenu.edu

Appendix H: Permission from Banerjee and Duflo for use of S-Shaped Curve

Stephanie Furlough-Morris
Chemin des Osches 9B, 1806 St-Legier, Switzerland
+41 78 401 79 77, stephanie.furlough-morris@waldenu.edu

June 24, 2017

Mr. Abhijit V. Banerjee and Ms. Esther Duflo
MIT Department of Economics
50 Memorial Drive
Building E52, Room 540
Cambridge, MA 02139

Dear Mr. Abhijit V. Banerjee and Ms. Esther Duflo,

I am completing a doctoral dissertation at Walden University entitled Examining Poverty, Entrepreneurship, and Multinational Corporation Participation in South Africa. I would like your permission to reprint in my dissertation excerpts from the following:

Banerjee, A. V., & Duflo, E. (2011). *Poor economics: A radical rethinking of the way to fight global poverty*. New York, NY: PublicAffairs.

The excerpt to reproduce is related to the figure of the S-shaped curve and poverty trap. It is presented on the next page.

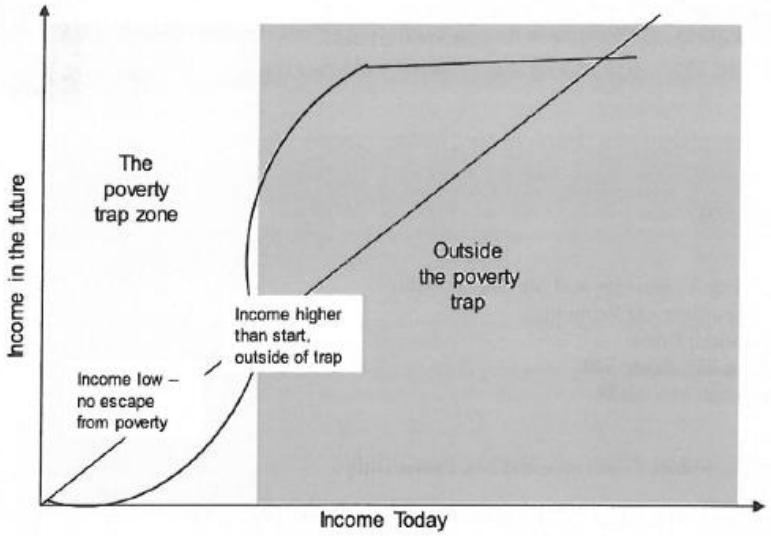


Figure 1. Diagram of the S-shaped curve and poverty trap. Adapted from *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, by A. Banerjee and E. Duflo, 2011, New York, NY: Public Affairs. Copyright 2011 by Public Affairs.

The requested permission extends to any future revisions and editions of my dissertation including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by ProQuest through its ProQuest Dissertation Publishing business. ProQuest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will confirm that you own the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me by email or provide written approval by email.

[Signature on next page]

Sincerely,

Stephanie Furlough-Morris

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

Signature _____

Date 9/28/17

Mr. Abhijit V. Banerjee and Ms. Esther Duflo
MIT Department of Economics
50 Memorial Drive
Building E52, Room 540
Cambridge, MA 02139