

SMALL BUSINESSES AND JOB CREATION IN SOUTH AFRICA

by

Darlington Dhanah

MINI-DISSERTATION

submitted in partial fulfilment of the requirements for the

Master of Commerce in Development Finance

at the

University of Capetown - GSB

Supervisor: Professor Nicholas Biekpe

Co-supervisor: Roland Banya

December 2016

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

PLAGIARISM DECLARATION

Declaration

1. I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.
2. I have used the convention for citation and referencing. Each contribution to, and quotation in, this essay/report/project/..... from the work(s) of other people has been attributed, and has been cited and referenced.
3. This essay/report/project/..... is my own work.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.
5. I acknowledge that copying someone else's assignment or essay, or part of it, is wrong, and declare that this is my own work.

Signature _____

Signed

DARLINGTON T DHANAH

ABSTRACT

There is a paradigm shift from traditionally relying on big businesses for stimulating economic growth and job creation to small businesses in both developed and developing economies. Developing countries in the last 3 decades have accelerated their support for small businesses in a bid to alleviate dire poverty levels they are faced with. Theoretically small businesses are believed to be more labour intensive compared to larger businesses and thus the shift. (Thorsten Beck, Asli Demirguc---Kunt, and Ross Levine, 2003: 2; Beck et al. 2003: 1). Empirically there are ample success stories emanating from China, Pakistan, Brazil just to mention a few, showing a fairly similar trajectory of increased economic participation by small businesses resulting in their significant contribution to GDP and employment creation.

However, South Africa has not necessarily followed a similar trajectory to its BRICS counterparts and thus this paper looked at small businesses and job creation in South Africa. It narrowed down to impediments that have stood on the way of small businesses' ability to create jobs. The study was exploratory, descriptive and quantitative in nature.

The results to this study are in alignment with previous studies on the subject matter and this study singled out access to finance, HIV Aids, operational costs and government taxes and regulations as statistically significant in explaining variation in the proportion of small businesses that create jobs.

This study ultimately recommended that over and above dealing with the above listed impediments directly, government should especially focus on consumer vulnerability and financial conditions on a macro-economic level as these have a direct impact on small businesses.

ACKNOWLEDGEMENTS

I would like to express my gratitude to all the people who assisted me with guidance and support during the drafting of this paper. In particular I would like to acknowledge;

- My wife and kids for understanding my absence during those long and rigorous blocks in Capetown.
- My co-supervisor Roland Banya for guiding me on every step of this study, I really appreciate this.
- My supervisor Professor Nicholas Biekpe for providing the overall guidance to this study and that strategic direction.
- My friend Gilbert Muzata for the exceptional detailed guidance on econometric and economic matters in my paper.
- And last but not least to the Almighty God for enabling all this to happen.

Table of Contents

PLAGIARISM DECLARATION.....	2
ABSTRACT.....	3
ACKNOWLEDGEMENTS.....	4
LIST OF TABLES.....	8
LIST OF CHARTS.....	8
LIST OF ABBREVIATIONS AND ACRONYMS	8
CHAPTER ONE	10
1. INTRODUCTION AND BACKGROUND OF STUDY	10
1.1. INTRODUCTION.....	10
1.2. STUDY BACKGROUND	10
1.3. PROBLEM DEFINITION.....	12
1.4. RESEARCH QUESTIONS.....	14
1.5. RESEARCH OBJECTIVES AND HYPOTHESES	14
1.6. JUSTIFICATION OF THE STUDY	15
CHAPTER TWO	17
2. LITERATURE REVIEW	17
2.1 CONCEPTUAL DEFINITIONS.....	17
2.1.1 Small, Micro and Medium Enterprises (SMMEs)	17
2.2 THE ROLE OF SMALL BUSINESSES IN AN ECONOMY.....	19
2.3 ROLE OF SMALL BUSINESSES ON JOB CREATION.....	21
2.4 SMALL BUSINESSES AND JOB CREATION IN SOUTH AFRICA.....	23
2.5 FACTORS LIMITING SMALL BUSINESS GROWTH	25
2.6 LIMITING FACTORS IDENTIFIED BY BUSINESS OWNERS/MANAGERS IN QUARTERLY SURVEYS.....	29
2.6.1 Access to Bank Credit.....	29
2.6.2 Taxes and Regulations.....	29
2.6.3 Insufficient Demand.....	30
2.6.4 Employee Costs	31
2.6.5 Operating Costs.....	33

2.6.6	Capital Costs.....	36
2.6.7	Access to Markets	37
2.6.8	Shortage of skilled labour	38
2.6.9	Exchange Rate	38
2.6.10	Competition from Imports	40
2.6.11	Crime.....	43
2.6.12	HIV/AIDS.....	45
2.6.13	Black Economic Empowerment	51
2.6.14	Procurement and Supplier	51
2.6.15	Other Factors	52
2.7	COMPARATIVE STUDIES.....	52
2.8	RESEARCH GAP IDENTIFIED.....	53
CHAPTER 3		54
3.	METHODOLOGY	54
3.1	INTRODUCTION.....	54
3.2	RESEARCH DESIGN	54
3.3	DATA SOURCES	55
3.4	DATA COLLECTION TECHNIQUES	56
3.5	DATA ANALYSIS AND INTERPRETATION.....	56
3.5.1	Dependant Variable	57
3.5.2	Independent Variables.....	57
CHAPTER 4		60
4.	DATA ANALYSIS	60
4.1.	INTRODUCTION	60
4.2.	DESCRIPTIVE ANALYSIS	60
i.	Access to Bank Credit.....	60
ii.	Government Taxes and Regulation.....	60
iii.	Competition from imports.....	60
iv.	Exchange rate.....	60
v.	Access to markets	61
vi.	Insufficient Demand.....	61
vii.	Shortage of skilled labour	61

viii.	Capital Costs.....	61
ix.	Operational Costs.....	61
x.	BEE	61
xi.	Crime.....	61
xii.	Impact of HIV	62
xiii.	Employee Costs.....	62
xiv.	Procurement and Supplier	62
xv.	Other Factors	62
4.3.	INSIGNIFICANT VARIABLES.....	65
4.4.	RESULTS OF OLS REGRESSION	65
4.4.1.	Model Overview	66
4.4.2.	Access to Bank Credit.....	66
4.4.3.	Government Taxes and Regulation.....	67
4.4.4.	Impact of HIV Aids.....	69
4.4.5.	Operating Costs.....	71
4.4.6.	Other Factors	72
4.5.	TESTS FOR THE REGRESSION: OVERALL WITH THE OTHER INDEPENDENT VARIABLES	73
4.5.1.	Test for multi-collinearity (Table 4.1 in Appendices):	73
4.5.2.	Test for heteroscedasticity (Table 4.2 in Appendices):.....	73
4.5.3.	Test for serial correlation (Table 4.3 in Appendices):	74
4.5.	ROBUSTNESS CHECK.....	74
4.6.	CONCLUSION.....	79
CHAPTER 5	82
5.	CONCLUSION AND RECOMMENDATION	82
5.1.	RECOMMENDATION	82
REFERENCES	85
APPENDICES	88

LIST OF TABLES

Table 2.1	GDP contribution by business size
Table 2.2	Dependent and Independent Variables to this study
Table 4.1:	VIF output for Multi-collinearity Test
Table 4.2:	Test for Heteroskedasticity
Table 4.3:	Serial Correlation Test
Table 4.4	Primary data multi regression results
Table 4.5	Secondary data multi-regression model results
Table 4.6	Primary regression model variables ranking
Table 4.7	Secondary regression model variables ranking

LIST OF CHARTS

Chart 2.1	SMMEs contribution to GDP
Chart 2.2	Chinese Import Penetration and employment Intensity 2001-2010
Chart 3.1	Job Creation trends by Sector and the overall net job position 2006 - 2015
Chart 3.2	SMME inhibiting Factors trends 2006-2015

LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Defiance Syndrome
GDP	Gross Domestic Product
HIV	Human immunodeficiency virus
SMMEs	Small, Micro and Medium Enterprises

USA	United States of America
BRICS	Brazil, Russia, India, China, South Africa
DTI	Department of Trade and Industry
DFI	Development Finance Institutions
NEF	National Empowerment Fund
SEFA	Small Enterprise Finance Agency
IDC	Industrial Development Corporation
SA	South Africa
NDP	National Development Plan
ILO	International Labour Organisation
USD	United States Dollar
WTO	World Trade Organisation
SACU	South African Customs Union
SAIIA	South African Institute of International Affairs
OECD	Organisation for Economic Co-operation and Development
IT	Information Technology
BEE	Black Economic Empowerment
SADC	Southern Africa Development Committee
ANOVA	Analysis of variance
OLS	Ordinary Least Squares
CVI	Consumer Vulnerability Index
HDI	Human Development Index
FCI	Financial Conditions Index

CHAPTER ONE

1. INTRODUCTION AND BACKGROUND OF STUDY

1.1. INTRODUCTION

Small, Micro and Medium Enterprises (SMMEs) are acknowledged globally for their unique contribution to economic development and creating employment opportunities (Ngui Thomas Katua, 2014). Both developed and developing countries realise that SMMEs have become one of the key instruments to use to face economic and social problems and to achieve development objectives. For developing economies, SMMEs are increasingly being recognised as productive drivers of economic growth and a major source of job creation.

This study reviews small businesses and job creation in South Africa. Though the global trend has been that small businesses are the solution to unemployment, in South Africa this has not followed suit. Even though there is a lot of investment in the small business sector, unemployment has continued to spiral and hovers close to the 30% mark.

1.2. STUDY BACKGROUND

Globally both developed and developing countries have grappled with fairly similar issues of unemployment, inflation, stimulation of economic growth and poverty alleviation with the latter evocative especially the developing countries. To stimulate economic growth (which is pivotal to employment creation and poverty alleviation), countries have followed a similar trajectory that started by primarily supporting large businesses in the 1970s and have slowly shifted to focusing on Small, Micro and Medium Enterprises (SMMEs) as a vehicle for job creation.

SMMEs have now widely been acknowledged globally by both developed and developing countries as pivotal to economic development, job creation and poverty alleviation (Ngui Thomas Katua, 2014). In recent years developing countries have realized that SMMEs are their gateway to stimulate their economic growth and address

the severe poverty they are faced with. World Bank statistics (2012) have shown that SMMEs in developing economies contribute more than 60% of gross domestic product (GDP) and more than 70% of total employment.

In South Africa, SMMEs contribute 56% of private sector employment and 36% of the gross domestic product (Ntsika, 2002). South Africa has battled high unemployment rates since its independence in 1994 and the situation has deteriorated in recent years. According to the Quarterly Labour Force Survey Media Release (Statssa, 2016), employment declined by 2,2% or 355 000 in Q1: 2016, which combined with an increase in the number of unemployed persons of 521 000 resulted in an unemployment rate of 26,7% (this was 2,2% higher compared to that reported in Q4: 2015). This is a serious challenge which concerns most South Africans and is the r root cause of most of the recent protest action haunting the country. One of the best ways to address unemployment is to leverage on the employment creation potential of small businesses and to promote small business development (FinMark Trust, 2006).

Gree and Thurnik (2003) argued that the contribution of the SMME sector cannot be sustained without the creation of new SMMEs. Schumpeter (1934) as cited in Wong et al.(2005) was one of the earliest economists to argue for new firm creation. According to Schumpeter, new firms are the vital force behind the progress of capitalism. The innovative activity of entrepreneurs feeds a creative “destruction process” by causing constant disturbances to an economic system in equilibrium, creating opportunities for economic rent. New SMMEs introduce new products and develop new technologies. As an important source of innovation, new firms bring competitive pressure to bear on established firms. According to Maas and Herrington (2006) new SMMEs are seen as a significant component of the solution to South Africa’s development issues. The creation and sustainability of new SMMEs are vital to the economic prosperity of South Africa. Without the creation of new SMMEs, South Africa risks economic stagnation. Given the failure of the formal and public sector to absorb the growing number of job seekers in South Africa, increasing attention has focused on entrepreneurship and new firm creation

and its potential for contributing to economic growth and job creation (Herrington et al., 2009).

Small businesses have played a very critical role in the development of most first world countries such as the USA. In the USA for example, the small business share of GDP held virtually constant from 1998 through 2004 starting at 50.5% in 1998, dropping slightly to 49.9% in 2000, and then rising to 50.7% in 2004. That is quite a significant contribution to an economy as large as the USA. The USA has managed to integrate SMMEs contribution into its mainstream economy where Africa has struggled to capture this pivotal market.

Though empirical evidence on how SMMEs transform economies is awash, South Africa has seen an increase in the unemployment rate at a moment that the country has increased its investment in the SMME sector. The country's commitment to this sector is evident in its enactment of the Small Business Act of 1996 and the recent creation of a Ministry entirely committed to the development of the SMME sector, i.e. The Ministry of Small Businesses. What then could be the reason why the intended effects are not being evident on the ground? Whilst the support of SMMEs in other countries such as China, Pakistan, Brazil has resulted in the stimulation of economic growth, in South Africa unemployment is on the rise and the latest data released by Stats SA has shown that the economy actually shrunk by 1.2% in the first quarter of 2016. This begs the question, why are these small businesses failing to generate the required jobs? This study intends on reviewing the factors that inhibit SMMEs' ability to create jobs in South Africa.

1.3. PROBLEM DEFINITION

The SMME sector is seen as a strategic sector for profound economic development, job creation and poverty reduction globally and therefore its success is of fundamental importance to most governments. The South African government has comprehended this and since independence has been increasingly supporting small business growth as an engine for economic growth and socio-economic integration.

The increasing rate of unemployment in South Africa has come as a result of major corporations exiting certain local markets due to economic pressure being caused by the weakening rand, the rampant labour unrests and clinging onto a rating just a notch above junk status by major rating agencies. These are all reasons why the economy shrank at -1.2% in the first quarter of 2016. Companies have started laying off workers thereby seeing a rise in the already high unemployment rate to 26.7%. To put this figure in perspective an analysis of unemployment rates in the BRICS countries show that Brazil, Russia, India and China have unemployment rates of 6.5%, 5.2%, 3.4% and 4.1% respectively according to the 2015 BRICS Joint Statistical Publication. Combining all of their unemployment rates does not add up to South Africa's level of 26.7%, thus relatively the South African unemployment rate is a very high and concerning figure.

However, in recent years the support for SMMEs in South Africa by both private and public sector has increased significantly, especially government support to the sector. As a commitment to SMMEs the government in 2014 created a Department of Small Business Development and has spent over R7.5billion (According to the DTI 2015 annual report). in the last 5 years on the sector through the Department of Trade and Industry and Development Finance Institutions (DFIs) such as the National Empowerment Fund (NEF), the Small Enterprise Financing Agency (SEFA), the Industrial Development Corporation (IDC), the Jobs Fund and many other avenues government has used to disburse these funds to small businesses. Despite all of this support, Economic Growth has slowed down, the unemployment rate risen and consequently poverty levels are on the rise.

Notwithstanding heavy investment in the SMME sector in South Africa, the outcome has been different to global trends. Across the world cases such as China, Pakistan and India just to cite a few have indeed seen tremendous growth in their economy because of SMMEs. In South Africa small businesses have slowed down in turnover and employment growth resulting in the economy shrinking and unemployment rising as highlighted in the Stats SA labour survey report for the first quarter of 2016. (Stats SA 2016)

Contrary to global trends where small and medium enterprises (SMMEs) constitute the largest employer in either developed or developing economies, smaller firms in South Africa are showing stagnation in both turnover and employment growth. Both these measurements are important – turnover has a strong bearing on the wealth being created in the economy, while employment is vitally important for South Africa’s social stability.” These worrying trends are the latest in the findings from the SME Growth Index. (SME Growth Index 2016).

The question that is left lingering for policy makers and relevant stakeholders in South Africa is that why after all of this support, are SMMEs failing to replicate global trends with regards to employment creation? This paper thus focuses on identifying critical factors that inhibit growth in the number of people employed by small businesses in South Africa. This study is based on the assumption that the more small businesses register, an increase in the number of people they are employing in successive periods, the greater the absolute number of people are actually being employed in the economy.

1.4. RESEARCH QUESTIONS

- To what extent are factors identified by small business owners/managers as limitations in the Africagrowth SMME Business Confidence Index report, an impediment to job creation in South Africa?
- Which of these factors negatively affect job creation the most?

1.5. RESEARCH OBJECTIVES AND HYPOTHESES

.Primary objective

- The primary objective of this study is to identify which of the inhibiting factors cited by small business owners/managers as impediments to the success of their business have a bearing on job creation and to what extent.

Secondary objectives

- Rank the limiting factors in order of impact on job creation. Starting with the limitation with the worst impact on job creation until the limitation with the least impact on job creation.

- Drafting of solutions to combat the effects of the most severe factors on job creation.

Hypothesis

- Ho = The identified factors significantly affect small businesses' ability to create jobs.
- Hi = The identified factors do not significantly affect small business' ability to create jobs

1.6. JUSTIFICATION OF THE STUDY

“Unemployment is a familiar affliction of modern day life, but its nature, causes and cures remain matters of dispute. As with many familiar things, closer examination leads to deepening mystery. Its pathology is complex, with social as well as economic ramifications" (Routh, 1986: 1). In the world of today which is characterised by globalisation, the unemployment problem has become a worldwide problem. It is endemic in both developed and developing countries, but for developing countries, this problem brings more challenges (like increased poverty) and complications (like political and social instability). South Africa is certainly no exception. In South Africa, this problem is succinctly expressed by Barker (1992:71): "Unemployment is probably the most severe problem South African society is experiencing and it is conceivably the root cause of many other problems, such as high crime rates, violence, and abject poverty. Prominent leaders in and outside government have also stated that no government will be able to govern South Africa if this problem is not addressed effectively".

From a social perspective, prolonged level of unemployment can create serious despondency amongst citizens which can denigrate to discontent amongst citizens. Any slight provocation can trigger violent demonstrations and social unrest. Citizens will be on the edge and thus are desperate to make a living resulting in a high crime rate and spontaneous strikes that quickly denigrate to violent and senseless demonstration as has been recently witnessed in Tshwane in the week ending 26 June 2016. The loss of property in mainly Mamelodi, Garankuwa, Soshanguve, Rosslyn and other parts of Tshwane will definitely be exorbitant as buses, cars, buildings were torched in protest.

In a bid to combat unemployment the South African Government has rolled out a large number of plans, a pivotal one of which is the support to small businesses which started with the Small Business Act of 1996. In the last 2 years government has spent significantly on small businesses starting from 2015 when the Small Business Development Department was allocated a spend of R3.5 billion on mentoring and training support to small businesses followed by R475million in 2016 meant for the same department and for the same purposes. This is nearly R4billion of tax payers funds allocated to small businesses. The primary goal of this huge expenditure was to obviously stimulate economic growth which would see a multiplier effect of job creation and the alleviation of poverty. Have these objectives been met however? Economic indicators in the same period instead showed GDP growth at a decreasing rate in 2015 and economic shrinkage reported in the first quarter of 2016 according to Statssa.co.za economic survey. Such a scenario warrants an investigation as to why these objectives are not met, what are the challenges small businesses are facing on their growth path and how can these be addressed.

Thus this study will focus primarily on factors that are inhibiting the number of small businesses creating jobs.

Very little empirical research has been conducted on small businesses, in particular, to identify the factors critical for small business success (Coy, Shipley, Omer and Khan, 2007: 181-183; Martin and Staines, 1994: 23; Rogoff, Lee and Suh, 2004: 365; Simpson, Tuck and Bellamy, 2004: 482; van Praag, 2003: 1). According to Rogoff et al. (2004: 365), “discovering which factors or practices lead to business success and which lead to failure is a primary, and as yet unfulfilled purpose of business research” and therefore it is highly relevant to investigate and understand the determinants of small business success (van Praag, 2003: 1).

CHAPTER TWO

2. LITERATURE REVIEW

This chapter includes a thorough review of literature that pertains to small businesses and the limiting factors to their growth. It starts with conceptual definitions followed by the theoretical and empirical analysis. While theoretical analysis consists of important views and theories related to SMMEs and the factors that inhibit their ability to grow and create jobs, in an empirical analysis real life cases are analysed to see if they support or reject theories on subject matter.

2.1 CONCEPTUAL DEFINITIONS

2.1.1 Small, Micro and Medium Enterprises (SMMEs)

From country to country the definition of small businesses varies as the same variables such as revenue, asset base, number of workers, ownership can determine in which category the business falls. Also this varies from sector to sector as some sectors are more labour and asset intensive than others. Thus what constitutes a small, micro and medium enterprise is not cast in stone and thus varies between countries making it at times difficult to conduct a cross-sectional comparison. For example, Chile uses turnover to classify businesses whereas in South African its turnover, number of employees and asset base.

In many cases, these classifications are enshrined in legislation; for example, in South Africa by the National Small Business Act (1996) and related Amendment Bill (2003).

An SMME in South Africa is any business with less than 200 employees, an annual turnover of less than R5 million, capital assets of less than R2 million and an owner who is directly involved in the management of the business (Cronje et al. 2000). The National Business Act of 1996 defines SMMEs as a separate and distinct business entity, including cooperative enterprises, sole proprietorships, partnerships, close corporations, and non-governmental organisations, managed by one owner or more

which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy (Government Gazette of the Republic of South Africa 1996).

SMMEs in the South African context are classified into five categories that are as follow:

- A) Survivalist Enterprises;
- B) Micro Enterprises;
- C) Very Small Enterprises;
- D) Small Enterprises; And
- E) Medium Enterprises.

The survivalist enterprise is generally seen as providing an income below the poverty line. Micro-enterprises are considered as businesses with a turnover of below the VAT registration limit of R300, 000 (Chalera 2007).

Many of these informal and micro-enterprises provide the livelihoods of millions of people in South Africa. In developed countries such as Britain, businesses with less than 500 employees are considered small, while in developing countries such as South Africa the number of employees may be considerably smaller. “In developing countries a small business employs between 5 and 9 employees, whilst, a medium business employs between 20 and 90 employees” (Quartey 2001).

For example, in Zimbabwe the Ministry of Small and Medium Enterprise Development (2002) defines an SMME as a registered enterprise with employment levels ranging from 30 to 70 employees and depending on the type of industry will be referred to as a small or medium scale enterprise. According to the European Union (2004), an SMME is a small firm which employs less than 50 employees and a medium firm has less than 250 employees.

An analysis of both the South African and international definitions of SMMEs shows that, there is agreement on what constitutes an SMME in terms of the number of employees.

The minimum number of employees is between 1 and 50 and the maximum is approximately 500 for medium enterprises depending on the industry. What is crucial is that sufficient capital must be made available so that SMME will be successful and will be able to grow and develop.

There seems to be an agreement in both South African and international definitions of SMMEs that an SMME must be registered and be formal. This is essential as it enables government to assess the contribution of the SMME to the economy. As per definition the asset base differs across borders, but is essential that a company has a sufficient capital base for production purposes and also for everyday operations.

Nevertheless, this study adopts the definition by The National Business Act of 1996 which defines an SMME as a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy. This definition is adopted because; it gives a standpoint of how the government defines SMMEs.

2.2 THE ROLE OF SMALL BUSINESSES IN AN ECONOMY

Small, Medium and Micro Enterprises (SMMEs), also referred to as small business, play an important role in an economy. They can be key drivers of economic growth, innovation and job creation. In South Africa, government recognises the importance of this segment of business activity, so much so that a new Ministry of Small Business Development was established in early 2014. The aim of the Ministry is to facilitate the promotion and development of small businesses. These enterprises contribute significantly to national GDP and have proved to be major contributors to job creation (DTI, 2008). South Africa struggles with an alarmingly high national unemployment rate of 25% (StatSA,2015), which is partly exacerbated by a chronic shortage of skilled labour. Against this backdrop, government is aiming to put

policies, strategies and programmes in place which aim to create an enabling environment for small business.

Contribution to GDP

The gross value added (GVA = GDP before taxes and subsidies) is the sum of all wages, net operating surplus (NOS) and consumption of fixed capital. From the QFS data we can derive a similar number than GDP by summing the combined salaries paid, profits and depreciation respectively.

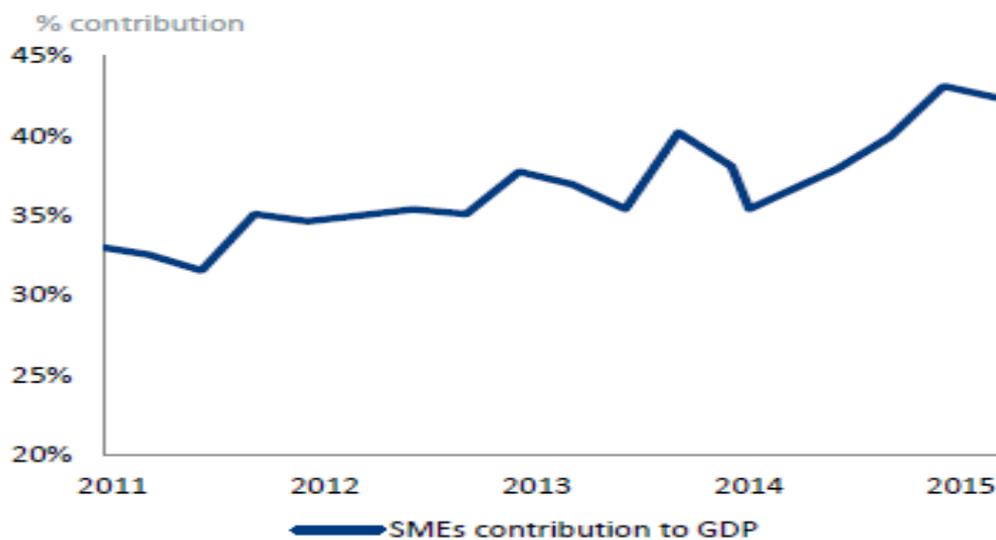
Table 2.1 GDP contribution by business size

Output: R million	Dec-10	Mar-15	% change
Large	469 238	531 624	13%
Medium	62 250	81 128	30%
Small	169 846	310 032	83%
Total	701 334	922 784	32%
GDP	717 741	965 016	34%
% SMEs	33%	42%	

Source – statssa 2016

From this aggregate we can derive that SMMEs contributed 33% to GDP in 2010Q4, and their contribution increased to 42% by 2015Q1.

Chart 2.1 SMMEs contribution to GDP



Source – statssa 2016

2.3 ROLE OF SMALL BUSINESSES ON JOB CREATION

The study of the relationship between SMMEs and employment has traditionally been focussed on the question of whether large firms or SMMEs create more jobs. This is due to a key rationale for SMME promotion, over the past 3 decades, being based on the view that SMMEs are more labour intensive than large firms and thus the growth of the SMMEs would result in higher levels of employment (Thorsten Beck, Asli Demirguc---Kunt, and Ross Levine, 2003: 2 ; Beck et al. 2003: 1).

The debate can be traced to the early work of David Birch (1979 and 1981). Writing in a context of the US “losing manufacturing jobs” to Japan and consequently needing to create more employment of its own, Birch raised the issue that little was known regarding the process of job creation, in particular he stressed that it was not known whether it was small or large firms which contributed more significantly to employment creation. The answer to this question had considerable implications for economic policies and the nation’s ability to create jobs. Answering this question would allow for more efficient allocation of scarce resources in terms of which firms, small or large, should be targeted for support to create employment. Birch stressed that the gap between understanding the micro and macro was a serious shortcoming affecting the ability of the state to provide policies that would develop jobs. Aggregating a rich data set on 4 million businesses, representing over 80% of total recognised (formal) establishments in the US, Birch and his team looked at net new job creation across small and large businesses. Birch found that between 1969 and 1976 over two thirds of total net new jobs created were by small firms (less than 20 employees), whilst large corporations appeared to be stagnant (Birch, 1979: 17). Birch also found that small firms were more likely to employ youth.

Following Birch’s seminal work, and arguably its real impact on economic policies, there emerged a body of literature criticising and contesting Birch’s findings. These included; Brown, Hamilton and Medoff (1990); Davis, Haltiwanger and Schuh (1996) and; Haltiwanger, Jarmin and Miranda (2013). For the South African context Kerr, Wittenberg and Arrow (2013) find that large firms contribute more to net employment growth than small firms. At the same time other studies emerged confirming Birch’s finding of a negative relationship existing between firm size and net employment

creation. These included the work of Kirchoff and Phillips (1988), Baldwin and Picot (1995), Broersma and Gautlier (1997), Davidson et al (1998), Barnes and Haskel (2002), Voulgaris et al (2005) and Neumark, Wall and Zhang (2011).

Notwithstanding studies with findings to the contrary, Birch's seminal work sparked wide-ranging interest in the role of small business in creating jobs. A view was engendered, that SMMEs were more labour intensive than large firms and accordingly the expansion of this sector would boost employment and reduce poverty. SMMEs emerged as a tool for fighting poverty. Many countries, including South Africa, along with the World Bank and other multilateral agencies embarked upon SMME promotion and development as a key policy in the process of economic development and poverty reduction. In the US Birch's findings were used as justification for favourable government regulations, tax incentives and support programmes for small business (Neumark, Wall and Zhang, 2011).

However the fixation on firm size and net employment creation in the study of SMME employment severely limits the understanding of SMME employment.

Firstly, studies that have looked at the relationship between firm size and employment have almost always been in the context of the developed world. For example, David Birch's original work (1979) looked at the US, Baldwin and Picot (1995) considered Canadian manufacturing, Broersma and Gautlier (1997) looked at the Dutch economy, whilst Davidson et al. (1998) studied the Swedish economy. The reason there exists little work on developing economies is owing to the absence of rich panel data in the developing world.

The second reason that the fixation on firm size and net employment creation limits the understanding of SMME employment is the implicit assumption that firm size, and by extension SMME employment, constitutes an exogenous variable. In the industrial organisation literature firm size is considered an endogenous variable determined by a range of economy, time and context specific factors. These factors include natural resource endowments, technology, policies and institutions. The range of factors interact to determine a nation's economic structure and optimal firm size (Kumar, Rajan and Zingales, 2001). For example a nation's endowments allow a

country comparative advantage in the production of goods which can be produced more efficiently in large firms or small firms (You, 1995). This then reflects in a nation's macro-level data indicating a negative or positive relationship between firm size and net job creation.

The industrial organisation literature highlights the importance of a range of economy specific factors in understanding SMME employment beyond macro-indicators of SMME contribution to growth. Furthermore, the use of aggregate studies that consider small versus large firms contribution to employment as a guide for policy development is problematic, as aggregate level data does not consider the type of industry. Optimal firm size differs according to industry. This study therefore focuses on key determinants of SMME employment rather than SMME contribution to growth.

2.4 SMALL BUSINESSES AND JOB CREATION IN SOUTH AFRICA

Through the National Small Business Act (1996) the South African government acknowledges the economic potential of a strong Small-, Micro and Medium Enterprise sector and is committed to its promotion and growth. The government aims not only to increase the number of new ventures, but also to create an enabling environment to ensure the survival and growth of small businesses. According to Van Eeden, Viviers and Venter, (2003:13) the National Small Business Act (1996) has been instrumental in the creation of an enabling environment by means of its provision made for financial and non-financial governmental assistance to all South African entrepreneurs.

Estimates of the contribution of small, medium and micro enterprises (SMMEs) to the economy vary. In terms of contribution to GDP, an estimate of 52% to 57% has been quoted by the Department of Trade and Industry, who put the number of SMMEs in South Africa at 2,8 million and their contribution to employment at 60% (DTI,??). Moreover, looking ahead, the National Development Plan projects that, by 2030, no

less than 90% of new jobs will be created in small and expanding firms. South Africa needs over 49,000 scalable Small and Medium Enterprises (SMMEs), growing at a rate of 20% per annum, to create 11 million jobs by 2030 to meet the National Development Plan (NDP) target.

This is according to the Endeavor jobs calculator, a global tool developed by the International Labour Organisation (ILO), National Statistics Agencies and Endeavor Insights, which takes into account the different factors that are essential for job creation.

The country would need as many as 8.2 million small and micro-enterprises to create the same number of jobs.

According to Stats SA's employment data for 2014, labour market conditions in South Africa improved following the economic crisis, with the total number of employed persons increasing between 2008 and 2014 – from 14.6 million to 15.1 million.

However, the number of unemployed persons also increased – from 4.3 million to 5.1 million – resulting in an increase in the unemployment rate from 22.5% in 2008 to 25.1% in 2014.

Government's New Growth Path is targeting 5 million new jobs by 2020, while it also aims to reduce the unemployment rate from 27% in 2011 to 6% by 2030 by creating 11 million new jobs. With the official unemployment rate at 30% job creation is one of South Africa's main priorities. It is estimated that 300 000 jobs must be created annually just to halt unemployment (Rwigema & Venter, 2004:10). So bleak a scenario underscores the need for entrepreneurship and the role it must play in South Africa. Without a steady supply of entrepreneurs, South Africa is likely to stagnate and decline economically. The SMME sector can thus be perceived as a vehicle by which the lowest-income people in our society gain access to economic opportunities - at a time that distribution of income and wealth in South Africa is amongst the most unequal in the world.

The employment targets that the South African government has set to accomplish by 2030 and the vehicle through which all this will be attained are very clear. However in the past 5 years through the Ministry of Small Business Development, government had a R1billion annual budget for small businesses. The spend totals to R5billion in the last 5 years and still unemployment numbers have continued to rise. Currently the official unemployment figure is sitting at 26.6% in the 2nd quarter of 2016 and is forecast to be at 26.4% which is still a very high figure.

Empirically there is enough evidence from several developed and developing countries including China and Pakistan that support the theory that investing in small businesses will stimulate economic growth and thus reduce the unemployment rate. However, South Africa's scenario is quite the opposite, in recent years the number of small businesses has been on the rise but strangely unemployment has also been on the rise simultaneously.

Several studies have been conducted to investigate factors that hinder small business growth in South Africa and around the world and those factors have been captured in section 2.5 below.

2.5 FACTORS LIMITING SMALL BUSINESS GROWTH

There has been ample research conducted in various parts of the world regarding factors that limit small business development and eventually leading to their demise if not identified on time and remedies put in place. These factors are more dominant in the developing world than they are in the developed world at this particular juncture. The developed world seems to have found ways to identify and rectify these limiting factors on small businesses.

Dickey (1994:197) identified proper management of cash flows as one critical reason why small businesses fail. On start –up or expansion, more financial resources need to get invested for a while before any benefits can be realised by the business owner.

Hall in (1995:19) identified a set of reasons to explain why small businesses fail which included the dominance by the owner over employees instead of taking a more

leadership role, a weak finance function, lack of management depth and also poor governance structure shown by a nonparticipating board. In addition, no-one above in the combination of chairman and chief executive roles awakes or directs or warns one about any caution. The result of this is that small businesses will respond badly to changes making decisions that are detrimental to their survival for example increased gearing, overtrading and employing poor financial information.

An article by the Small Business Advisor(199:15-16) pin points bad budgeting, lack of staff training, bad personnel relations, bad stock control and bad customer relations as the main reasons why thousands of businesses are failing.

A study by Resnik (1988); Hodgetts and Kuratko (1998) and Honsby and Naffziger (2000) all identify crime as the reason why small businesses fail. This serious problem of theft can befall a business from any source, be it from a professional criminal, a customer, a supplier, or an employee. Hodgetts and Kuratko (1998) looks at internal crime within a small business and squarely put the thriving of this type of crime on the following factors:

- Hiring personnel without a careful background check or employment references
- Failure to enforce strict, uniform rules for even minor infractions
- Failure to establish a climate of trust, confidence, and respect for employees as well as incentives for outstanding and honest performance
- Failure to apply techniques that will thwart opportunities for employee theft
- Cost-cutting measures

A report done by Mambula (2002:58-61) after assessing 32 small businesses in Nigeria ascertained that small businesses fail because of lack of training and lack of acquired foreign capital to purchase machinery and small parts. This study isolates skills and funding as an impediment to growth in small businesses. Mambula also cites government officials' harassment in order to extort money from businesses as another challenge faced by small businesses in Nigeria.

Other limitations noted in the study are the poor infrastructure such as roads, water supply, electricity supply and telecommunication systems. A lack of such facilities would thus result in increased overheads for businesses as they now have to spend more to obtain such facilities on their own. Drame, as quoted by Mambula (2002:61) further adds that implementation of any existing policy can be difficult because of the constant changes that come along with governmental administration changes and inter-government conflicts. In a nutshell Drame's arguments highlight inconsistency in policy from one administration to another.

A study by Van Aardt, van Aardt and Bezuidenhoud (2002: 250) echo what other prior studies have identified as impediments to small business growth and development. They identify eight major reasons for the failure of small businesses. These are poor management skills, poor record-keeping, poor money management, and too little effort to market the business, poor planning, poor pricing practices, poor human resource management and the business owner's inability to adapt to the changing demands of a business.

Macleod, as quoted by Ladzani and van Vuuren (2002: 155) highlights that the failure to accurately forecast start-up operational costs results in some businesses failing before they even open shop because failure to forecast will result in some cash flow constraint.

Lidzani and van Vuuren (2002:157-158) acknowledge that training alone cannot be adequate for success, and emphasise that constraints such as the lack of financial resources, lack of access to market, lack of support services and low literacy levels as impediments to small business growth.

Drodskie (2002: 19-20) makes very interesting observations about business location and performance. Drodskie clearly distinguishes between a business located in the townships and a business located in white affluent neighbourhoods. The latter has a better credit record than the former and the study squarely blames infrastructure in the different neighbourhoods. As a result of not having access to cheque books, townships

businesses are asked to make upfront payments which in turn put a constraint on their cash-flows. Drodskie (2002) highlights the lack of title deeds in the township as an impediment to business development. That sense of ownership alleviates unnecessary conflicts and brings about accountability.

In their study, Bekker and Staude (1996) singles out poor planning as the cause for the poor performance of small businesses. Managers in these small business do not have clearly outlined job descriptions and thus their key roles of organising, leading and control at times are neglected. Burns and Dewhurst (1996) share a similar sentiment with regards to planning. Their study revealed that most small businesses fail because their plans are sales-oriented and they need a transition outlook in order to meet customer needs.

Hubbard and Hailes (1988) highlights the lack of employee satisfaction as a major limiting factor to small businesses that hire family members. If employees' objectives are not met, then their commitment to their work is compromised which is a scenario that has ripple negative effects on productivity. Pickle and Abrahamson (1990) add on to this study as they discover that family run businesses have no clearly defined job descriptions which usually results in conflicts. Longenecker (2003) argues that if small business owners do not create an environment that encourages personal interaction, employees will never do their best in helping the business prosper.

There is very little data on small businesses in South Africa, however there are a few organisation that have periodically gathered SMME data in South Africa and one of them is Africagrowth Institute. It is an organisation based in South Africa which has over the last 10 years gathered quarterly data on business limiting factors from a group of small businesses randomly selected. This data is the primary data on which this study is based.

2.6 LIMITING FACTORS IDENTIFIED BY BUSINESS OWNERS/MANAGERS IN QUARTERLY SURVEYS

2.6.1 Access to Bank Credit

A common fatal challenge for many failed businesses is having insufficient operating funds. Business owners underestimate how much money is needed and they are forced to close before they even have had a fair chance to succeed. They also may have an unrealistic expectation of incoming revenues from sales. Business should be adequately capitalised to help see it through the first few years of operation, times when new enterprises work through growth and uncertainty.

David M. Anderson identifies a lack of capitalization as one of the deadly sins of an entrepreneur. Anderson says entrepreneurs, "...must be reasonably sure of your source of funds, whether it's private or public capital investors, personal funds or loans." He suggests that business owners set certain capital requirements at different stages of the company's growth.

According to an article by Baltic Sea Region in 2004, most small businesses suffer from a shortage of capital that mainly reflects defects in the supply of finance available to them through the market and in the methods of financing used. There are a number of reasons why financial markets do not work perfectly as far as small firms are concerned. For example, the main obstacles being faced currently in Russia are a lack of development of finance and credit services, reflecting poorly developed financial markets and a lack of knowledge on the part of small business managers of some of the contemporary methods of financing. Small firms face an underdeveloped commercial market for loan finance, combined with a lack of effective participation by government in supplying finance to small firms, either directly or indirectly by offering guarantees.

2.6.2 Taxes and Regulations

There are two parts to the debate about the effect of law on enterprise on SMMEs in South Africa. The first is whether the regulation should apply to SMMEs and if so, how it should apply. In other words, do worker rights detract from competitiveness, preclude owners from making the right choices, and are SMMEs

particularly vulnerable to enhancements in worker rights? Critics have suggested that present labour standards discourage employment (Kesper, 2000; Rankin, 2006). This would include excessive red tape, the ‘hassle factor’, and the difficulty of dismissing employees, all of which may deter employers from adopting strategies centring on creating new jobs.

The second relates to the compliance by SMMEs to the labour legislation. In other words, as suggested by the literature, is the compliance problem particularly pronounced in the case of SMMEs in South Africa? Does government policy have little real impact? A general limitation is that there is little research-based evidence about the constraints of doing business in South Africa, other than general comparative analysis, and ‘the evidence presented is often patchy, overly reliant on anecdote, sometimes contradictory, sometimes politicized’ (Hudson, 2004:7). There is similarly limited information on the extent of systematic non-compliance with labour law among SMMEs, although existing research evidence would point to evasion and generally poor labour standards, especially in the informal sector (Webster, 2004).

2.6.3 Insufficient Demand

Insufficient demand is one limiting factor that was raised by the sampled businesses in the Africagrowth quarterly survey. The consequences of insufficient demand can have serious ramifications on businesses, especially small businesses that are still growing and would thrive with increased demand.

Demand that is not sustained at the level that supports the current level of quantity supplied into that market because of insufficient demand, will result in the price of that commodity falling, leading some suppliers to exit the market. Eventually prices will fall to the level that satisfies market demand for that commodity, and thus achieve equilibrium.

Small businesses are usually affected the worst by this type of development because they are just penetrating the market and do not enjoy client loyalty to the extent that they can afford to reduce their prices. Coupled with the fact that at

early stages of businesses entities are still trying to reduce gearing and break even, price cut would see such businesses close shop.

2.6.4 Employee Costs

Employment costs fall into several broad categories including recruiting expenses, total remuneration, office space, leave, equipment cost, ongoing & administration costs and training.

a. Recruiting expenses

In South Africa recruitment of skilled labour normally takes place via recruitment agencies. Agencies charge for their administration work which involve advertising the position, conducting interviews, drafting employment contracts, induction training and any other related charges. For small businesses getting the right skilled labour is critical and thus the use of employment agencies has more benefits in the long-run but the challenge is that most of these small businesses might not be in existence in the long run. The challenge is that payment to recruitment agencies is all done upfront, i.e. immediately after the required employee has been hired an invoice is sent to the employer even though the benefits of employing the skilled individual will accrue over time. This time difference can be very costly for small businesses and these costs are quite significant if the recruited person is in senior management and can result in a constrained cashflow position.

b. Total Remuneration

The most direct and significant costs of an employee are the remuneration costs which are made up of salaries, wages, allowances, bonuses and any other long and short term incentives which accrue to employees. These costs form part of the costs to company and have a direct implication on the bottom line of companies.

c. Office Space

Employees need office space to execute their duties and this office space costs money in the form of bonds or rent. To find the total cost of space per employee,

divide the total number of m^2 by the number of employees and then multiply by the cost per m^2 . These costs are quite significant and can have detrimental impact on the company's bottom line.

d. Leave

In a calendar year employees are entitled to 10 annual leave days on full pay i.e. 1 day for every 21 days worked. In addition, employees are also entitled to 3 days leave for family responsibility and 10 sick leave days per annum. Couple this with the 12 public holiday days and 4 months' maternity leave and you remain with just over half a year at work if a person exercises all leave day options –51% or 26.6 weeks in a year to be precise. Leave therefore affects production and thus the profitability of business.

It does not necessarily mean that employers will grant all leave days, some will be settle with cash in lieu of leave. Which still is a cost, therefore employers have to carefully consider the payment to employees' versus the number of days worked in a period. This is a significant cost to the company's operations and can tilt the profitability scales.

e. Equipment Cost

Employees do not only need space to work but also need equipment to use in the execution of their duties. This might be in the form of computers, furniture, phones and tablets. Most of these require upfront payment or monthly installments from the company. They also depreciate generally over between 3-5 years which might not be adequate time to recover the associated costs. Add to this the costs of software such as Microsoft office, antiviruses and production software and insurance costs, the bill to company can easily choke business growth.

f. Ongoing & Administration Costs

Other cumulative costs incurred per employee will be the ongoing costs and admin costs. Such costs include electricity, stationery, grocery for offices such as teas and coffees, telephone bills, stationery etc. These costs normally come off petty cash because they come as small amounts but cumulatively are quite significant costs to the company.

Admin costs would take the form of monthly payroll costs of paying employees, provident fund administration costs and so forth. All these costs have a direct bearing on business performance and thus should be closely monitored.

g. Training

Continuous training of employees has increasingly become popular in the workplace as more and more tailor made courses are unveiled. This is so because of the many benefits of continuous skilling of the workforce which include increased productivity which of course has a bearing on the bottom line but this does not come cheap. Training programmes which are normally offered by private service providers are quite costly. The recovery of such a cost by a company takes time and at times does not even transpire as the employee can change jobs. Though nowadays companies have become shrewd on the matter and will recover their expenditure but still will have to start all over again with a new employee right from recruitment. These costs are can be detrimental especially for small businesses whose training costs are spread over a small number of employees.

2.6.5 Operating Costs

Another factor listed as a limiting factor by the business owners/managers is that of operational costs. Operational costs are the routine costs of running a business. While these vary based upon the type of business, many basic types of operational costs exist that a business must consider when budgeting. Some of these operational costs are fixed, meaning that each cost is identical from month

to month, such as rent. However, other operational costs are variable and may go up or down from month to month, such as utilities.

A business's operating costs are comprised of two components, fixed costs and variable costs, which differ in important ways.

A fixed cost is one that does not change with an increase or decrease in sales or productivity and must be paid regardless of the company's activity or performance. For example, a manufacturing company must pay rent for some sort of factory space regardless of how much it is producing or earning. While it can be downsized and reduce the cost of its rent payments, it cannot entirely eliminate these costs, and so they are considered to be fixed. Fixed costs generally include overhead costs, and other examples of fixed costs include insurance, security and equipment.

Fixed Costs

Fixed costs can help in achieving economies of scale, as when many of a company's costs are fixed the company can make more profit per unit as it produces more units. In this system, fixed costs are spread out over the number of units produced, making production more efficient as production increases by reducing the average per-unit cost of production. Economies of scale can allow large companies to sell the same goods as smaller companies for lower prices.

This principle can be limited in that fixed costs generally need to increase with certain benchmarks in production growth. For example, a manufacturing company that increases its rate of production over a certain period will eventually reach a point where it needs to increase the size of its factory space as well in order to accommodate the amount of the product it is making.

Variable Costs

Variable costs, like the name implies, are comprised of costs that may vary. Unlike fixed costs, variable costs will increase as production increases and decrease as production decreases. Examples of variable costs include raw

material costs, payroll and the cost of electricity and other utilities. For example, in order for a fast-food restaurant chain that sells French fries to increase its French fry sales, it will need to increase the size of its purchases from its potato supplier.

It is sometimes possible for a company to achieve a volume discount or "price break" when purchasing supplies in bulk, wherein the seller agrees to slightly reduce the per-unit cost in exchange for the buyer's agreement to regularly buy the supplies in large amounts, thereby diminishing the correlation somewhat between an increase or decrease in production and an increase or decrease in the company's operating costs. For example, the fast-food company may buy its potatoes at \$0.50 per pound when it buys potatoes in amounts of less than 200 pounds, but the potato supplier may offer the restaurant chain a price of \$0.45 per pound when it buys potatoes in bulk amounts of 200 to 500 pounds. Yet, volume discounts generally have a small impact on the correlation between production and variable costs and the trend otherwise remains the same.

Generally speaking, companies with a high proportion of variable costs relative to fixed costs are considered to be less volatile, as their profits are more dependent on the success of their sales. In the same way, the profitability and risk for the same companies are also easier to gauge.

Semi-variable Costs

In addition to fixed and variable costs, it is also possible for a company's operating costs to be considered semi-variable (or "semi-fixed"). These costs represent a mixture of fixed and variable components and thus can be thought of as existing between fixed costs and variable costs. Semi-variable costs vary in part with increases or decreases in production, like variable costs, but still exist when production is zero, like fixed costs. This is what primarily differentiates semi-variable costs from fixed costs and variable costs.

A relatively simple example of semi-variable costs is overtime labour. Regular wages for workers are generally considered to be fixed costs, and while a

company's management can reduce the number of workers and paid work-hours, it will always need a work force of some size in order to operate. Yet, overtime payments are often considered to be variable costs, as the number of overtime hours that a company pays to its workers will generally rise with increased production and drop with reduced production. Because wages paid in conditions allowing for overtime have both fixed and variable components, they are considered to be semi-variable.

2.6.6 Capital Costs

In the context of this study, Capital Costs refers to expenditure of a capital nature normally incurred at the start or expansion of a business. The phrase is broken into two, capital and costs.

Capital is one of the basic factors of production along with land and labour. It is the accumulated assets of a business that can be used to generate income for the business. Capital includes all goods that are made or created by humans and used for producing goods or services. Capital can include physical assets, such as a production plant or financial assets, such as an investment portfolio. Some treat the knowledge, skills and abilities that employees contribute to the generation of income as human capital.

Capital can also refer to money invested in a business to purchase assets. Businesses can raise capital through owner contributions of cash or property, which are called equity contributions or through loans, called loan capital.

In this context the small business owners/managers cited capital costs as an impediment to their growth because they took capital costs as a barrier to starting or expanding a business.

A common fatal mistake for many failed businesses is having insufficient operating funds. Business owners underestimate how much money is needed and they are forced to close before they even have had a fair chance to succeed. They also may have an unrealistic expectation of incoming revenues from sales. Business should be adequately capitalised to help see it through the first few

years of operation, times when new enterprises work through growth and uncertainty.

Writing for Entrepreneur magazine, David M. Anderson identifies a lack of capitalised as one of the deadly sins of an entrepreneur. Anderson says entrepreneurs, "...must be reasonably sure of your source of funds, whether it's private or public capital investors, personal funds or loans." He suggests that business owners set certain capital requirements at different stages of the company's growth.

2.6.7 Access to Markets

While a lot of effort has been put by the government and other stakeholders such as banks to finance SMMEs to help them succeed, it should be noted that no matter the amount of funding, if an SMME has little or no access to markets, failure is imminent as business success comes through sale of products or services.

The inability for SMMEs to access markets has been noted as one of the major factors threatening their longevity. Access to markets is one of the fundamental requirements (by credit providers) to access funding and mentorship at early stages. However, small businesses located in rural areas are at a disadvantage compared to their urban counterparts (Watson & Netswera, 2009). The authors find that their small size and remote location hinder them to form collectives in order to enhance their bargaining power. Consequently, they find it difficult to lobby government institutions to better serve their needs.

The practice of forming spatial clusters is encouraged by Naude et al. (2008). However, forming clusters are encouraged mostly for SMMEs which have passed their start-up phase. Clustering could place fragile small businesses in intensely competitive positions.

2.6.8 Shortage of skilled labour

Shortage of skilled labour is another of the many factors listed as an impediment by businesses surveyed by Africagrowth over a ten year period. When demand for certain skills exceed demand, this results in skills shortages and normally such skilled individuals demand high salaries which small businesses cannot afford. Acquiring the right skilled individuals in the appropriate job openings in organisations is something that has a direct bearing to the productivity of organisations. Employees' skills level has a direct bearing on the efficiency and effectiveness of organisations, this has a multiplier effect as it will affect parameters such as turnaround time, sales, profit margin and ultimately viability of business. Thus shortage of skilled labour indeed has an impact on business performance.

According to Manpower South Africa's tenth annual Talent Shortage Survey, released in May 2015, the unemployment rate in South Africa remains one of the highest in the world and over the past year it has become harder to fill positions, with the demand for engineers and skilled trade-workers at its highest.

The survey found that since last 2014, there has been a marked increase in the difficulty of filling positions. In 2014, only 8% of South Africa employers surveyed reported difficulty in filling job vacancies, but this year, 31% of employers reported difficulty.

The survey, which sampled 750 local businesses, reported that the most difficult positions to fill this year, in order of difficulty, were: skilled trades, engineers, management/executive staff, accounting and finance staff, sales representatives, secretaries, personal assistants, receptionists, administrative assistants and office support staff, drivers, technicians, teachers and IT personnel.

2.6.9 Exchange Rate

Exchange rate movement is one limitation listed by business managers/owners as an impediment to their growth. Exchange rate has an impact to small businesses if they are involved in imports and exports.

Firstly, businesses that are prone to exchange rate changes are those involved in international trade. Businesses thrive in a predictable environment and volatility brings along with it unwanted risk from a normal business operations perspective. Thus if exchange rate of a currency is volatile this will affect local businesses from a planning perspective as it becomes increasingly difficult to financially forecast. Currency volatility thus makes it difficult for businesses to plan ahead and can result in them closing down due to unforeseen currency circumstances.

Exchange rate fluctuation has different implications for different businesses depending on the nature of the business' operations. Exchange rate movement will impact importers differently to how it impacts exporters. For example, a depreciating currency will make exporters benefit at the expense of importers. When a currency depreciates exports become cheaper on the international trade market and thus exporters are promoted. Contrary to that when the local currency depreciates imports become more expensive thereby negatively affecting imports based businesses. And when the local currency strengthens the above standpoint is reversed and import based businesses all of a sudden find their raw materials cheaper whilst export business becomes subdued due to their products being more expensive on the international trade market.

Exchange rates can swing rapidly in a matter of hours, affecting the cost of business cross-border transfers. The foreign exchange market never sleeps and trades 24/7. This can make an enormous difference to the amount of money a business could save or potentially lose out on. Volatility in the exchange rates are hard to predict meaning businesses more than ever need to have a carefully devised currency strategy.

The data used for this study is gathered over a 10-year period starting from 2006 until 2015 and during this period a couple of developments transpired. In 2006 the United States of America and Japan were the biggest trading partners of South Africa and 10 years later China is the biggest trading partner on both imports and exports. Simultaneously, during the same period the rand has depreciated by 100% against the USD. Both these two listed dynamics have an impact on the

exchange rate and small businesses in South Africa. This study intends to test the statistical significance of the impact of the exchange rate on the small businesses survey regarding their job creation dynamic during the same period.

2.6.10 Competition from Imports

The issue of imports has always been seen to have more negative than positive impact to local businesses, especially manufacturing businesses. Imports entail increased supply and this has both positive and negative impacts on a variety of local sectors.

Positive Impact of Imports

With competition increasing due to imports, local producers are often forced to lower the prices of their goods to remain competitive. Consumers directly benefit from the lower prices of products. Manufacturers can benefit by coming up with new ways to compete, such as improving the production process to lower costs. Importing products such as raw materials or unfinished goods can also raise local productivity by allowing a greater variety in what can be produced. Imported raw materials that are unavailable locally can lead to the production of new products for the local marketplace or for export. Imports of finished goods can also lead local producers to begin local manufacturing of that goods to increase availability or to provide a lower costing activity. Importation of products spreads technology, reducing the costs of local research and development and the need to build a local support infrastructure for newer products.

Negative Impact of Imports

From the survey conducted by Africagrowth imports are cited as an impediment to small business growth by business owners/managers. This is clearly because increased supply brings down pricing which in turn cuts out on the businesses' profit margin. Also growth in imports can choke a developing small business sector which is still in its early stages and can suffer from unexpected shocks. This has been an area of contention since the emergence of China as a dominant trading partner for South Africa. Since China joined the WTO in 2001, bilateral

trade between South Africa and China has grown rapidly. In 2009, China became South Africa's largest export market ahead of the United States and its largest supplier of imports ahead of Germany. These imports are overwhelmingly manufactured goods while South Africa's exports are mainly natural resources. The growth and composition of bilateral trade flows with China have fed concerns about deindustrialization of the economy, which has become a focus point of South Africa's engagement with China. The common perception in South Africa is that the effects of the growth of trade with China has been negative for manufacturing, with several industries, most notably textiles and clothing, demanding increased protection from Chinese imports (Morris and Einhorn, 2008). The Free Trade Agreement between the South African Customs Union (SACU) and China first mooted in 2004, faced considerable opposition by business associations (SAIIA, 2005) and unions (Business Day, 3/11/2005) within South Africa. The current position of the Minister of Trade and Industry, Rob Davies, is that a conventional free trade agreement with China is not in the interest of the country (Business Day, 07/07/2010).

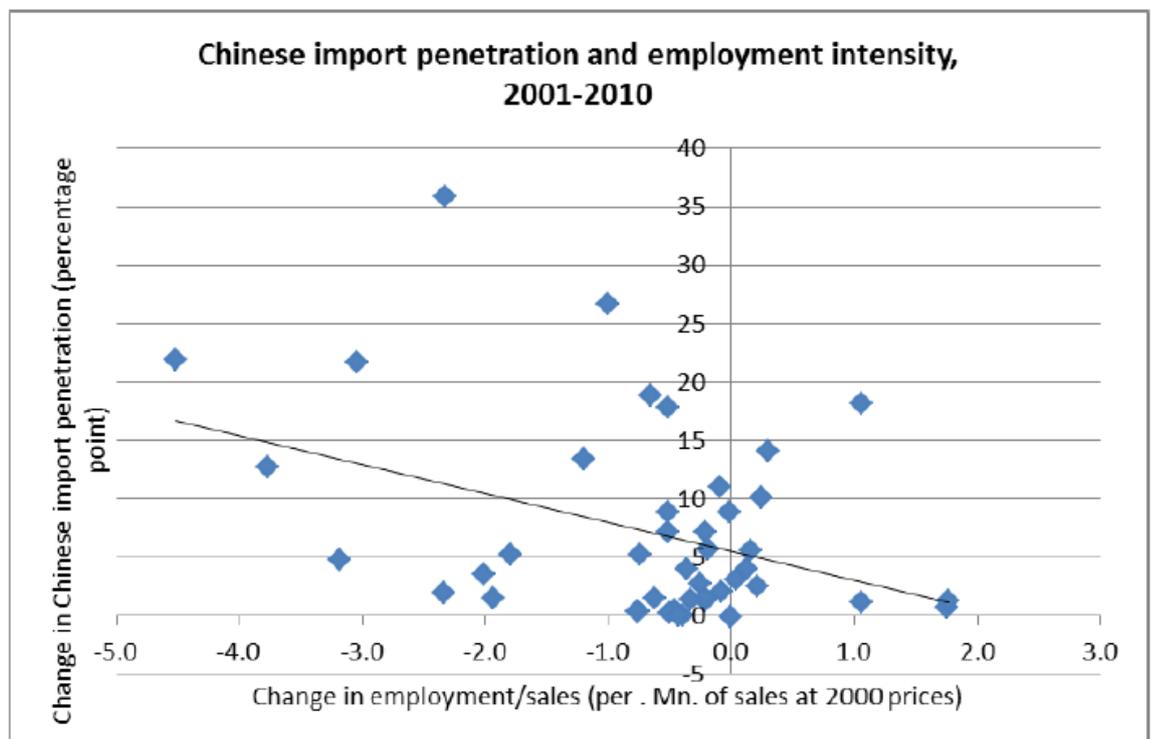
A major issue of concern in relation to competition from Chinese imports is the effect that this has on employment in South Africa. This is particularly important in view of the significant impact found in the previous section on production in labour-intensive industries such as clothing and footwear. These were also sectors in which employment fell by large numbers.

Chinese competition may influence industry level employment in various ways. Increases in import competition can raise the derived labour demand elasticity, hence depressing wages and employment in those industries (Rodrik, 1997). Chinese competition may also depress output of existing domestic firms and lead to the exit of less efficient firms, both of which will reduce aggregate industry level employment and raise industry level productivity (Bernard et al., 2007). Further, domestic firms may 'defensively innovate' by upgrading capital stock and reducing employment in response to the competition (Wood, 1994).

Contrary to these effects, imports of lower priced Chinese intermediate inputs and capital goods may enhance firm profitability leading to an increase in employment, although, as Feenstra and Hanson (1996) show this may also raise the wage premium of skilled labour within an industry. Employment gains may also accrue through growth in the export sector (or sectors retailing imported Chinese goods).

For a preliminary incite of the net employment impact across manufacturing industries, Chart 2.2 below plots the change in Chinese import penetration against (log) changes in employment by the manufacturing industry over the period 2000 to 2010. A negative relationship is found with relatively large increases in Chinese import penetration occurring in industries with relatively low (and mostly negative) changes in employment. The relationship is particularly strong amongst industries with below median wages such as Clothing, Footwear, Leather products and the various Textile industries.

Chart 2.2 Chinese Import Penetration and employment Intensity 2001-2010



To evaluate this relationship further, the employment impact of changes in Chinese import penetration was also calculated using the Chenery decomposition technique.

Average employment coefficients were calculated for each manufacturing industry from Statistics South Africa data on manufacturing sales (at 2000 prices) and number employed.

Given the difference between the two periods before and after China joined the WTO, the impacts were estimated for both periods.

2.6.11 Crime

Given the importance of small business as a driver of economic growth and job creation, particularly in developing countries, the extent to which crime deters the formation and sustainability of small enterprises needs to be clearly understood. It is also important to understand the links between a more vibrant small enterprise sector and reduced crime.

To date, studies assessing the impact of crime on business have tended to focus on the large corporate sector. The specific problems of the small and emerging sectors of business have been less intensively considered. International studies have found that while small and micro firms are less likely to be targeted by criminals than larger firms, when they are victimised, their costs are proportionately much higher. Big businesses can provide a relatively robust assessment of the costs of crime based on insurance data. In contrast, the proportion of small businesses with insurance against criminal acts is relatively low. Evidence from international research also suggests that SMMEs are very likely to under-report crimes to the police.

Employee crime can occur when employees are in a position to steal both money and merchandise. Employees who handle money directly can under-charge a customer or not ring up a sale and pocket the cash. Shipping or loading dock

workers can walk or drive off with your products. Embezzlement can occur when an employee diverts money from a business account and can be complicated and hard to detect. “Lapping” is a form of embezzlement in which the employee skims money when taking money from one account to pay off another. This skimming, often in small amounts, can go on for years.

Preventing Crime by Non-Employees - shoplifting is the biggest concern and biggest problem, for most small-business owners. The theft of merchandise, even in small amounts, goes straight to the bottom line. If you raise prices to cover the losses, it makes it harder to compete with other businesses. Shoplifters come in all races and all ages. They may stuff items into pockets, purses, baby carriages or bags. Sometimes they even work in teams. When the business is closed, burglary and breaking and entering become another concern in this criminal category.

Cybercrime -if you use a computer linked to the internet to conduct business or keep records, you may become a target for cybercriminals from both inside and outside your company. Theft and fraud are both possible. Hackers may steal your customer list or credit information. Viruses can infect your files, causing random, but expensive havoc.

The broad category of ‘commercial crime’, which includes all kinds of corruption, fraud, money laundering, embezzlement, forgery and so forth, has increased by a substantial 70% in the past decade. The latest statistics reveal a relatively small decrease of 13.7% from 91 569 in 2012-13, to 79 109 incidents in from 2013 to 2014. However, given the overall increases in crime levels, questions are raised about the accuracy of these statistics. Commercial crime is notoriously underreported by the public as well as the private sector, because of the associated reputational risk. The dark (or hidden) figure is probably far greater than reflected in the official statistics.

Business is finding it increasingly difficult to absorb the direct and indirect effects of crime. The business sector is the main contributor of disposable household

income and the country's revenue base through taxes and levies. The increase in the cost of crime means that less income is available to pay for wages and for contributing to the state coffers.

As the criminal threat increases, so too does the spending by business to secure their interests, their staff and the public. Plans are already being considered to improve security at shopping malls. This will no doubt be extremely costly and may even have an impact on consumer prices. In addition, the ongoing targeting of shopping malls and other businesses may also prove to be disruptive, and could have a dampening effect on the usual festive season shopping and spending experience.

The real concern, however, should be the medium- and longer-term impact that increasing criminal activities and violent protest action can have on business and investor confidence in South Africa, and on tourism.

The high level of crime is a pervasive problem in South Africa. In this regard, both formal and informal SMMEs are equally affected. In their 2015 economic survey of South Africa, the OECD found that high crime was forcing SMMEs to increase security spending. Increased spending on security has a ripple effect on the overall cost of doing business. GEM (2014) highlights the business cost of crime and violence as one of the key drags on investment confidence in South Africa.

2.6.12 HIV/AIDS

Employees and their families experience increased illness and health problems as a result of HIV/AIDS. The extent to which a company is affected by this is determined by the number of employees who become ill and die, their role in the company, the impact this has on productivity and the increase in direct and indirect costs incurred by the company (Loewenson & Whiteside 1997:23). The greatest contributor towards HIV/AIDS costs is absenteeism (Whiteside & Sunter 2000:100). Absenteeism occurs for a number of reasons, the greatest of which is

because of HIV related symptomatic illness. Other labour costs that directly affect an organisation are healthcare, AIDS absenteeism, funeral attendance, burial, recruitment, training, and labour turnover (Whiteside & Sunter 2000:101).

Absenteeism

Absenteeism accounts for 58% of costs to business organisations in South Africa due to the HIV/AIDS pandemic. Absenteeism is caused by time spent away from the workplace due to illness; time spent caring for people with AIDS, and funeral attendance. As other employees work extra hours to fill in for sick colleagues, overtime costs also increase (Rose 2001:31). It should also be noted that overtime pay is higher per hour than the rate of pay for prescribed work hours.

Absenteeism costs that affect organisations have been determined as a result of various studies by numerous authors (Daly 2001:15; Loewenson & Whiteside 1997:4- 14; Rose 2001:31; Whiteside & Sunter 2000:101). However, it is difficult to accurately and precisely determine these costs, since employees are not legally obligated to disclose their HIV statuses or to let their employers know that they or their relatives have AIDS.

HIV absenteeism is the largest contributor towards labour costs because of sick leave taken for HIV symptomatic illnesses, such as extensive coughing and swollen glands.

AIDS absenteeism is the third most expensive contributor towards organisational labour costs due to HIV/AIDS. This can be attributed to the fact that individuals with AIDS develop AIDS related illnesses with life-threatening consequences. Healthcare accounts for 5% of labour costs to organisations due to HIV/AIDS. They include testing and counselling, as well as treatment for HIV symptoms and AIDS related illness.

Because of the many funerals that employees attend as a result of acquaintances, friends, colleagues and family members dying from AIDS related causes, some

companies have restricted employee absenteeism for funerals to only those of a spouse, parent or child. Burial costs form the second largest part of labour costs to organisations. This is because many employers offer burial services, should the employee die while in employment with that organisation. Because of the number of deaths due to AIDS related illnesses, employers are spending large amounts of money to bury employees.

Loss of skills and training

If individuals are recruited to work in organisations to replace employees who have died of AIDS related illnesses, they must be trained so that the job requirements can be met. This can involve on-the-job training, which might be less effective and take longer than a formalised training programme. However, formal training programmes are more expensive to implement and keep running.

Furthermore, training costs in organisations requiring specialised skills and expertise are remarkably higher than training costs in organisations requiring less specialised skills. Training costs will be lower for organisations that employ mostly unskilled labourers, such as mines. However very specialised industries require extensive training and high skills.

An example of an industry requiring employees with high skill levels is the information technology (IT) industry. Complicating the need for high expertise and skills levels, the South African IT industry is already operating in a market where there is a scarcity of skilled labour. A report by the International Data Corporation (IDC) forecasts that there will be a shortage of 53 000 skilled workers in the South African industry by 2003, and this figure does not take the impact of HIV/AIDS into account (Sigonyela 2000:2). Therefore, the loss of skilled workers can have a detrimental effect on this country when HIV/AIDS is added to the equation.

Another important factor in South Africa's skills shortage is the incidence of brain drain, since it impacts the acquisition of competent staff. Due to the bleak South African economy, highly qualified individuals would rather emigrate and earn money in a foreign currency (Sunter 2000:30). Where skilled workers are in demand, they themselves can co-determine the rate of their remuneration (Maritz & Lessing 2000:6). This, in turn, increases the wage amounts that organisations requiring skilled employees pay to attract or retain such highly skilled employees.

Training is also influenced by the impact of HIV/AIDS on education. Lower household incomes, caring for family members, having to look for work, becoming orphaned and becoming HIV positive prevents many children, especially in more rural areas, from being able to attend school. Furthermore, the death of teachers due to HIV/AIDS increased by more than 40% from 2000 to 2001 (Govender 2001:1). Hassen Lorgat, media officer of the South African Democratic Teacher Union, has stated that the teaching profession is in crisis as a result of South African teachers dying at an average age of 34 (Govender 2001:1).

In order to find the right calibre of people that organisations require, it may be in their best interests to form partnerships with other businesses and non-governmental organisations. The aim of such partnerships can be to implement development programmes to train and educate people that, due to the educational impacts of HIV/AIDS, are unable to receive a proper education. The corporate sector in South Africa should play a more active role through offering of bursaries to children affected by HIV/Aids as these companies are ultimate beneficiaries of an educated populace.

Replacement of employees

The costs of HIV/AIDS to businesses based on recruitment amount to 9%. This is because time and money is spent on the quest to find the correct calibre of employee to replace individuals that have had to leave the organisation due to AIDS. Especially in jobs that require higher levels of skills to perform, suitable replacement employees must be found quickly so that the business can function as per usual.

It is expensive to find highly skilled candidate employees at a short notice because of intensive advertising and the increased use of personnel agencies. Furthermore, often highly skilled and experienced individuals have fulfilling roles in other organisations, and must be headhunted. If these individuals are to accept jobs at the headhunting organisation, then that organisation has to offer a substantially larger and more enticing remuneration package in order to attract the employee away from the current position into the new one.

Recruitment costs go hand in hand with training costs, since new employees have to be recruited before they can be trained to replace employees that have been lost to the business as a result of HIV/AIDS. For example, an employee might have been offered a more attractive remuneration package from another company, and accepted the position. Another example is that an employee who has AIDS and is incapable of work, must be replaced. Replacement costs include all recruitment expenses such as the employment of a personnel agency, advertising and interviewing (Rose 2001:33). Furthermore, it must be taken into account that employees who are absent are not producing profits. The loss of these profits must also be considered (Whiteside & Sunter 2000:112).

In order to assist in replacement and maintain profit levels, Eskom suggests that strategic staff become multi-skilled and that other employees also assist in multi-tasking (Rose 2001:33). In addition, some companies are employing two employees for the same position in an attempt to counteract the effects of losing at least one of those employees to AIDS at a later stage. This, of course, further pushes wage costs to heightened levels and decreased profits. Furthermore, there is no guarantee that the extra person is not HIV positive. It must also be considered that the higher the position that is being filled by two people, the more expensive it is to maintain both employees. A benefit, however, might be gained in the sharing of knowledge and ideas that could result from such a situation.

AngloGold has successfully managed to maintain their profit levels despite the fact that their labour turnover has increased by 25% in the previous five years

(Bridge 2002:1). They contribute their sustained profit levels to the fact that their employees are easily replaceable and do not require extensive training.

Productivity

Declining productivity due to HIV/AIDS happens for a number of reasons. Illness and death of employees are the two main concerns (Eskom 2000: Internet; ING Barings 2000:11). Furthermore, the high rates of mortality and the morbidity associated therewith lead to increased disorganisation (Rose 2001:31). This is a direct result of increasing employee turnover, loss of skills and declining employee morale. Tacit knowledge, which is company knowledge and knowledge gained through work experience, is also lost.

Skills and knowledge transmission becomes increasingly more difficult with higher levels of staff turnover. As a result, organisations stand at risk of a degeneration of the corporate culture and team cohesion between departments in the organisations. Employee morale is certain to decrease as a result. Added to that, losing colleagues due to illness can also be very traumatic for work teams.

The stress that this adds to normal work pressures also diminishes employee morale. Discrimination against colleagues and employees based on suspicions or knowledge of their HIV statuses and disruption of work activities also contribute towards decreased productivity. The level and impact of HIV/AIDS on a company's productivity depends on its production system flexibility (Daly 2001:15; Rose 2001:32).

Profit

The costs that businesses incur as a result of the impact of HIV/AIDS primarily include labour, employee benefits, loss of skills, knowledge and productivity, recruitment and training, changed demand and reduced savings. A simplified equation to calculate profit is the deduction of costs from income (Timmons 1999:90-91). Therefore, the higher the expenses of an organisation, the lower the profit if income remains the same. However, since HIV/AIDS is changing household expenditure, organisations' incomes are lower as a result of a change

in demand from non-survival goods and services to basic consumables and healthcare. Therefore, the eventual profit of an organisation is lower than it would have been, were it not for the impacts of HIV/AIDS on business costs and household spending patterns. Figure 5.5 illustrates the effects that increased labour costs have on a business organisation's profit.

Direct business costs include insurance cover, retirement funds, health and safety costs, medical assistance, testing and counselling and funeral costs. They all contribute towards increasing the costs of the business, thereby reducing profit. If one considers employee benefit costs, these also contribute in further decreasing profit. Employee benefit costs include increased absenteeism, increased staff turnover, loss of skills, loss of tacit knowledge and declining morale in the workplace. These costs lead to an increased demand for training, declining productivity and a decrease in reinvestments, which in turn also contribute to smaller profits.

2.6.13 Black Economic Empowerment

The Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003), hereafter referred to as the Act, or the Broad Based Empowerment Act, promotes the achievement of the 37 constitutional right to equality, as well as the aim to increase broad-based and effective participation of historically disadvantaged persons (prioritises the Black community) in the economy, in the effort to promote a higher growth rate, to increase employment and to achieve a more equitable income distribution. The Act also establishes a national policy on broad-based Black Economic Empowerment in order to promote the economic unity of the nation, as well as to protect a common integrated market and to promote equal opportunity and access to government services.

2.6.14 Procurement and Supplier

With regards to procurement and suppliers the small business managers/owners were referring to the process of purchasing and managing suppliers as an impediment to their business' growth. For a small business the cost of raw materials is of fundamental importance as the shocks of its changes are more

severe than in a large business. Small businesses hardly have enough room to manoeuvre from their bottom line if there are price shocks from their suppliers, this thus can result in them being less profitable and possibly closing down. This factor was the least raised factor by business owners/managers with an average of 1% of all business owners/managers raising it.

2.6.15 Other Factors

The other factor variable is a representation of the rest of the factors left out by entrepreneurs as an impediment to growth. These are factors that can possibly explain the impediment to small business growth and consequently their job creation abilities but were not listed by entrepreneurs in the Africagrowth small business index survey. Examples of such factors include the costs of borrowing, poor record keeping and information management, Inability to distinguish business capital from personal money, poor planning, lack of employee satisfaction, lack of customer relations and many other factors that were left out by the business managers/owners. Clearly most of the factors highlighted above as left out from the Africagrowth survey squarely place small business failure on the hands of the very same managers/owners possibly explaining why they were left out. The question to be answered by this study is whether these factors left out are significant in terms of explaining impediments to small business growth.

2.7 COMPARATIVE STUDIES

In South Africa a number of studies have been conducted along the same topic of identifying factors that limit/inhibit small business growth and performance and hence their abilities to create jobs. This section analyses the methodology adopted by these studies and how their methodologies differ from the methodology adopted in this study and the implications of doing so.

In 2006, a qualitative study done by Boysana Lephoi Mboniyane titled, *An Exploration of Factors that Lead to Failure of Small Businesses in the Kagiso Township*, identified factors that inhibit small business performance in Kagiso a Township in the South West of Johannesburg. The aim of this study was

to investigate the factors that lead to the failure of small businesses and to examine how small business owners feel about these factors.

To undertake his study, he gathered primary data through interviews.

Another paper published titled, *Problems*, co-authored by Annekke Brink, Michael Cant and Andre Ligthelm in October 2013 also reviewed the problems experienced by small businesses in South Africa. .

2.8 RESEARCH GAP IDENTIFIED

The countless number of studies listed above by a variety of authors in both developed and developing countries all highlight key limitations that impede small businesses' growth and thus in turn their ability to create much needed jobs. Mboniyane study in 2006 also picked up the same issues as raised by earlier studies as having a negative impact on small businesses from Kagiso, a township in the South West of Johannesburg. However, the study does not single out any new issues and only regurgitates the same old issues and offers some solutions to address these limitations.

This study intends to go beyond just identification of the now obvious limiting factors to small business growth and development and consequently job creation. In this study, the extent of the impact of these limitations is statistically tested to rank the impeding factors from the ones with the worst effect to the ones with the least effect. Such a study is critical because it will contribute towards the limited literature on developing countries and will in so doing ensure that efforts to address the limiting factors are effectively addressed.

CHAPTER 3

3. METHODOLOGY

3.1 INTRODUCTION

This study intends to measure the extent to which the limiting factors raised by business owners/managers as an impediment to their business success, affects job creation. A lot of studies have identified key limiting factors to small business growth and development without quantifying the impact of these limitations on job creation. The contribution of this study shall be to quantify the impact of these limitations on job creation. In addition, this study shall seek to address which of the identified factors has more hindrance to job creation within small businesses?

This section of the study will detail the sources of the data, description of the key variables as well as the methodology adopted for conducting this study.

3.2 RESEARCH DESIGN

This research intends to investigate the extent to which the identified limiting factors to business growth and development have on job creation. The term ‘extent’ therefore requires a quantitative study of the identified variables’ impact on job creation. Thus this study will be exploratory and quantitative in nature. The dependent variable will be job creation and the explanatory variables will be the identified limiting factors over a 10-year period as listed in Table 3.2 below.

Table 2.2 Dependent and Independent Variables to this study

Dependent Variable	Independent Variables	
	Access to Bank Credit	1
	Gvnt taxes & regulation	2
	Competition from imports	3

Job Creation	Exchange rate	4
	Access to markets	5
	Insufficient demand	6
	Shortage of skilled labour	7
	Employee costs	8
	Impact of HIV Aids	9
	Operating Costs	10
	Capital Costs	11
	Crime	12
	BEE	13
	Other	14
	Procurement and Supplier	15

3.3 DATA SOURCES

This study will primarily rely on secondary data gathered over a 10-year period on a quarterly basis by the Africagrowth Institute. This data is available on the company's website and stretches back to 2005. Through this data Africagrowth Institute has developed an SMME business confidence Index report.

Africagrowth Institute according to their website www.africagrowth.co.za 'is an independent company with its headquarters in Cape Town, South Africa. The company focuses on growth opportunities in Africa. The main business areas are the Africagrowth Agenda Publication, South African SMME Business Confidence Index, SADC SMME Database, and SMME Research.'

The company has gathered invaluable data through its quarterly surveys on business owners/managers for the past 10 years. This data will be used for this study.

3.4 DATA COLLECTION TECHNIQUES

As mentioned above, this study will make use of secondary data from Africagrowth Institute through their SMME Business Confidence Index. According to the website data www.africagrowth.co.za is collected in the following manner,

The SMME Business Confidence Index (BCI) report is based on a quarterly survey of the responses of SMME owners and managers regarding factors that impact on their businesses. The survey is conducted by the Africagrowth Institute. It specifically, measures the opinions of SMME managers and owners across South Africa regarding their current performances and future business prospects.

The index is constructed on the basis of responses to questions on policy factors ranging from employment levels, financial situation, new orders or contracts, volume of demand and selling prices. The respondent firm (represented by the owner or a senior manager) then indicates whether these factors have gone up, down or remained the same in the last three months prior to the survey and also their perception for the next six months after the survey. The index is then calculated as a weighted average of responses based on the Diffusion Index Method with firm size (number of employees) being the weight. The responses to this questionnaire are scored on a scale of 0 to 100, where 0 represents the lowest Business confidence rating and 100, the highest business confidence rating. The indices are divided into three strata. These are:

- (a) Industrial sector
- (b) Trade sector
- (c) Services sector

3.5 DATA ANALYSIS AND INTERPRETATION

Data will be analysed using a quantitative method; the data will then be presented using various descriptive statistical tools such as tables and graphs. The study will use a multiple linear regression formula to get the correlation between employment

creation and the various limiting factors such as interest rates on loans, BEE, Government Taxes and Regulations, Employee costs, Operational Costs. Multiple linear regression will be used to model the relationship between the 5 key explanatory variables and a response variable by fitting a linear equation to observed data.

3.5.1 Dependant Variable

The dependent variable in this statistical analysis will be job creation. The test is to ascertain how much the independent variables are related to the dependent variable. Job creation is a key problem in most developing countries resulting in a lot of unrests as a result of the unemployed population. South Africa's unemployment rate has been on the rise and has just gone above 26%. This is a real challenge that needs to be solved. Identifying key factors that affect job creation is a study that has been done by many scholars but statistical testing of how these factors actually affect job creation is an area with little literature. Thus the dependent variable for this study will be job creation.

3.5.2 Independent Variables

NB: For definitions and literature on the variables please refer to section 2.6 above

1. Shortage of skilled labour
2. Access to bank credit
3. Access to Markets
4. Insufficient Demand
5. Exchange Rate
6. Competition from imports
7. Government Taxes and Regulation
8. Capital Costs
9. Operational Costs
10. BEE
11. Crime
12. Procurement and Suppleir
13. Impact of Hiv
14. Employee Costs

15. Other Factors

Analytical Model

The formula given below was used to calculate the linear regression.

The equation;

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \varepsilon$$

Where: Y_i = Job Creation

$\beta_0, \beta_1 \dots \beta_{15}$, are constants to be estimated by the model

X_1 = Shortage of skilled labour

X_2 = Access to bank credit

X_3 = Access to Markets

X_4 = Insufficient Demand

X_5 = Exchange Rate

X_6 = Competition from imports

X_7 = Government Taxes and Regulation

X_8 = Capital Costs

X_9 = Operational Costs

X_{10} = BEE

X_{11} = Crime

X_{12} = Procurement and Supplier

X_{13} = Impact of HIV

X_{14} = Employee Costs

X_{15} = Other Factors

ε = Error terms

Multiple regression analysis was also used to assess whether confounding exists. Since multiple linear regression analysis allows us to estimate the association between a given independent variable and the outcome holding all other variables constant, it provides a way of adjusting for (or accounting for) potentially confounding variables that have been included in the model. The study used Test of goodness of fit and the explanatory powers of the model R^2 , F test ANOVA.

Tests Conducted

The study will test for **Multi-collinearity**. Multi-collinearity is a linear relationship between two explanatory variables. Two variables are perfectly collinear if there is an exact linear relationship between the two. For example, X1 and X2 are perfectly collinear if there exist parameters λ_0 and λ_1 such that, for all observations i , we have $X_{2i} = \lambda_0 + \lambda_1 X_{1i}$.

Heteroscedasticity amongst the variables will be tested in this study, this is present when the size of the error term differs across values of an independent variable. Put simply, heteroscedasticity refers to the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it.

Serial correlation, sometimes also called autocorrelation, defines how any value or variable relates to itself over a time interval. This test can bring a positive or negative result. A positive serial correlation also called positive first-order serial correlation, is the most common type of correlation where an error term has a positive bias on subsequent error terms. The correlation is mostly serial, that is, an error term in one time period has a positive bias on error terms in a subsequent time period (for example in two successive quarters). It can also be non-linear – for example, an error term in the third quarter manifesting a positive bias in the third quarter of the subsequent year.

On the other hand, a negative serial correlation also called negative first-order serial correlation, here, a positive error is followed by a negative error, or a negative error is followed by a positive one. That is, the error term has a negative influence on subsequent error terms. This type of serial correlation is far less common.

A Durbin-Watson test will be used to test for serial correlation in this study.

Data analysis programme

This study used **Stata** as the software of choice to run the regression model.

CHAPTER 4

4. DATA ANALYSIS

4.1. INTRODUCTION

The previous chapter outlined the methodology of this study and provided specific information which concerns the aims and objectives, research hypotheses, population and sample, method and instrument of the research, data collection and statistical analyses applied, ethical considerations and lastly, any limitations to the research. This chapter will discuss the results of this study under a number of sub-headings.

4.2. DESCRIPTIVE ANALYSIS

i. Access to Bank Credit

Over the entire 10 years under analysis on average 8% of all interviewed business owners thought that access to credit was an impediment to their growth. Coupled with a standard deviation of 1% meaning there was general consistency in this factor being listed as an impediment.

ii. Government Taxes and Regulation

On average 13% of all surveyed business owners/managers over 10 years believed that Government Taxes and Regulation were an impediment to their growth. This was one of the two most raised factors in the Africagrowth SMME index survey and consistently so with a standard deviation of 2%.

iii. Competition from imports

An average of 4% of the surveyed believed that competition from imports were an impediment to their business' growth with a standard deviation of 2%.

iv. Exchange rate

An average of 6% believed that exchange rate was impeding their businesses from growing with a standard deviation of 2%, meaning there was general consistency in citing this factor as an impediment.

v. Access to markets

6% of the surveyed believe that access to markets was their greatest impediment to their business growth again with a standard deviation of 2% meaning this factor was consistently raised.

vi. Insufficient Demand

Insufficient Demand was one of those factors that was significantly highlighted by business owners/managers, with 9% singling it out as an impediment. Over the 10-year period there was only 2% standard deviation again highlighting the consistency of the surveyed.

vii. Shortage of skilled labour

Skills shortages were consistently identified by 8% of the small business owners/managers, with a standard deviation of 2%.

viii. Capital Costs

4% of the surveyed believe capital costs were an impediment to their small business growth. Not such a high number relatively, meaning small business owners/managers hardly believed this factor was significant in explaining their challenges, with a standard deviation of 3%.

ix. Operational Costs

Relatively the largest outcry seemed to be on operational costs with 13% consistently raising these costs as an impediment to small business growth. The only of 2 factors (including government taxes and regulation) to have 13% of the surveyed highlighting this factor as an impediment, with a standard deviation of 3%.

x. BEE

7% believe that BEE was impeding their business from growing, but this was the factor with the highest relative standard deviation of 6%. Meaning the least consistently raised factor by small business owners/managers.

xi. Crime

Crime was raised by 6% of the surveyed as an impediment factor to their small business growth with a standard deviation of 2%.

xii. Impact of HIV

Not that many of the surveyed believed that HIV hindered their business growth with a meagre 2% believing so. The second lowest raised factor out of all 15, with a standard deviation of 1% meaning there was general consistency over the 10-year period.

xiii. Employee Costs

This was the 3rd highest raised factor relative to the others with an average of 11% of the business owners/managers raising it as an impediment to small business growth. Standard deviation was at 2%.

xiv. Procurement and Supplier

Procurement and Suppliers was the least factor believed to have been limiting small businesses from growing with an average of 1% highlighting this factor with a standard deviation of 3%.

xv. Other Factors

Other factors were only raised by 2% of small business owners/managers interviewed meaning there was little belief that there were other factors limiting their businesses from growing than the above listed, with a standard deviation of 1%.

Chart Title

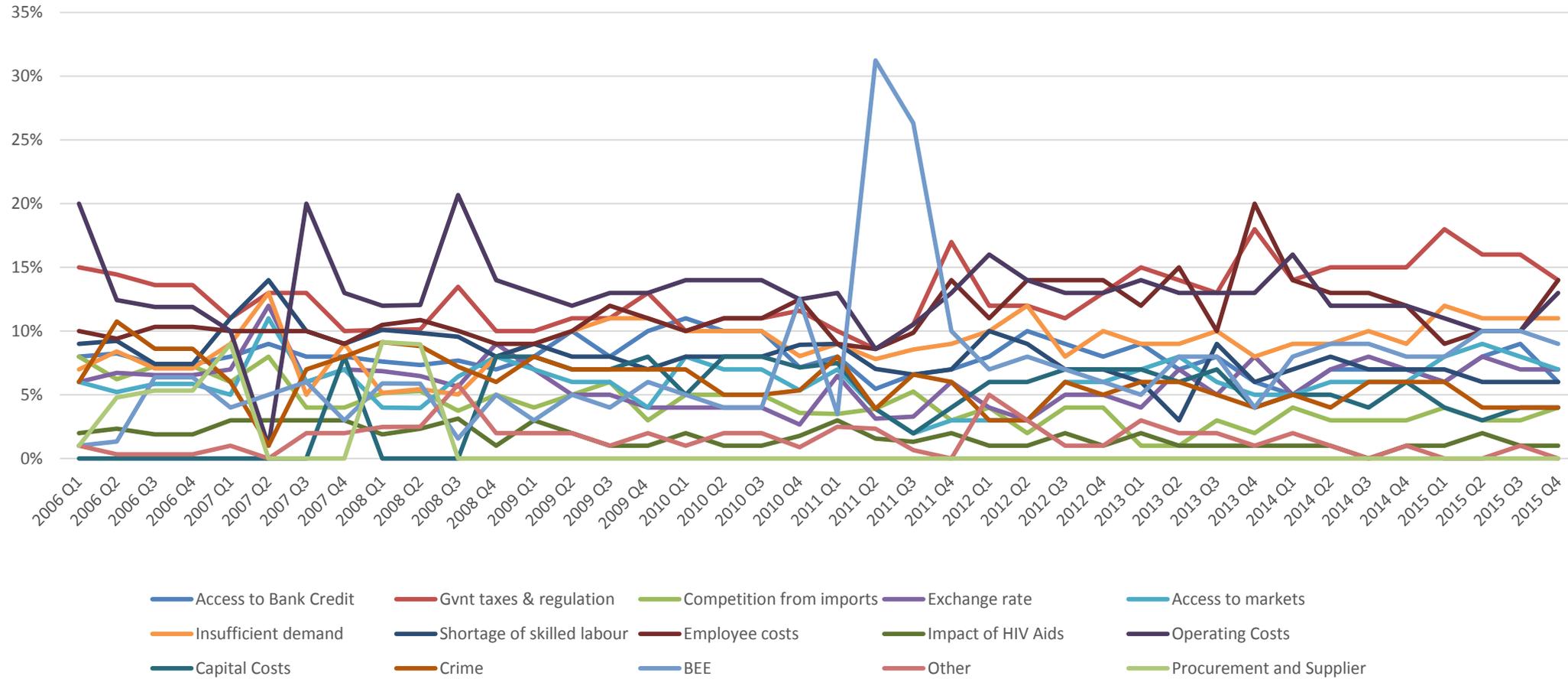


Chart 4.1 SMME inhibiting Factors trends 2006-2015 Source – created by D Dhanah

From chart 4.1 above generally the small business owners consistently did not identify factors such as HIV, Procurement and Suppliers and Other factors as limiting factors to their business growth. This is clearly observable from the graph that less than 3% consistently raised these three factors across the 10-year period under observation. On the opposite extreme one can observe from the graphs that 5 variables are consistently raised as slowing small business growth, these are Government Taxes and Regulation, Operational Costs, Employee costs and insufficient demand.

Highest peak is observed in the 2nd quarter of 2011 when over 30% of small business managers/owners highlighted Government Taxes and Regulation as the biggest impediment to small business growth. In 2011 the South African Government released very pivotal regulations on its procurement policy by releasing the Preferential Procurement Policy Framework Act, 2011 and Preferential Procurement Regulations, 2011. In these Regulations were find clear guidelines on the 80/20 and 90/10 Preferential Procurement Points scoring system which all tender responses are evaluated on, regardless of any other special conditions that might be applicable. In a nutshell it became a major challenge for businesses that did not have black ownership to win government tenders possibly leading to some existing businesses losing their contracts.

Other notable peaks were observed when there was a spike in 3rd quarter of 2007 and another in 3rd quarter of 2008 in the number of people that highlighted Operational costs as an impediment to their business growth. In both instances more than 20% of small business managers/owners singled out operational costs. In 2007/2008 there was the global financial crisis, even though South Africa was not hard hit, its shock was felt this side of the world as banks tightened their purses. This could have had devastating implications on small businesses that were in debt or occasionally resorted to debt to fund operational costs in the form of overdrafts and bridging finances.

During the 10 years under observation there were hardly any notable troughs on any factor raised by the business owners/managers that are of interest to the study.

4.3. INSIGNIFICANT VARIABLES

After running several regression models the following factors that were part of the responses originally given by small business owners/managers as impediments to small business growth were found to be statistically insignificant explanatory variables of the proportion of small businesses that create jobs. In other words, though business owners/managers raised these factors as limiting factors to the growth of their business, statistically these factors are not significant in explaining job creation capabilities of small businesses. Factors that were dropped from this study include;

1. Competition from imports
2. Exchange rate
3. Access to markets
4. Insufficient demand
5. Shortage of skilled labour
6. Employee costs
7. Capital Costs
8. Crime
9. BEE
10. Procurement and Supplier

4.4. RESULTS OF OLS REGRESSION

Table 4.4 Primary data multi regression results

NUMBER OF OBSERVATIONS	39			
F (5, 33)	34.62			
PROB > F	0.0000			
R-SQUARED	0.8399			
ADJ R-SQUARED	0.8156			
ROOT MSE	0.0051			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Access to Bank Credit	.2610804	.0690511	3.78	0.001
Gvnt Taxes and Regulation	.0750345	.0422397	1.78	0.085
Impact of HIV Aids	-.2955931	.106575	-2.77	0.009
Operating Costs	.196843	.0301597	6.53	0.000
Other	.4314118	.0798335	5.40	0.000

Constant	.0211268	.0096909	2.18	0.036
-----------------	----------	----------	------	-------

4.4.1. Model Overview

This model has a probability of 0.000 which means that it is a significant model to explain the proportion of small businesses that create jobs. It has an adjusted R-squared of 82% which means that variables in this particular model explain 82% of the changes in the proportion of small businesses that create jobs. This is quite a significant R-squared and thus this model is relevant to the study at hand. A study that is meant to single out variables that affect the proportion of small businesses that create jobs. Below this study analyses all of the five variables, their p-values, coefficient of correlation, standard errors and t-statistic.

4.4.2. Access to Bank Credit

Access to bank credit is one of factors that was consistently cited as an impediment to business growth during the duration of the study, with an average of 8% of the interviewed business owners/managers citing it and a standard deviation of 1% which means that the response was fairly consistent during the course of the study.

From the results in Table 4.4 above a coefficient of .2610804 shows a positive relationship between two variables under observation which means as the number of small business managers/owners raising bank credit as an impediment to their growth increased so did the proportion of small businesses that created jobs. In simpler terms the more that small business managers/owners complained about their inability to access bank credit, so did the proportion of small businesses registering positive employment figures increase. At face value this is a rather awkward result as it should follow that when small businesses cannot access bank credit then they will struggle to deliver their goods/service and job creation thus should be dwindling. There are two possible explanations to this scenario.

Firstly, banks because of their risk averseness would hardly look at funding small businesses as a result of their high risk. From the Africagrowth survey, when business owners/managers raised access to bank credit as an impediment to their growth, it means they were highly likely struggling to access credit from banks and thus would be left with no other alternative except to look at alternative sources of finance for SMMEs. In South Africa just like anywhere in the world SMMEs hardly access their funding from banks

because of a variety of factors such as lack of collateral, lack of a solid track record, and their incomplete financial records, no audited financials etc. Their alternative funding will be grants from Government, credit from Micro Financing Institutions that are predominantly funded by Government such as SEFA (Small Enterprise Financing Agency), NEF (National Empowerment Fund) and IDC (Industrial Development Corporation). These comparatively have lesser stringent funding rules compared to mainstream banking. Their terms are much more suited for small businesses generally coming with lesser interest rates. Thus when such a dynamic unfolds it would then follow that when small businesses fail to get funding from banks, they end up looking at alternative funding sources which gives them better terms than banks and thus their businesses end up doing better and recording positive employment figures.

Secondly another possible reason why small businesses tend to create jobs in the absence of bank credit are the high interest rates charged to small businesses by mainstream banks because of their risk profiles. In the absence of such high interest rates which affect these small business' bottom line, they tend to do fairly well operating at their less geared levels.

4.4.3. Government Taxes and Regulation

From the results in table 4.4 above an average of 13% of the business owners/managers interviewed when gathering data used in this study, cited government taxes and regulation as an impediment to their growth. The standard deviation is at 2% which means that there was not much variance in the number of people who cited this variable as an impeding factor during the course of the study.

The co-efficient is a positive 0.075 which means that there is a positive relationship between the number of business owners/managers who cited the variable and the proportion of companies who created jobs in that period. In simpler terms, the more the business owners/managers complained about government taxes and regulation, there is also a corresponding increase in the number of companies that created jobs in the same period.

The variable has a p-value of 0.085 which means that it is only a significant explanatory variable at 90% confidence interval.

From the results observed, government taxes and regulation which were cited by business owners/managers as an impediment to the growth of their businesses are a significant variable at 90% confidence interval in positively explaining the proportion of small businesses that create jobs. For one person who cites this variable, the dependent variable increases by 0.075, which means that there is a weak positive relationship between the two variables.

Thus as resources spent to meet tax and regulatory obligations increased, so did the number of small businesses that recorded a positive growth in employment figures in the same period. This could be as a result of the support small businesses get from government in the form of financial and non-financial support. As a result of the risk that small businesses have, most funding institutions do not fund them in their early phase as highlighted in Section 4.4.1 of this study. This has been a huge challenge for small businesses in South Africa. Most businesses thus have resorted to bootstrapping in their early years resulting in the government stepping in by setting up funds especially through the Department of Trade and Industry to support these small and upcoming businesses through cheap loans and grants. There is a positive correlation between government spending and taxes. The more tax a government collects the more financial resources it has to be able to spend on its projects. So clearly when these small businesses were spending more on taxes, this simple compliance has a multiplier effect with one of the effects being the ability of small businesses to access cheap money through government institutions such as the DTI. As much as small business owners/managers listed this as an impediment to their growth on a micro-level, simultaneously on a macro-level it increases chances of small businesses to access cheap funding which enables them to grow and create jobs.

This factor is also a factor that has not been listed by many studies as an impediment to small business growth because of the positive effect taxes have on small businesses in the long run. Many journals and papers reviewed during the construction of this paper did not identify taxes and government regulation as an impediment to small business growth nor its ability to create jobs.

4.4.4. Impact of HIV Aids

From table 4.4 above a pvalue of 0.009 shows that HIV/AIDS is a statistically significant variable at 99% confidence level. This means that it is a relevant variable to explain fluctuation in job numbers within small businesses.

The regression output shows a coefficient of -0.2955931, which means that there is a negative relationship between HIV/AIDS and Job Creation. This simply means that as small business owners/managers were citing HIV/AIDS as an impediment to their growth, the proportion of small businesses that created jobs at the same time dwindled.

To be able to interpret this result we have to make certain assumptions, most importantly that when small business managers/owners raised HIV/AIDS as an impediment to their growth they were highly likely experiencing absenteeism or low productivity due to the virus. It is only rational to assume that small business owners/managers raised this factor when their businesses were being affected. The assumption therefore is that they were recording loss in production due to employees who were affected by HIV/AIDS.

With this assumption made, the results in Table 4.4 above show a coefficient of -0.2955931. This means that as small business managers/owners raised HIV/AIDS as an impediment to the success of their businesses, job creation was negative. In other words jobs were lost when HIV/AIDS effects were on the rise. This result is consistent with results from previous studies which had similar conclusions about the impact of HIV/AIDS on the broader businesses in South Africa. However, from the coefficient the impact is negative but not so severe. This should be because of better understanding of the virus and effective mitigation measures.

Previous studies have identified that the impact of HIV and AIDS in the workplace ranges from big businesses with both skilled and unskilled workers to small, medium and micro enterprises (SMMEs). The challenges and impacts are not only a human resources issues but it is now being classified as a business risk, because it is beginning to affect the supply chain of the business. According to Bowler's (2004) presentation at the Symposium Proceedings University of the Witwatersrand 2004, the impact of HIV and AIDS will affect productivity, competitiveness profitability of service and other human resources impacts that will be felt is the rate of absenteeism, accident rates deaths, early retirement,

disability retirements, industrial disputes and emigration). These impacts are already being felt by most businesses in South Africa.

In South Africa, there has been increased costs related to increased employee benefits in the form of group life insurance, pension, funeral benefits and medical aids increases.

It is only as recent as 2006 that the medical aids have moved away from limiting coverage for people infected with HIV. The coverage is now being classified as chronic, and the cost of coverage is unlimited just like other chronic health diseases (Discovery Health Newsletter, 2008). In addition, Discovery Health is now classifying HIV tests under the basic tests that are not charged from an employee's savings account but risk account; this however excludes certain plans such as the Core and Key plans.

Another aspect of the impact is evident in the competition among skilled workers, which tends to contribute to the escalating remuneration costs. Currently in South Africa there is increased wage differentiation and the assumption is that the contributing factors, in addition to employment equity factors, is the impact of HIV and AIDS. These aspects bring staff movement that leaves the business and employees to adjust to these changes. The changes often manifest in declining employee morale, loss of experience, loss of skills and loss of workplace cohesion and loss of management time.

One of the interesting aspects of the impact of HIV and AIDS, discussed by Bowler (2004), is the fact that the impact could be so adverse that in some businesses credit may need to be written off as customers die and sales volumes reduce. Stein (2001) adds that these impacts could contribute to reduction in savings and reduced disposable income as expenditure shifts to health and funeral-related expenses. With the increase of interest rates, high costs of petrol and food, South African consumers are already feeling the pressure of juggling the priorities of health, funeral-related costs, and basic needs.

In a survey done by Bowler (2004) in the Nelson Mandela Metropolitan Municipal Area, 64% of the workplace claimed HIV and AIDS related deaths (N=14, N1=22 265). The study explored the impact of HIV and AIDS in the organisations in the area; workplaces responded of which 13 workplaces were in manufacturing and one in the service sector. Significantly, in one workplace, Bowler's (2004) results indicated anecdotal evidence

through medical aid tracking of HIV positive employees that once ill, death followed quickly.

The impact of dying employees present a challenge to those left behind to continue with the work. As a result it can be clearly argued that the higher the prevalence, the higher the stress level on both employees and health workers. A study by Hall (2004: 113) of nurses in South Africa, revealed an alarming prevalence in 93% female patients and just over 6% in male patients. A total of 1 922 interviews were conducted among professional nurses, and nursing assistants. The study indicated that the impact on the prevalence is affecting half of the respondents in performing their duties and poses a challenge on their own wellness and their own safety. The results indicated that the perceived risk of infection is high compared to the actual infection of other infectious diseases, such as Hepatitis B.

What is generally known is that HIV and AIDS has and will continue to have an impact on the workplace in terms of work load, stress levels, job satisfaction and performance. This will become predominant as the workplaces continue to foster the work environment where openness is encouraged and those disclosing not stigmatised.

4.4.5. Operating Costs

From the results in Table 4.4 above Operations Costs are an explanatory variable that is statistically significant at 99% confidence level in explaining changes in job numbers because of the pvalue of 0.000. The mean number of small business managers/owners that cited Operating Costs was 13% during the course of the study with a standard deviation of 3%. The coefficient is a positive 0.196843, meaning there is a positive correlation between the number of small business owners/managers citing Operating Costs as an impediment and the proportion of small businesses creating jobs.

The coefficient of +0.196843 shows that there is a positive correlation between when small business managers/owners cited operation costs as an impediment to their ability to growth of their businesses and the proportion of small businesses that record positive employment figures. In other words, when the number of small business owners/managers raising capital costs as an impediment to their growth increases, so does the number of companies recording an increase in their employment figures. Clearly with a mean of 13% citing this factor over the 39 quarters under analysis with a standard deviation of 3% means that there was consistency in citing this impeding factor to their growth.

What this result means is that when operating costs are on the rise, then the proportion of small businesses creating jobs is also on the rise. Operating costs are normally on the rise as a result of increased productivity of businesses or as a result of inefficiency in managing costs. Generally, a company's management will seek to maximise profits for the company because profits are determined both by the revenue that the company earns and the amount the company spends in order to operate. Profit can be increased both by increasing revenue and by decreasing operating expenses, because cutting costs generally seems like an easier and more accessible way of increasing profits, managers will often be quick to choose this method.

However, trimming operating costs too much can reduce a company's productivity and thus, its profit as well. While reducing any particular operating cost will usually increase short-term profits, it can also reduce the company's earnings in the long-term. For example, if a company cuts its advertising costs, its short-term profits will likely improve, as it is spending less money on operating costs. However, by reducing its advertising, the company is also reducing its capacity to generate new business and earnings in the future can be negatively compromised. In this study the fact that when small business managers/owners were raising operating costs as an impediment to their growth, the number of small companies creating jobs also simultaneously increased means.

4.4.6. Other Factors

Other factors that did not garner enough responses to be stand-alone variables in this study were found to be significant at 99% confidence interval because of the very low pvalue. The coefficient shows a positive correlation between when small business owners/managers cited other factors not covered in this study as an impediment to their business growth and the proportion of small businesses that create jobs. On average 1% of small business owners/managers cited this factor and the standard deviation was 1% which means that there was consistency in raising of these other factors.

From the results obtained in this study, when small business owners/managers raised other factors outside the factors that have been listed in this study, the proportion of small businesses that created jobs also increased. These factors did not garner enough responses to be stand-alone factors in this study but because of the highest coefficient and a very low

pvalue, these other factors are very significant as explanatory variables for job numbers created by small businesses.

Previous studies on limitations to small business growth have listed a large number of factors – a sizeable number of which were ironically not listed by small business owners in this study as impediments to their growth. Factors such as lack of skills in a variety of aspects in business, especially business management skills, low levels of research and development, poor record keeping and many more have been raised as impediments to small business growth in a number of previous studies, but they were not well cited by the business owners/managers in this study.

4.5. TESTS FOR THE REGRESSION: OVERALL WITH THE OTHER INDEPENDENT VARIABLES

4.5.1. Test for multi-collinearity (Table 4.1 in Appendices):

The variance inflation factor (VIF) quantifies the severity of multi-collinearity in OLS regression. It provides an index that measures how much the variance of an estimated regression coefficient is increased because of collinearity. Multi-collinearity occurs when there are high correlations among predictor variables, leading to unreliable and unstable estimates of regression coefficients. As a rule of thumb, if the centered VIF is greater than 10, then the collinearity is high. From Table 1, the centered VIF's are all less than 10 therefore the multi-collinearity is not high, and therefore this regression will not result in unreliable and unstable estimates.

4.5.2. Test for heteroscedasticity (Table 4.2 in Appendices):

The Breusch-Pagan-Godfrey test was used to test for the presence of heteroscedasticity. Heteroscedasticity occurs in the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it. The null hypothesis is of homoscedasticity, i.e. no heteroscedasticity and the alternative hypothesis is that of no homoscedasticity. Using the F-statistic and p-value, the p-value is given by **0.9726**. At a 5% level of significance we do not reject the null hypothesis, therefore we do not reject homoscedasticity for this regression.

4.5.3. Test for serial correlation (Table 4.3 in Appendices):

The Breusch-Godfrey test was used to test for the existence of serial correlation. Serial correlation occurs when there is similarity between observations as a function of the time lag between them. If serial correlation is present, then it would mean incorrect conclusions will be drawn from other tests, or that sub-optimal estimates of model parameters are obtained. The null hypothesis is of no serial correlation and the alternative hypothesis is the existence/presence of serial correlation. The LM-test is used with the F-statistic and p-value for this hypothesis test. The given p-value is **0.8198**, which is larger than the significance level of 5%. Therefore, at a 95% confidence level it can be accepted that there is no serial correlation in this regression.

4.5. ROBUSTNESS CHECK

The study up until this chapter has been conducted primarily using data from Africagrowth. There is a need to test the robustness of the model. Robustness check is a common exercise in empirical analysis where the researcher examines how certain "core" regression coefficient estimates behave when the regression specification is modified by adding or removing regressors. If the coefficients are plausible and robust, this is commonly interpreted as evidence of structural validity. Leamer (1983) influentially advocated investigations of this sort, arguing that "fragility" of regression coefficient estimates is indicative of specification error, and that sensitivity analyses (i.e., robustness checks) should be routinely conducted to help diagnose misspecification.

The secondary model used below in testing the robustness of the primary model runs the net job numbers from the primary model as a dependent variable and uses proxy variables as explanatory variables. These proxy variables used are defined below and they mainly capture the demand side factors and the supply side factors on a macro-economic level and how they explain changes in small business job creation. The purpose of this test in a nutshell is to use alternative variables to test and see if they can explain the changes in the proportion of small businesses that created jobs based on the data gathered by Africagrowth in their quarterly surveys for the past 10 years.

The following variables were used as proxy variables for original variables to this study;

Data Source

Quantec - Quantec maintains and distributes a comprehensive set of data collections covering macro and regional economic, industry and international trade data. Quantec has been delivering statistical, econometric and decision analysis software solutions to the corporate, public sector and educational markets since 1998.

Definition of key variables

Explanatory variables in the model

CVI - Quantec Consumer Vulnerability Index (CVI) (Quarterly Report & Data)

CVI is a quarterly overview of nine macro variables giving an indication of the financial health or vulnerability of South African households. These variables are: Employment growth; insolvencies growth; real house price growth; saving to HDI; household debt to HDI; real Credit growth; debt servicing cost; real HDI growth; and real net wealth per capita. The variables are combined into a single index which can be used as a measure of consumer vulnerability. For each of the nine indicators, the historical standard deviations are calculated and scores given.

Consumer Vulnerability Index mostly called the Consumer Financial Vulnerability Index in other studies, in this study is used to capture the demand side explanatory variables. This is a variable that ultimately affect consumers' propensity to consume.

Quantec Financial Conditions Index (Monthly Report)

The Financial Conditions Index is a 4-page monthly overview of the financial conditions as measured by five variables: real interest rates, the yield curve, earnings yields on shares, excess money supply growth, and real effective exchange rate change. The Financial Conditions Index (FCI) can signal overall financial conditions to economic agents, and can serve as rough indicator for the conduct of monetary policy – especially in times of high financial market volatility. The FCI gives a comprehensive view on the financial variables likely to impact on both future inflation and economic activity levels.

This variable measures the supply side explanatory variables in the primary model to this study. Factors captured in this variable are factors that indeed affect small businesses in their quest to produce goods for their customers.

Table 4.5 Secondary data multi-regression model results

NUMBER OF OBSERVATIONS	39			
F (5, 33)	13.84			
PROB > F	0.0000			
R-SQUARED	0.6196			
ADJ R-SQUARED	0.5748			
ROOT MSE	0.11658			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
interest	-3.952128	2.02726	-1.95	0.060
Consumer Vulnerability Index	.0185477	0.0050214	3.69	0.001
Financial Conditions Index	.0081902	0.0016488	4.97	0.000
GDP	4.77e-07	2.07e-07	2.30	0.027
Constant	-3.152546	0.6570043	-4.80	0.000

Model Overview

This regression model has an adjusted R-squared of 57% which means that these explanatory variables explain 57% of the changes in the fluctuation of job creation within small businesses. That is a significant explanation to a variable and thus this model becomes of interest in understanding small businesses and job creation. The pvalue of this model is 0.0000 which means that this model is significant at 99% confidence level, it is a statistically significant model and that is why it is used in this study. Below is an interpretation of the results for each of the five variables in this model and how each affects the proportion of small businesses that create jobs.

Interest rate

From Table 4.5 above, interest rate has a pvalue of 0.060 showing that Interest Rate is a statistically insignificant variable or it can be defined as a weak significant variable since it does not go beyond 10% above 0.05. This means it is a relevant variable to explain fluctuation in job numbers within small businesses to a very minimal extent. The coefficient shows a negative relationship between these two variables. This means that when interest

rates go up the proportion of small businesses creating jobs goes down significantly because of the -3.95 coefficient.

A negative relationship between interest rates and the proportion of small businesses that records growth in job numbers means that when interest rates rise, the number of small businesses creating jobs decreases and vice versa. Clearly this relationship means that when the cost of borrowing goes up, it becomes too expensive for small businesses to borrow and thus their business growth is negatively affected which in turn affects their propensity to employ. So rising interest rates negatively affect job creation in small businesses and when interest rates come down job creation in small businesses goes up.

Consumer Vulnerability Index

From Table 4.5 above Consumer Vulnerability Index has a pvalue of 0.001 meaning it is a significant variable at 99% significant level. It is a significant variable in explaining the proportion of small businesses that create employment. However that relationship has a 0.01845 coefficient of correlation meaning according to Evans (1996), it is a very weak positive relationship between the two variables.

From the regression results above, when the consumer vulnerability index improves so does the proportion of small businesses creating jobs. Though the coefficient of correlation is weak but the positive correlation can be interpreted as follows; when consumers become less vulnerable, their propensity to consume small businesses' products and services improves and thus small businesses create new jobs in response to this increased spending power of consumers. The CVI index is a cluster variable with several sub-variables that include employment growth, insolvencies growth, real house price growth, saving to HDI, household debt to HDI, real Credit growth, debt servicing cost, real HDI growth and real net wealth per capita. These sub-variables ultimately have an impact on the disposable income that consumers have.

Financial Conditions Index

Financial Conditions Index is a very significant explanatory variable to the proportion of small businesses that create jobs at 99.99% confidence level since the pvalue is 0.000 from Table 4.5 above. The coefficient of correlation is 0.0082, which shows that there is indeed a positive relationship between the two variables though very weak as defined by Evans (1996).

Financial Conditions Index clusters a total of five variables that explain the financial environment that businesses operate under. An improvement of this index is followed by a positive increase in the proportion of small businesses that create jobs, though this relationship is very weak with a positive coefficient of correlation of 0.0081902. This variable captures five variables which are real interest rates, the yield curve, earnings yields on shares, excess money supply growth and real effective exchange rate change. Such variables affect larger businesses more than they do small businesses as small businesses mainly play in the parallel economy. They hardly access funding from most of these risk averse funding institutions and so their response to interest rates are weak. Most of them do not export and so exchange rate variations also have minimal influence on small businesses. Earnings yields on shares hardly affect them as well as all of them are not listed. Excess money supply growth is a sub-variable that affects small businesses as this can be inflationary therefore affecting the rate at which small businesses also change their prices as input prices are changing frequently. Thus out of all the variables that make up the financial conditions index, there are fewer variables that affect small businesses.

Gross Domestic Product

From the regression result in Table 4.5 above, GDP is a significant variable in explaining the movement in the proportion of small businesses that create jobs at 95% confidence level since the pvalue is at 0.027. The coefficient of correlation is very weak at $4.77e-07$.

Even though there is a positive correlation between GDP and the proportion of small businesses that create jobs, its explanatory power of job numbers in small businesses is very weak. When GDP changes by 1 unit, the proportion of small businesses that create jobs responds positively but by 0.000000477 units. This is defined by Evans (1996) as a very

weak relationship. However besides the intensity of the relationship, GDP still impacts job creation by small businesses. Loosely defined, GDP represents the monetary value of all goods and services produced within a nation's geographic borders over a specified period of time. So when the economy performs, so do small businesses but again their response to a well performing economy is very weak.

4.6.CONCLUSION

There is general consensus throughout this study about the critical role small businesses should play in stimulating economic growth and in creating the much needed employment for both developing and developed economies. This study looked at ‘small businesses and job creation in South Africa’. Though the contribution of small businesses to economic growth and employment creation in South Africa cannot be downplayed, small businesses have failed to create enough jobs to halt the spiralling unemployment which is currently hovering around 26.6%. This study thus focused on factors that are affecting small businesses’ ability to create jobs.

This chapter of the study uses findings from the research done to answer questions that were raised at the beginning of this study, draw up conclusions and recommendations pertaining to small businesses and job creation in South Africa at the same time also citing limitations of this study and closes by making recommendations on areas of further study.

The primary objective of this study identified in Chapter 1 was to identify which of the factors cited by small business owners/managers as impediments to the success of their business have a bearing on job creation and to what extent.

In total there were 12 factors that were identified by small business owners/managers as impeding the growth of their business and thus their ability to create jobs. This study statistically tested these factors to find out if indeed they have any impact on the ability of small businesses to create jobs. Out of these 12, only five factors were found to be statistically significant in explaining movement in the proportion of small businesses that create jobs. These five factors are (1) Access to bank credit (2) Operating Costs, (3) HIV Aids, (4) government taxes and regulations and (5) other factors that were not raised enough times by the small business owners/managers to be standalone factors in this study. These five factors could explain 81.49% of changes in the proportion of small businesses that

create jobs which means that they are relevant factors that influence job numbers created by small businesses.

Up until the first regression model, this study had solely relied on figures from the Africagrowth survey and needed to be verified using proxy variables.

A secondary regression model was used for robustness check. In this model, the 12 variables were replaced with proxy variables which included interest rates, Consumer Vulnerability Index, Financial Conditions Index and GDP with the dependent variable remaining the same. These 4 variables explained 57% of the changes in the proportion of small businesses creating jobs. This means that these factors influence significantly small businesses' ability to create jobs. The advantage of using the secondary model to check the robustness of the primary model is that it validates data gathered from Africagrowth and also it captures macro-economic variables that influence broader policy.

Secondary objectives

Rank the limiting factors in order of impact on job creation. Starting with the limitation with the worst impact on job creation until the limitation with the least impact on job creation.

Table 4.6 Primary regression model variables ranking

Primary Regression Model		Adjusted Rsquared 81.56%	
	<u>Factors</u>	<u>Pvalue</u>	<u>Coefficient of Correlation</u>
1	Other Factors	0.000	0.4314118
2	HIV Aids	0.009	-0.8955931
3	Access to Bank Credit	0.001	0.2610804
4	Operating Costs	0.000	0.196843
5	Taxes and Regulations	0.085	0.0750345

Firstly, looking at the Adjusted Rsquared proves that this model is a significant model and explains 81.56% of the small business job number movement. From the table above, this study reveals that the factor with more influence on the proportion of small businesses that create jobs are the 'other factors' as raised by small business owners/managers but did not garner enough responses to be stand-alone factors. There is a need for more research pertaining to these 'other factors'.

HIV/AIDS, Access to Bank Credit and Operating costs respectively as shown in the table above have statistically significant influence on the proportion of small businesses that create jobs with HIV/AIDS being more significant followed by Access to Bank Credit and then Operating Costs. Taxes and Regulations are not significant in explaining changes in job numbers for small businesses because of the high pvalue which is way above 0.05 upper asymptote stretching not beyond this value by 10% i.e. up to 0.06.

Table 4.7 Secondary regression model variables ranking

Secondary Regression Model		Adjusted Rsquared 57.48%	
	Variable	Pvalue	Coefficient of Correlation
1	CVI	0.001	0.0185477
2	FCI	0.000	0.0081902
3	GDP	0.027	4.77e-07
4	Interest Rate	0.060	-3.952128

From the robustness check, the table above the Adjusted Rsquared is 57.48% which means that the variables included in this model explain 57.48% of the movement in small businesses job numbers in South Africa. From the same table, the factor whose impact on job creation in small businesses is more statistically significant is Consumer Vulnerability followed by Financial Conditions then GDP and Interest rates. But the coefficients of correlation for the first three factors are very weak though positive. This simply means that even though there is a positive correlation between all the three factors and job creation in small businesses, the positive correlation is very weak. Regarding interest rates though the pvalue shows a weak significance at 10%, it has a very strong coefficient of correlation at -3.9. This means that job creation in small businesses respond to changes in interest rates negatively and quite significantly.

Hypothesis

Ho = The identified factors significantly affect small business' ability to create jobs.

Hi = The identified factors don't significantly affect small business' ability to create jobs

CHAPTER 5

5. CONCLUSION AND RECOMMENDATION

This study was conducted to primarily identify factors that inhibit small businesses' ability to create jobs. The study was anchored on factors that were raised by small business owners/managers as limiting factors to their growth in the Africagrowth SMME Business Index survey. In total 15 factors were raised by at least 100 business managers/owners over a period of 10 years. From the results of statistical tests conducted in this study, out of the 15 factors only 5 had an impact on business growth and job creation and these were, HIV, access to bank credit, Government taxes and regulations, operating costs and other factors outside the listed ones.

The factor that affected job creation the most was HIV followed by other factors not raised by the business owners/managers then followed by access to bank credit, operational costs and Government taxes and regulation respectively. The factor with a negative impact on small business growth and its ability to create jobs was identified as HIV with a coefficient of correlation of -0.896 the rest had a positive correlation with business growth and job creation.

Clearly the other factors that were not raised by surveyed business owners/managers have a statistically significant +ve impact on small business growth and job creation.

5.1.RECOMMENDATION

For the South African Government to address challenges that are pivotal to the success of small business as identified in this study, firstly based on the primary regression model to this study attention should remain focused on HIV/AIDS. South Africa has made great strides in tackling its HIV epidemic in recent years and now has the biggest HIV treatment programme in the world. In order to maintain progress, the government needs to extend the National Strategic Plan beyond 2016 as it expires this year since the policy has been effective in combating the spread of HIV/AIDS and re-infections.

Secondly, the issue pertaining to access to funding has been raised consistently as an impediment to small business growth by a large number of studies on the subject matter and it has again been flagged by the results to this study. From the responses given in the Africagrowth SMME Index Quarterly Survey, there is clear evidence that small business owners/managers are pursuing banks for funding and their success rate of raising funding has been low. Such a response also shows lack of knowledge pertaining to government support initiatives for small business funding. This finding aligns with findings by Stephen Mago and Bigboy Toro(2013) in their study titled ‘South African Government’s Support to Small,

Lastly, based on the primary regression model, operating costs were found to be a significant variable in explaining job creation within small businesses. However, as much as small business managers/owners surveyed by Africagrowth raised this variable as an impediment, it was actually found that it is not an impediment because of the positive correlation between the two variables. This simply means that the rising operational costs were not due to inefficiencies but due to increased level of production as the proportion of small businesses creating jobs also rose.

Such a finding clearly highlights the lack of understanding by small business owners/managers of implications of fluctuation of operations costs. They clearly struggled to distinguish between operational costs due to inefficiency and due to increased production levels. Thus there is need for government to channel more resources towards skills development of small business owners/managers especially on business management and financial management.

From the above recommendations, the South African Government has a major role to play to ensure that small businesses create the much needed jobs to arrest the spiraling unemployment currently haunting the country. Most of the challenges currently faced by South Africa are rooted in the very high unemployment rate and by increasingly involving small businesses in the mainstream economy only can the government ensure South Africa rides on the waves associated with small businesses as has been realised in China, Singapore, Mauritius, Pakistan and many other small business success stories.

Areas of further study beyond this research paper involve the comparison of small and big business in terms of job creation. Big business is increasingly being side-lined from support perspective in South Africa. Most funding is increasingly being channelled to small businesses through the Department of Trade and Industry and many other Government initiatives. Indeed, empirical evidence elsewhere has shown that small businesses can stimulate economic growth and address issues of unemployment but is this the case with South Africa. Shouldn't primary focus be shifting back to big businesses since it has been the major source of high quality jobs? Conducting such a study using South African data could help the government to channel resources towards the sector that generates more jobs.

REFERENCES

- Bekker, F. & Staude, G. 1996. *Starting and Managing a Small Business*.
- Burns, P. & Dewhurst, J. 1996. *Small Business and Entrepreneurship*. 2nd edition. London: Macmillan Press LTD Publishing.
- David M. Andresoand John C. Hafer. "The Original Sins of Small Business," NBDC Report, (December 1985), pp.1-3.
- Dickey, T. 1994. *Budgeting for Small Business: A Prime for Entrepreneurs*. Crisp Publications.
- Franklin, William H., Jr. and Stephan C. Franklin, Sr. "Five Mistakes Often Made by Small Businesses," *Journal of Small Business, Management*, (September 1982), pp.5-6.
- Hubbard, R.T. & Hailes, W.D. Jr. 1988. *Small Business Management*. 4th edition. New York: Delmar Publishers.
- J. A. Welsh and J. F. White, "A Small Business is Not a Little Big Business", *Harvard Business Review* 59 (1981), pp. 18 – 30
- Jones, O. & Tilley, F. 2003. *Competitive Advantage in SMMs: Organising for Innovation and Change*. SanFrancisco: Wiley & Sons Publishing.
- Keasey, K. & Watson, R. 1993. *Small Firm Management*. England: Oxford Publishing.
- Longenecker, J.G., Moore, C.W. & Petty, J.W. 2003. *Small Business Management: An Entrepreneurial Emphasis*. 12th edition. Canada: Thomson.
- Pickle, H.B. & Abrahamson, R.L. 1990. *Small Business Management*. 5th edition. New York: John Wiley & Sons.
- Resnik, P. 1988. *The Small Business Bible: The Make-or-Break Factors for Survival & Success*. Canada: John Wileys& Sons, Inc.
- Scarborough, N.M. & Zimmerer, T.W. 2003. *Effective Small Business Management: An Entrepreneurial Approach*. 7th edition. New Jersey: PrenticeHall Publishing.

Siropolis, N.C. 1990. *Small Business Management*. 4th edition. New Jersey: Houghton Mifflin Company.

Yellow Pages Australia Small Business Index, "A Special Report on Social Issues" (November 1993)

Baldwin, John and Garnett Picott, "Employment Generation by Small Producers in the Canadian Manufacturing Sector," *Small Business Economics* 7. 1995 317---324

Barnes, Matthew and Johnathan Haskel, "Job Creation, Job Destruction and the Contribution of Small Businesses: Evidence for UK manufacturing, Working Paper 461 University of London 2002.

Banerjee. Abhijit, Galiani. Sebastian, Levinsohn. J, McClaren. Zoe, Woolard. Ingrid, 2008 "Why has unemployment risen in the New South Africa?", *Economics of Transition*, Vol 16(4) p 717---739

Birch, D. L. (1979). *The Job Generation Process*. Unpublished report prepared by the MIT Program on Neighborhood and Regional Change for the Economic Development Administration, U.S. Department of Commerce, Washington, DC.

Birch, D. L. (1981). *Who Creates Jobs? The Public Interest*, 65, 3---14.

Broersma, Lourens and Pieter Gautier, "Job Creation and Job Destruction by Small Firms: AN Empirical Investigation for the Dutch Manufacturing Sector, *Small Business Economics* 9, 1997: 211--- 225

Brown, Charles, James Hamilton and James Medoff, *Employers Large and Small* (Cambridge, MA: Harvard University Press, 1990)

Caves, Richard E., Michael E. Porter, and Michael A. Spence. (1980). *Competition in the Open Economy: A Model Applied to Canada*. Cambridge, MA: Harvard University Press.

Davidsson, Per, Leif Lindmark and Christer Oloffson, : *The Extent of Overestimation of Small Firm Job Creation--- An Empirical Examination of the Regression Bias*, *Small Business Economics* 11, 1998 87--- 100

Davis, Steven J., John Haltiwagner, and Scott Schuhh, Job creation and destruction (Cambridge, MA: MIT Press, 1996)

de Kok, Jan, Claudia Deijl and Veldhuis---Van Essen Christi 2013 Is Small Still Beautiful: Literature Review of Recent Empirical Evidence on Contribution of SMMEs to Employment Creation ILO

Finmark Trust 2011 Finscope South Africa Small Business Survey 2010, Johannesburg: Finmark Trust

Hallberg, Kristin. (2001). "A Market---Oriented Strategy For Small and Medium---Scale Enterprises." IFC Discussion Paper # 48.

Haltiwagner, John., Ron S. Jarmin nand Javier Miranda, Who creates Job? Small versus large versus young. The review of Economics and Statistics 95 (2) May 2013 pp 347---361

Kirchoff, Phillip and Bruce Phillips, "The Effect of Firm Formation and Growth on Job Creation in the United States," Journal of Business Venturing 3, 1988, 261---272.

Kumar, Krishna B., Raghuram G. Rajan, and Luigi Zingales. (2001). "What Determines Firms Size?" University of Chicago. CRSP Working Paper No. 496.

Neumark, David, Brandon Wall and Junfu Zhang, "Do Small businesses create more jobs? New evidence for the US from the National Establishment Time Series," this Review 93 (2011), 16---29.

Snodgrass, Donald, and Tyler Biggs. (1996). Industrialization and the Small Firm. San Francisco: International Center for Economic Growth.

Voulgaris, Fotini, Theodiore Papadogonas and George Agiomirgianakis, "Job Creation and Jopb Destruction n Greek Manufacturing," Review of Development Economics 9, 2005: 289---301

You, Jong---Il. (1995). "Small Firms in Economic Theory." Cambridge Journal of Economics 19, 441---462.

APPENDICES

Table 4.4: VIF output for Multi-collinearity Test

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
ACCESS_TO_BANKCREDIT	7.727852	91.44227	2.187304
GVNT_TAXREG	4.34917	135.9778	4.361147
COMPET_FROMIMPORTS	7.431629	29.2128	4.05198
EXCHANGE_RATE	5.77449	39.66097	3.482057
ACCESS_TO_MARKETS	6.454975	45.0022	3.315102
INSUFFICIENT_DEMAND	7.817909	121.2443	5.285613
SHORTAGSKILLEDLABO	6.465892	81.29821	3.811593
EMPLOYEE_COSTS	2.420655	58.60598	2.208259
IMPACT_OF_HIV_AIDS	27.4486	17.34235	3.386535
OPERATING_COSTS	3.232831	104.603	5.77989
CAPITAL_COSTS	4.330766	22.08926	6.798967
CRIME	4.408381	32.91977	3.143143
BEE	1.923855	14.80702	2.527798
OTHER	11.03692	7.360531	3.280935
PROCURESUPPLIER	5.590115	8.289932	7.051287
C	0.82716	1467.139	NA

Table 4.5: Test for Heteroskedasticity

Heteroskedasticity Test: Breusch-Pagan-Godfrey				
F-statistic	0.376582	Prob. F(15,23)		0.9726
Obs*R-squared	7.689705	Prob. Chi-Square(15)		0.9356
Scaled explained SS	3.273639	Prob. Chi-Square(15)		0.9993
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Date: 11/07/16 Time: 21:27				
Sample: 2006Q1 2015Q3				
Included observations: 39				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.174229	0.145192	1.199997	0.2424
ACCESS_TO_BANKCREDIT	-0.044408	0.443789	-0.100066	0.9212

GVNT_TAXREG	-0.205479	0.332928	- 0.617189	0.5432
COMPET_FROMIMPORTS	0.170457	0.4352	0.391676	0.6989
EXCHANGE_RATE	-0.265787	0.383622	- 0.692836	0.4953
ACCESS_TO_MARKETS	-0.380857	0.405596	- 0.939006	0.3575
INSUFFICIENT_DEMAND	-0.369418	0.446367	- 0.827612	0.4164
SHORTAGSKILLEDLABO	-0.316881	0.405939	- 0.780611	0.443
EMPLOYEE_COSTS	-0.024655	0.248378	- 0.099266	0.9218
IMPACT_OF_HIV_AIDS	0.520287	0.836386	0.622065	0.54
OPERATING_COSTS	-0.328518	0.287037	- 1.144514	0.2642
CAPITAL_COSTS	-0.071713	0.332222	- 0.215857	0.831
CRIME	0.102336	0.335186	0.30531	0.7629
BEE	0.067668	0.221428	0.305597	0.7627
OTHER	-0.366608	0.53036	- 0.691244	0.4963
PROCURESUPPLIER	-0.395236	0.377448	- 1.047128	0.3059
R-squared	0.197172	Mean dependent var		0.012967
Adjusted R-squared	-0.326412	S.D. dependent var		0.020554
S.E. of regression	0.023672	Akaike info criterion		-4.35659
Sum squared resid	0.012889	Schwarz criterion		-3.6741
Log likelihood	100.9535	Hannan-Quinn criter.		-4.11172
F-statistic	0.376582	Durbin-Watson stat		1.95116
Prob(F-statistic)	0.972572			

Table 4.6: Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.200548	Prob. F(2,21)		0.8198
Obs*R-squared	0.730934	Prob. Chi-Square(2)		0.6939
Test Equation:				
Dependent Variable: RESID				
Method: Least Squares				
Date: 11/07/16 Time: 21:28				
Sample: 2006Q1 2015Q3				
Included observations: 39				

Pre-sample missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACCESS_TO_BANKCREDIT	0.351876	2.991738	0.117616	0.9075
GVNT_TAXREG	0.369664	2.324885	0.159003	0.8752
COMPET_FROMIMPORTS	0.394057	2.983301	0.132087	0.8962
EXCHANGE_RATE	0.062309	2.630194	0.02369	0.9813
ACCESS_TO_MARKETS	-0.264896	2.671602	-0.099152	0.922
INSUFFICIENT_DEMAND	0.000519	2.981897	0.000174	0.9999
SHORTAGSKILLEDLABO	-0.149055	2.649543	-0.056257	0.9557
EMPLOYEE_COSTS	-0.28409	1.771556	-0.160362	0.8741
IMPACT_OF_HIV_AIDS	-0.117578	5.437282	-0.021624	0.983
OPERATING_COSTS	-0.030276	1.877682	-0.016124	0.9873
CAPITAL_COSTS	0.12567	2.166879	0.057996	0.9543
CRIME	-0.006169	2.221087	-0.002778	0.9978
BEE	0.193444	1.473109	0.131317	0.8968
OTHER	0.484347	3.578522	0.135348	0.8936
PROCURESUPPLIER	-0.348097	2.577975	-0.135027	0.8939
C	-0.051087	0.951959	-0.053666	0.9577
RESID(-1)	-0.166152	0.268426	-0.618985	0.5426
RESID(-2)	-0.093225	0.327703	-0.28448	0.7788
R-squared	0.018742	Mean dependent var		1.60E-16
Adjusted R-squared	-0.77561	S.D. dependent var		0.115362
S.E. of regression	0.153722	Akaike info criterion		-0.6033
Sum squared resid	0.496243	Schwarz criterion		0.1645
Log likelihood	29.76431	Hannan-Quinn criter.		-0.32782
F-statistic	0.023594	Durbin-Watson stat		2.017476
Prob(F-statistic)	1			