

THE EFFECT OF FISCAL POLICY ON CAPITAL FLIGHT IN NAMIBIA

A MINI THESIS SUBMITTED IN PARTIAL FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTERS OF SCIENCE IN ECONOMICS

OF

THE UNIVERSITY OF NAMIBIA

BY

VALDEMAR JOÃO UNDI

.....

201081652

.....

April, 2018

Supervisor: Dr. Teresia Kaulihowa

(University of Namibia)

ABSTRACT

Capital flight continues to be of great concern in many developing countries and Namibia is not an exception. The purpose of this study is to examine the effects of fiscal policy on capital flight in Namibia for the period, 1993-2014. To assess this effect, the ARDL bounds test to cointegration technique was employed. The finding not only reveals fiscal policy to affect capital flight but also that there is a long-run relationship between capital flight and the selected macroeconomic variables. In the short-run, past capital flight and external debt positively affect capital flight. Estimates of capital flight, using the residual approach, shows that Namibia lost about US\$35 billion in 21 years through capital flight. The empirical findings from this study raises a number of serious policy concerns that needs to be addressed urgently. Firstly, the government needs to pay attention on its external debt management and take decisive steps to minimise it. Secondly, there is a need for concerted effort by the government to engage countries believed to have been benefiting from Namibia's capital. Thirdly, it is imperative for government ensure that there a dynamic financial sector development coupled with a conducive business environment in order to keep the funds from fleeing elsewhere. Lastly, the government should consider enforcing tighter controls on capital. In so doing, capital flight from the country can be minimised and contained.

ACKNOWLEDGEMENTS

My first vote of thanks goes to my second time supervisor, Dr. Teresa Kaulihowa for her fathomless contributions in writing this mini thesis. Your expertise in providing intelligent comments, criticisms and suggestions were invaluable.

Thanks to all my UNAM lecturers in the Department of Economics who availed themselves whenever I needed their assistance. I am grateful to Dr. J.M. Nyambe, who never hesitated to endorse me for the African Economic Research Consortium (AERC) scholarship nomination. Dr. Jean Marcelin B. Brou (University Felix Houphouet Boigny), you are definitely not forgotten. To my former secondary and primary school teachers who instilled in me a sure academic foundation on which I built on, thank you.

To my sponsors, the AERC, I am greatly honoured to have been a recipient of one of the most coveted life changing scholarships in the world. I will ever be grateful for your full financial support which has fuelled my undertaking of the Master of Science in Economics.

Furthermore, I would like to thank all my friends, especially Sir Lucius Cassim and Evans Mumba and all my family members for their continual support during my study. In particular, I extend my gratitude to my lovely wife Anavilde, for her patience and support, while holding the fort for Bela and Joel - the driving force of this accomplishment. To Pa and Ma Chindekasse “*muito obrigado pelo vosso apoio inestimável.*” A very big thanks to my big sister, Rosalina and her husband, Mr. Freddy, for unconditionally being there for me - you are the best!

Lastly but not least, my utmost gratitude goes to the One and Only Wise God, the Giver of every good and perfect gift, for His Supernatural FAVOUR upon my life and for His unlimited and inexhaustible provisions laid up from before the foundation of the world in

order for me to be able to fulfil my kingdom assignment on this side of eternity. Unto You is due all the glory and honour – Amen.

DEDICATION

I dedicate this thesis to my beloved Parents, Mr. João Undji and Mrs. Belinha Undji who always believed in me and made immeasurable sacrifices for me to be here. *‘Muito obrigado pelo vosso sacrificio, apoio moral, e por sempre terem fé em mim.’*

DECLARATION

I, Valdemar João Undji, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution.

No part of this thesis/dissertation may be reproduced, stored in any retrieval system, or transmitted in any form, or by means (e.g. electronic, mechanical, photocopying, recording or otherwise) without the prior permission of the author, or The University of Namibia in that behalf.

I, Valdemar João Undji, grant The University of Namibia the right to reproduce this thesis in whole or in part, in any manner or format, which The University of Namibia may deem fit.

Valdemar João Undji

Date

TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGEMENTS.....	ii
DEDICATION.....	iii
DECLARATION.....	iv
ACRONYMS.....	viii
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
CHAPTER 1: INTRODUCTION.....	1
1.1 Background to the study.....	3
1.2 Statement of the problem.....	5
1.3 The Objectives.....	8
1.4 The Hypothesis.....	8
1.5 Significance of the study.....	9
1.6 Limitation of the study.....	11
CHAPTER 2: LITERATURE REVIEW.....	13
2.1 Introduction.....	13
2.2 Conceptual Issues.....	13
2.2.1 The Concept and Measures of Capital Flight.....	13
2.3 Theoretical literature on the effect of Fiscal Policy on Capital Flight.....	18

2.4 Empirical Literature	21
CHAPTER 3: RESEARCH METHODOLOGY	28
3.1 Introduction	28
3.2 Research Design	28
3.3 Sample	28
3.4 Data Analysis	28
3.4.1 Model Specification	28
3.4.2 Methods of estimation	32
3.4.3 Research ethics	37
CHAPTER 4: EMPIRICAL ANALYSIS AND RESULTS	38
4.1 Introduction	38
4.2 Time series property of the data	38
4.3 Lag length selection test	40
4.4 Unit root (non-stationarity) test	41
4.5 ARDL cointegration test results	44
4.6 Long-run coefficient using ARDL approach	45
4.7 Short-run dynamics of capital flight in Namibia	46
4.8 Wald Coefficient test	49
4.9 Diagnostic tests	50
4.10 Stability tests	51
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	56

5.1 Summary of results.....	56
5.2 Conclusion.....	56
5.3 Policy Recommendation	57
5.4 Areas for further Research	58
REFERENCES	60

ACRONYMS

ACC	Anti-Corruption Commission
ARDL BT	Auto-Regressive Distributive Lag Bounds Test
BoN	Bank of Namibia
CD	Debt Stock
CMA	Common Monetary Area
CUSUM	Cumulative Sum of Recursive Residuals
CUSUMSQ	Cumulative Sum of Recursive Residuals of Squares
ED	External Debt
KFr	Capital Flight the residual approach
NDPs	National Development Programmes
SC	Schwarz Information Criterion
US\$	US Dollar
VAR	Vector Auto-Regressive

LIST OF TABLES

Table 1: Descriptive statistics.....	38
Table 2: Correlation matrix.....	39
Table 3: VAR lag length selection criteria.....	40
Table 4: Unit root test: ADF & PP	42
Table 5: ARDL BT for cointegration.....	44
Table 6: Estimated Long-run Coefficients.....	45
Table 7: Estimates from the Error Correction Mechanism.....	47
Table 8: Wald test for joint significance of the fiscal policy variables	49
Table 9: Diagnostics test.....	50
Table 10: Magnitude of capital flight in Namibia between period 1993– 2014	53

LIST OF FIGURES

Figure 1: CUSUM	50
Figure 2: CUSUMSQ	51

CHAPTER 1: INTRODUCTION

Empirical literature characterises the late periods of 1970s and 1980s as years of abject debt crisis (Muchai & Muchai, 2016; Okoli, 2008; Mohamed & Finnoff, 2005; Shiimi & Kadhikwa, 1999). As a way of averting the then unfavourable economic and political conditions, affected countries considered it necessary to deploy much of their focus on fiscal policy instruments. This was achieved by crafting policy measures meant to curb outflows of funds by domestic residents and since then, most governments across the world have kept a watch on fiscal variables as it is an important tool that could be used to stabilise an economy.

In the same vein, the current global crisis which stemmed from the oil crisis, believed to have unfolded in June 2014, is in some ways characterised by similar prejudice of the global financial recession of 2008 that originated from the United States as a result of the bubble burst in the housing market and the growth of mortgage defaults (Helleiner, 2011). This has triggered most developing countries to aspire for sustainable economic growth amid a weakening economic environment. One of the major root causes of slower domestic investment, which might be responsible for staggering development and economic growth for most developing and emerging economies is hypothesized to result from capital flight, also known as illicit financial flows (Okoli, 2008).

Various economists have defined the phenomenon of capital flight rather differently, depending on what they aim to achieve. This is to say that, the term may mean something different to different individuals depending on the underlying research questions. Regardless of the differences in definitions which shall be considered later on, this study defines capital

flight as short-term speculative capital outflows involving what some would call "hot money" which is responsive to the political or financial conditions, higher taxation rates, an anticipation of tighter capital controls or major devaluation of the domestic currency, or actual or incipient hyperinflation in an economy (Cuddington, 1986).

Many studies (see, for example, in Cuddington, 1986; Shiimi & Kadhikwa, 1999; Le & Zak, 2006) document that there were massive capital flights from some Latin America countries (Argentina, Mexico, Uruguay and Venezuela) in the late 1970s and early 1980s which mainly emanated from the persistent and uncertain macroeconomic conditions at the time. In the 1990s, these countries embarked on policies which later on succeeded to recover a considerable amount of funds from overseas (Cuddington, 1986; Le & Zak, 2006).

The issue of capital flight is of great concern to the African continent such that it cannot be over-emphasised. This is because it is presumed to diminish the continent's much needed funds which would be ideal to augment its investment capacity, thereby developing the continent (Muchai & Muchai, 2016). Ndikumana and Boyce (2003) as cited in their 2001 work, considered the Sub-Saharan African region to have been a "net creditor to the rest of the world in the sense that private assets held abroad as measured by accumulated capital flight exceeded total liabilities as measured by the stock of debt" (p 107). Moreover, Kar and Spanjers (2014) estimated that between the periods 2003- 2012, the Sub-Saharan African region, consisting of 48 countries, lost US\$ 528.9 billion in the form of capital flight. The loss represented 35.7% of their combined GDP in the year 2012.

Kar and Spanjers (2014) further argued that Namibia's accumulated amount for illicit capital outflows between 2003- 2012 was estimated at US\$ 6032 million. This implies that on

average the country lost about US\$ 603.2 million per annum. The loss is absolutely deplorable to the economy as it impedes the much needed level of investment that would aid the growth and developmental targets which are stipulated in the various National Development Programmes (NDPs) – the document that serves as a blueprint on how the dream of becoming a prosperous nation by the year 2030 would be realised.

In a ranking of 145 Countries which aimed at measuring the largest average illicit financial flows from 2003-2012, Namibia was ranked 75. In comparison with other Common Monetary Area (CMA) members, Namibia is considered second to South Africa (ranked 12), followed by Swaziland and Lesotho with ranks of 87 and 102 respectively (Allum *et al*, 2008).

1.1 Background to the study

This thesis is anchored on examining how Namibia's fiscal policy has been affecting capital flight in the country. The government of Namibia, which has been under the leadership of the SWAPO party since becoming independent from its colonial oppressors in 1990, has been at the forefront of drafting and implementing fiscal policy. Although there has been only one political party heading the Namibia Government, the country has had three presidents which in this study are considered to represent three different political regime changes. The first political regime is the one under President Sam Nujoma (1990 to 2005), the second one by President Hifikepunye Pohamba's (2005 to 2015), and the third the one is by President Hage Geingob (2015 to date). Even though all these presidents emanate from the same political party, it is however believed that each one of them has had a distinctive political ideology

with regards to their leadership roles and spending behaviours. For instance, Pohamba's reign was characterised by the fight against corruption and mass housing expenditures. Geingob's reign is characterised by a larger government expenditure size, due to the creation of extra portfolios such as, presidential advisors, deputy ministers, increase in members of parliament, inception of free secondary education, to mention but a few (Melber, 2015).

Although it has been earlier on stated that Namibia has experienced three political regime changes after independence; however, due to the unavailability of data, this study considers only two of them; namely, the ones that ran between 1990-2005 and 2005-2015. Another rationale behind the exclusion of the post-regime from 2015 to date can mainly be attributed to the fact that it has only been in power for a short while, making it difficult for one to capture the leadership impact it would have had on fiscal policy. The importance of political regime cannot be undermined as it could have a substantial impact on fiscal policy which might be linked to the root causes of capital flight, hence the vitality of the study.

Namibia's currency is fixed on a one-to-one basis with the South African Rand under the agreement of the CMA; other members being: Lesotho, Swaziland, and South Africa. Under the CMA arrangements, capital is allowed to flow freely without much restriction. The Bank of Namibia (BoN) is cognisant of the fact that the movements of funds amongst member states may respond to differences in interest rates and also to the fact that the South African financial market is highly developed compared to all the CMA members, which has caused capital flows to be skewed towards the South African market (Allum, Dwight, & Chen, 2008). The BoN has been keen to adopt some defensive measures in hope to minimise and curb the outflows of capital by mainly aligning its official rates of interest with the one offered by the South Africa Reserve Bank. With regards to transference of funds outside the

CMA, an individual is only allowed, upon approval from the government, to transfer his fund in investment to the tune of R2 million. Investment managers are permitted to invest up to 25% of total retail assets in non-CMA portfolio investments. Pension funds may only relocate up to 20% of their total retail assets to obtain non-CMA portfolio investments (Allum *et al*, 2008).

Over the years the Namibian government has been pursuing an expansionary fiscal policy, except in 2006, in which it experienced the first ever budget surplus in its history, to foster growth (Undji & Kaulihowa, 2015). Fiscal policy is a government decision concerning its spending and taxation such that it impacts on the overall economy in a country (Mankiw, 2014). This is a very important and potent tool in the hand of government which policy makers make use of in order to control an economy. Nevertheless, failure to handle these fiscal instruments prudently may have several implications on macroeconomic variables, particularly on capital flight. For instance, it was earlier on alluded that over the years the Government of Namibia has been conducting an expansionary fiscal policy. Consequently, this act may have led the country to experience a faster growth in its public debt and a weakening of macroeconomic accounts (Schlettwein, 2016). In light of this, examining the effect of fiscal policy on capital flight for a small developing country such as Namibia is imperative.

1.2 Statement of the problem

The effects of fiscal policy on capital flight have in recent years gained momentum in many developing countries and Namibia is not an exception. Namibia is reputedly known for its high level of domestic saving (Ogbokor & Musilika, 2014; Shiimi & Kadhikwa, 1999).

However, it is also characterised by high capital flight. For instance, between the periods 2003-2012, Namibia was estimated to have lost about US\$ 6 032 million in capital flight (Kar & Spanjers, 2014). This appears to suggest that most of the domestic savings flowing outside the country end up financing investment elsewhere. As much as to say that had these funds stayed in the country, some of it could have been used to steer up more investments and economic development (Bank of Namibia, 2007). Capital flight raises great concern since a high rate of it, by any country, may be, amongst other factors enough reason to cause misalignment in the tax revenues system, which is an important fiscal instrument that government uses to maximise the social wellbeing of its citizens (Dooley & Kletzer, 1994). Declines in welfare condition as a result of little tax revenues may cause a net loss of available resources endowment that would have been necessary to enhance investment and economic growth (Ahmad & Sahto, 2015).

The subject of capital flight seems to defile a very important law in economics known as *the Law of Diminishing Returns*. Lucas (1990) states that “the Law of Diminishing Returns implies that the marginal product of capital is higher in less productive (i.e., in the poorer) economy” (p. 92). This theory is for instance suggesting that, capital were supposed to have immensely flown from the South African financial market (which is highly developed) to the poorer neighbouring countries that are somewhat faster-growing economies, like Angola, Ghana, Ethiopia, Namibia, etcetera (Allum, 2008). Nevertheless, the reverse has taken prominence in the way funds flow globally.

Capital flight can be detrimental to any economy for a number of reasons. Firstly, the loss of funds through capital flight minimises the domestic tax base; as a result, it affects the

redistribution of income. It negatively affects the country's balance of payment since the outflow tends to become export income affecting the current account. A negative effect on the current account is enough to cause a devaluation of the currency and a budget deficit. Secondly, it diverges a country's savings away from funding real domestic investments, and favours foreign financial investments instead. For this reason, the extent to which the rate of growth and economic development would take place will be retarded contrarily to what it would be under normal circumstance. Thirdly, it disturbs the monetary policy system through its effect on money supply. The instability in money supply makes it difficult for monetary authorities to implement suitable policy programs needed to realise the welfare of the nation (Henry, 2013; & Okoli, 2008). These reasons form the basis for which an investigation of the effects of fiscal policy on capital flight is important.

There has been a handful of empirical works on the subject of capital flight in which various researchers intended to bring to light the link that exist between fiscal policy and capital flight in Africa (see, for instance: Muchai & Muchai, 2016; Ndikumana & Boyce, 2003), by directing their focus on how taxes, public debt, and external debt influences capital flight. However, there has been little attention on the contribution of how a different political regime, government external debt, tax regimes and the now uncontrolled government spending affects capital flight. Despite of the unwanted implications of capital flight in many developing countries, empirical literature that examine how fiscal policy (such as its tax rate, the different political regimes and government spending) affects capital flight do not exist for Namibia. This study contributes uniquely to the Namibian sphere and it is indispensable given that the country already suffers from capital losses.

1.3 The Objectives

The general objective of this study is to examine the effect of fiscal policy on capital flight in Namibia. The specific objectives are:

- i. To establish the relationship between the fiscal variables¹ and capital flight
- ii. To identify under which political regime was capital flight more prevalent in Namibia.
- iii. Examine the long-run and short-run relationship between capital flight and the selected macroeconomic variables².

In answering the objectives of this study, the research will contribute to the policy introspection on whether the government is making the best possible use of fiscal policy to minimise capital flight.

1.4 The Hypothesis

Based on the problem statement and the objectives of this study, this paper consist of three pairs of hypotheses: this implies that each objective yields two hypotheses. The hypotheses are detailed as follows:

- a) H_0 : \rightarrow There is no relationship between capital flight and the fiscal variables.
 H_1 : \rightarrow There is a relationship between capital flight and the fiscal variables.
- b) H_0 : \rightarrow Political regime does not affect capital flight in Namibia.
 H_1 : \rightarrow Political regime does affect capital flight in Namibia.

¹ The **fiscal variables** in this case are: External Debt, Debt Stock, Government Expenditure, and Tax.

² In this case the **macroeconomic variables** are all the explanatory variables included in the entire model.

c) H_0 : \rightarrow There is no long-run and short-run relationship between capital flight and the selected macroeconomic variables.

H_1 : \rightarrow There is a long-run and short-run relationship between capital flight and the selected macroeconomic variables.

1.5 Significance of the study

The study of how fiscal policy might affect capital flight is highly important for a developing country, like Namibia, striving towards becoming an industrialised country in the nearest possible future. Taxation which is an important fiscal tool in Namibia, “remains the main source of government revenue in Namibia, accounting for about 94 percent of total revenue in 2011/12” (Odhiambo & Ziramba, 2014, p. 4). Capital flight has got a negative consequence on the total amount of tax revenue. This is because it diminishes the amount of revenue that could have been collected by the government.

Not only does capital flight reduce the amount of revenue that would be collected by the government through taxes, but as stressed by Khan and Hague (1985) cited in Okoli (2008) a massive capital flight makes it difficult for government to service its external debt. Although, the Namibian government has over the years been prudent in sustaining its debt level by keeping it relatively below the threshold of 35% of GDP, it has however failed to do so over the past three years. In fact, by the end of the year 2017, the debt to GDP ratio stood at about 42%, which is way above the aforementioned threshold. Government’s failure to tame its persistent expansionary fiscal policy may lead the country into a situation of chronic external borrowings causing the debt to GDP ratio to shoot at 42%. When external borrowing becomes unsustainable, it entails an increase in the burden of foreign debt and according to Ndikumana and Boyce (2003) this could potentially widen the debt-fuelled capital flight.

Capital flight has some implications on the well-being of an economy. One determining factor for such economic well-being is the opportunity for investments to take place. However, in order for investments to take place, which later on translates into the growth of the economy, an important ingredient, savings, is required. Fortunately, Namibia has experienced adequate levels of saving, but not so much investment corresponding to the level of saving (Shiimi & Kadhikwa, 1999). This is due to the fact that funds have been pouring outside the country's borders in order to seek better investment opportunities elsewhere. Okoli (2008) rightly mentions that - there can be no real domestic investment when the money that is supposed to achieve this is kept away from the source country.

It is therefore the duty of the fiscal authorities, to ensure that utilisation of its fiscal tools do not conflict with these key pro-growth variables - such capital flight - but reverse the issue around by bringing back the lost funds. This is because a significant decline in the levels of capital flight could entail that, the economy has a substantial proportion of funds available within the domestic economy. Meaning that capital can now be readily accessible to both the public and the private sector for domestic investment and development that is capable of turning the economy into becoming more prosperous.

The study of capital flight is also crucial, especially now that the country has entered into a period of fiscal consolidation because it will help the country to assess how best it can implement its fiscal tools whilst enhancing its revenue base, thereby boosting its budget. The findings that emanate from this investigation will benefit the society at large. Most importantly, it will assist policy makers in their wide range choice measures used to contain

the issue of capital flight. Equally important, it will help policy makers to draft laudable policies that will curb and reverse the issue of capital flight; thus attaining most of what is in the country's development agendas such as full employment of resources and sustainable development. In fact, a reversal of capital flight would entail higher capital inflows which is capable of boosting capital formation which is essential for growth of the country's economy since it enhances investment and high returns to domestic investors.

This study therefore serves to fill the literature gap for Namibia since there has not been any empirical literature which analysed the impact of fiscal policy on capital flight. This because when the effect of fiscal policy on capital flight is left unexamined, it is likely to jeopardise government efforts in addressing its development agenda. It is against this background that this study seeks to examine the effect of Namibia's fiscal policy on capital flight under various policy regimes.

1.6 Limitation of the study

This study is limited in the sense that the time frame upon which the data is used solely runs from period 1993-2014. This constraint of limited number of observation is mainly because prior to Namibia gaining its independence in 1990, there were no suitable available data.

Furthermore, the measure of capital flight is in itself a limitation as it is obscured in nature. The distinction between capital flight from other forms of capital flow is a motivation rather than a form. In as much as to say that measures of capital flight are rough estimates at best. Another issue surrounds on the way the term capital flight is defined. The lack of consensus

in the way it is defined makes it difficult to have a clear cut between normal capital outflows and capital flight.

The researcher is however cognisant of the fact that the estimations may be undermined due to these shortfalls. Nonetheless, this set-back is taken care of by means of selecting the best regression estimation possible and as well as by running an appropriate methodological approach using quarterly time series data set, as opposed to annual data.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This Chapter provides a review of both the theoretical and empirical literature. The Chapter is structured as follows: Firstly, Section 2.2.1 provides the theoretical review on the measures of capital flight. Secondly, Section 2.2.2 provides an overview of the theory on how fiscal policy affects capital flight. Lastly, Section 2.2.3 focuses on empirical literature review.

2.2 Conceptual Issues

2.2.1 The Concept and Measures of Capital Flight

Theoretical literatures offers more than one method of measuring Capital Flight. This is due to differences in the way the phenomenon of Capital Flight has been defined by different authors. The following measuring techniques are generally debated within the literatures: most notably, the Residual Method (as proposed by the World Bank in 1985), the Morgan Guaranty Method, the Dooley Method, the Hot Money Method, the Trade Miss Invoicing Method, and the Asset Method (Ahmad & Sahto, 2015). Below is a brief description of each method of estimating capital flight:

The Residual Method, also known as the broad measure, is an indirect approach that uses balance of payments and international asset data. “It weighs the country’s sources of funds, as given by the net increase in external debt and the net inflow of foreign investment against the uses of these funds as given by the current account deficit and the change in foreign reserves. If the recorded sources are greater than the recorded uses then there is capital flight from the country” (Brada, Kutan & Vukšić, 2008, p. 13).

Algebraically, this is expressed as follows:

$$KFr = (\Delta ED + FDI) - (CAD + \Delta FR) \dots\dots\dots (1)$$

Where: KFr represents capital flight, ΔED is the change in the stock of gross external debt, FDI is the net foreign investment inflows, CAD is the current account deficit and ΔFR is the change in the stock of official foreign reserves.

The main shortcoming of the Residual Method is that it fails to discriminate between abnormal (mainly driven by short-run speculative interests) from normal (which are driven by long-term interests) capital flight; consequently, it measures all private capital outflows as capital flight (Alam & Quazi, 2003).

The Residual approach is slightly improved by **Morgan Guaranty Trust** (1986, as cited in Claessens and Naude, 1993) who takes into account the change in short term foreign assets of the domestic banking system (ΔB). This additional item is subtracted from the Residual Method (KFr), implying that the banking system has nothing to do with capital flight. Therefore, equation (1) is reinstated as:

$$KFr = \Delta ED + FDI - (CAD + \Delta FR) - \Delta B \dots\dots\dots (2)$$

One of the criticisms of the Morgan Guaranty Trust argued by Naylor (1987) cited in Alam and Quazi (2003) was that occasionally, private banks are guilty of contributing to capital flight through their ability of transferring funds to accounts outside the country.

The Dooley Method, Seeks to differentiate between the legal and illegal capital flows. Based on this approach, capital flight is said to be equal to the amount of income from foreign assets which are not reported in the home country's balance of payment account. The Dooley Method as cited in Hermes *et al* (2002) computes capital flight as follows:

$$TKO = FB + FDI - (CAD + \Delta FR) - EO - \Delta WBIMF \dots\dots\dots (3)$$

Whereby: TKO is said to represent total capital outflows, FB is the foreign borrowing as reported in the BOP statistics, EO is net errors and omission and $\Delta WBIMF$ shows the difference between the change in the stock of external debt reported by the World Bank and foreign borrowing reported in the BOP statistics published by the IMF.

The stock of external assets based on interest earnings is given by:

$$ES = INTEAR / r_{us} \dots\dots\dots (4)$$

Wherein: ES is the external assets, r_{us} is the US deposit rate (assumed to be representative of the international market's interest rate) and INTEAR shows the reported interest earnings.

Thus, capital flight according to this method is measured as:

$$KFr = TKO - \Delta ES \dots\dots\dots (5)$$

The Hot Money Method, also known as the narrow (or Balance of Payments) measure of capital flight stipulates that capital flight represents the short term movement of capital of the non-bank public sector plus the errors and omission from the BOP (Cuddington, 1986). The approach suggests that capital flight goes unrecorded because of the illegal nature of these capital movements. One of the weaknesses found in the literature concerning this method is that it merely concentrates on the short term outflows of capital. Consequently, it frequently ends up underestimating capital flight. Capital flight is computed as:

$$KFr = SKO + EO \dots\dots\dots (6)$$

Where: SKO is short term capital outflow of the private sector and EO is the errors and omissions.

The Trade Misinvoicing Method. Under this methodology, Capital can travel from one country to another illegally via trade. This can be calculated by taking data from both the importing and exporting countries. In other words, importers are assumed to have been involved in capital flight when there is a mismatch in values of imported goods as opposed to the reported value of the same goods by exporters. Likewise, exporters are involved in capital flight when there is a mismatch in values of exported goods as compared to the reported

value of the same goods by importers. Claessens and Naude (1993) content that capital flight arise when there are export underinvoicing and import overinvoicing. This can be illustrated as follows:

$$\text{Export underinvoicing} = (M_w/\text{CIF/FOB}) - X_c \dots\dots\dots (7)$$

$$\text{Import overinvoicing} = (M_c/\text{CIF/FOB}) - X_w \dots\dots\dots (8)$$

Where, M_w is the World's import from that country; X_c is the Country's export to the world; M_c is the Country's import from the world; and X_w is the World's export to that country.

It is vital to stress at this point that the import reported by the country and the import as reported by the world should be on a comparable basis. This means that countries are required to adjust by a country's specific CIF/FOB ratio. If the sign is positive, it is an indication of capital flight; otherwise, a negative sign implies that there is capital inflow. The net effect of misinvoicing is the capital flight.

The Asset Method, considers the total stock of assets held by the non-bank residents of domestic country in foreign banks as capital flight. This is the so-called asset method (Hermes and Lensink, 1992). Nonetheless, since there exist several other forms in which assets can be held, this method falls short of measuring the other forms of capital outflows (Hermes *et al*, 2002). Since this method is so restricted in measuring capital flight, the literature often considers it as a short-cut measure of capital flight.

This study has employed the Residual Method to calculate Capital Flight in Namibia (See Table 10 on Page 48). The reason why this approach is considered to be suitable is because it is straight forward to employ. In addition to that, it is believed to be ideal in instances where it is difficult for one to establish whether or not the funds used for capital flight could have been used for more productive and beneficial domestic activities (Brada, Kutan & Vukšić, 2008). Table 10, on page 48, presents the computation of capital flight from Namibia between 1993 and 2014.

2.3 Theoretical literature on the effect of Fiscal Policy on Capital Flight

There are four main theories related to capital flight (Wujung & Mbella, 2016; Henry, 2013).

These are:

- a) The investment diversion thesis
- b) Debt-driven capital flight thesis also known as debt overhang thesis
- c) Tax depressing thesis and
- d) Austerity generation thesis

The investment diversion thesis: The investment diversion theory stipulates that there are two factors that give rise to capital flight, namely; macroeconomic and political uncertainty in developing countries and the better investment opportunities in advanced economies. Better investment opportunities is brought about by a high foreign interest rate, a wide range of financial instruments, political and economic stability, friendly tax regime (i.e. lower taxes or tax exemption), and concealment of accounts in tax haven countries.

The argument of favourable tax climate seems to suggest that countries would be better off, in terms of capital flows, had they framed their tax policies towards a lower or even a tax-free system. However, Muchai and Muchai (2016) cautioned that lowering tax and offering tax incentives in order to attract or retain capital causes market distortions and tax favouritism, which in turn leads to further capital losses. What is more aggravating is that in the eve of tax break uplift, international capital repatriate their funds to regions that have a favourable tax regime. This is so that they avoid paying high taxes, and in the same instance contributing to a country's capital flight. The consequences of these actions are: a decrease in the overall investment, low economic growth which leads to a fall in the level of employment which ends up increasing the dependency ratio and poverty.

One way countries in LDCs could overcome the challenge of a narrower tax base is by establishments of international tax treaties and agreements which allows countries to liaise information. These actions would facilitate to broaden the tax base with much success as this will not only include tax revenue by local residents, but also those collected from residents' holdings of foreign assets (Cuddington, 1986). Of course, other economic conditions such as macroeconomic stability and a well-developed financial market are indispensably necessary. Notwithstanding, Alam and Quazi (2003) contended that governments reformed their taxation policy of accelerated utilisation of corporate tax base and, instead, follow policies that are grounded on a more judicious utilisation of all tax bases. That is to say, if corporate taxes should be raised too high vis-à-vis other taxes, it will strongly encourage the owners of corporate capital to send their capital abroad. This will lead to a fall in corporate tax base, which eventually will cause a decline in government revenues.

The debt driven capital flight or debt overhang thesis: The debt overhang thesis is an extension of the investment diversion thesis. The thesis propagates that external debt is one of the catalysts for capital flight. It advocates that in the event of a country's huge external debt, residents tend to smuggle their financial resources outside the country. Furthermore, the theory postulates that capital flight discourages people from saving and investing since it leads to a devaluation of the exchange rate, fiscal crisis and expropriation of assets to pay the debt (Wujung & Mbella, 2016). Any efforts to defend the exchange rate from devaluating only leads to further losses in international reserves.

The tax depressing thesis: the tax depressing thesis stipulates that capital flight cause a significant loss of tax revenue. This is to say that government have got no power whatsoever to tax the wealth held abroad by its domestic residents since it is beyond their control. This potentially diminishes government's capacity to service its debt, thereby increasing the debt burden which limits economic growth and development. By all means, it implies that capital flight cripples government revenue generating power.

The Austerity thesis: The austerity thesis can be described as strict fiscal stance by the government aimed at narrowing its debt and budget deficit. Persistent deficit spending have far-reaching repercussions since it causes distortions in the taxes system for most developing economies by, for instance, increasing the expected tax rates; thereby, leading to capital flight (see Ndikumana & Boyce, 2003). In order to attain a narrow debt and budget deficit, austerity measures, like a decrease in government spending or raise in taxes, are put in place in order to align government revenues closer to the expenditures. The resultant of austerity programs are not without controversies; in fact, those against it often contend that austerity measure

lowers economic growth and development. It also widens the gap between the rich and the poor, thereby creating an unequal society with regards to the redistribution of wealth. In simpler terms, the austerity thesis observes the poor being dragged into further debts because of the hostile policies, such as high taxes, adopted to service the debt obligations from the international financial markets.

Based on the above theoretical discussions, and considering the scope of the study period, this study considers it appropriately to adopt *the investment diversion thesis* (partly because Namibia has the highest corporate income tax rate, of 32%, as compared to other SACU members' states) and *the debt driven capital flight thesis* (due to the surge in the debt burden over the years) as the two suitable theories that would best explain capital flight from Namibia.

2.4 Empirical Literature

A considerable volume of empirical literature work emanating from the developing nations with regards to capital flights and its probable determinants exist. The evidences of these investigations have grown overtime and these can be traced way back into the 1980s. Notwithstanding, specific empirical literature studies on the causes of capital flight in Namibia are very rare to find. Below is a review of similar empirical literatures conducted by researchers in other countries.

In a study by Muchai and Muchai (2016) in which they investigate the relationship between fiscal policy and capital flight in Kenya using annual time series from 1970 to 2010; they

applied the ARDL bounds test for co-integration and their findings postulate that past capital flight, change in debt, and government expenditure have no significant impact on capital flight in that country. Notwithstanding, external debt, taxation, and expenditure practices taken under different political regimes are found to have a substantial effects on capital flight.

Wujung and Mbella (2016) carried out a study aimed at investigating the relationship between capital flight and economic development in Cameroon. They utilised time series data starting from 1970- 2013. The Fully Modified Least Square technique was applied. The findings revealed the existence of a negative relationship between capital flight and economic development. This is in agreement with a similar study carried in Nigeria by Okoli (2008).

In the same vein, Ahmad and Sahto (2015) undertook a study aimed at investigating the link between Capital Flight and its determinants (Foreign Direct Investment, External Debt, Exchange Rate, Foreign Reserves, Gross Domestic Product growth, and Inflation) in Pakistan using time series data covering from period 1971-2011. The residual method (in this case a combination of External Debt, net Foreign Direct Investment, Current Account Surplus, and change in Foreign Reserves) was used to measure Capital flight, and the Johansen's Cointegration technique together with the Granger Causality test were employed to test whether there was an existence of a long-run relationship between capital flight and its determinants. The results revealed that indeed there was a long-run relationship between CF and its determinants but no relationship was found in the short-run.

Henry (2013) examined the determinants, measures and impact of capital flight on the Nigerian economic growth. The study employed ordinary least square, multiple regression and descriptive statistics on annual time series data of 1980-2011. The results found capital

flight to be mainly caused by political instability, high fiscal deficits, high interest rate and high profile external debt servicing GDP ratio in that country.

Al-Fayoumi, AlZoubi, and Abuzayed (2012) analysed the determinants of capital flight in seven Middle East and North Africa (MENA) countries (Jordan, Syria, Algeria, Morocco, Egypt, Turkey, and Tunisia) during the period of 1981-2008. After employing four econometrics techniques: namely, Ordinary least Squares, Fixed effects, Random Effects, and Seemingly Unrelated Regression Model on a sample of annual panel data from these selected MENA countries, the empirical results demonstrated that the capital flight in MENA countries was mainly caused by lag capital flight, external debt, foreign direct investment, real GDP growth rate and uncertainty. These findings are in support of a similar study carried out in Zimbabwe by Makochekanwa (2007), who also found external debt and foreign direct investment to explain capital flight. Nevertheless, Makochekanwa (2007) found economic growth to be negatively related.

Okoli (2008) carried an investigation aimed at bringing to light the determinants of capital flight and their impact on Nigerian economy by making use of time series data ranging from 1970-2005. The study estimated four models using a combination of the least square regression model and a simple regression model. The outcomes indicates that the political regime has a significant impact on capital flight. It entailed that countries with more stable and durable regime types experienced less capital flight compared to countries with a political unrest, military rule or unstable regime types. With respect to the effect of capital flight determinants on the Nigerian economy, the model revealed that, amongst other capital flight actually exerted a negative effect on Nigeria's economic development. Our overall

conclusion is that capital flight exerts a negative effect on the nation's economic development.

Brada *et al* (2008) assessed the causes and estimated capital flight from twelve transition economies of Central and Eastern Europe (Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia) for the period 1995-2005. After running an OLS panel regression with 120 observations, empirical findings demonstrates that capital flight from the transition economies was mainly an economic phenomenon, driven by differences in interest rates and investors' expectations about future tax rates, inflation, and etcetera in their countries as well as by the ease with which funds could be transferred abroad. However, lagged capital flight proved not to be a significant explanatory variable.

Makochekanwa (2007) investigated the causes of capital flight from Zimbabwe for the period 1980 -2005. The study employed both the Ordinary Least Squares Long-run Cointegrated Equilibrium Model and the Parsimonious Error Correction Model in order to validate the existence of static long-run equilibrium relationship as well as the short-run relationship between capital flight and its determinants. The results shows that external debt, foreign direct investment inflows, and foreign reserves to be the main reason for capital flight. The calculations estimated Zimbabwean capital flight to stand at US \$10.1 billion over the 1980 to 2005 period, with capital flight-to-GDP ratio roughly 5.4 per cent.

In the same vein, Le and Zak (2006) examined the relationship between political risk and capital flight in a panel of 45 developing countries over a period of 16 years, by relating capital flight to return differentials, risk aversion, economic risk, political instability, and policy variability. Techniques such as the sensitivity analyses and the Feasible Generalized

Least Squares (FGLS) were conducted. The results reveals that political instability is the most important factor influencing capital flight, and the three types of risk are statistically significant in impacting capital flight.

Another study by Mohamed and Finnoff (2005) where they estimated the wealth lost in the form of capital flight by South Africa during the period 1980-2000 reveals that capital flight as a percentage of GDP was higher after the democratic elections in 1994 as opposed to the apartheid era (1980-1993). This finding is in concordance with a study conducted in Kenya by Muchai and Muchai (2016) who found that a change in political regime has a substantial effect on capital flight.

Ndikumana and Boyce (2003) conducted a study to investigate the determinants of capital flight from 30 sub-Saharan African countries, of which 24 were countries classified of being severely indebted low-income countries, for the period 1970–1996. The study combines both time-series and cross country variations in capital flight and its determinants. The results reveals that external borrowing is the single most important determinant of capital flight, suggesting that capital flight is to a large degree debt-fuelled. The study estimated that for every dollar borrowed externally, about 80 cents of it flew back in the form of Capital flight in that same year. Lagged Capital flight was found to be highly correlated with current and future capital flight. However, the growth rate differential between the African country and its OECD trading partners was found to be negatively related to capital flight. Inflation was found to be positively related to capital flight although insignificant. On the other hand, the results of fiscal policy indicators turned out to be ambiguous. Lastly, political environment and governance turned out to have a weak explanatory power.

Alam and Quazi (2003) examined the determinants of capital flight from Bangladesh using annual time-series data for Bangladesh for 1973 - 1999. After employing the Bounds testing and the Autoregressive Distributed Lag procedures to confirm the existence of a long-run equilibrium relationship between capital flight and its determinants, and to estimate the long-run and short-run behaviour of capital flight from Bangladesh, the estimated results reveals political instability to be the single most significant cause of capital flight in Bangladesh, while increases in corporate income taxes, higher real interest rate differentials between the capital-haven countries and Bangladesh, and lower GDP growth rates also significantly contribute to capital flight.

Hermes and Lensink (2001) investigated the relationship between the uncertainty of government policies and its influence on capital flight. The study applied a stability tests and the results obtained illustrated that policy uncertainty, measured by the uncertainty of budget deficits, tax payments, government consumption and the inflation rate, proved to be statistically significant positive impact on capital flight.

From the discussions above, it can be seen that different studies have found political instability to be the most significant cause of capital flight in developing countries (Le & Zak, 2006; Alam & Quazi, 2003). Likewise, Muchai and Muchai (2016); Al-Fayoumi, AlZoubi, and Abuzayed (2012); Brada *et al* (2008); Alam and Quazi (2003), found capital flight to be positively influenced by increase in taxes, high interest rates, lower GDP growth rate, and external debts. This is to say that the fiscal instruments used in these studies support the claim that fiscal policy triggers capital flight.

However, the conclusions stated above contradicts Ndikumana and Boyce (2003) who noted that the results of fiscal policy indicators turned to be ambiguous in nature. Similarly, inflation and lagged capital flight were found to positively explain capital flight by (Brada *et al*, 2008; Ndikumana & Boyce, 2003; Hermes & Lensink, 2001) and (Al-Fayoumi, AlZoubi, & Abuzayed, 2012; Ndikumana & Boyce, 2003; Cuddington, 1986) respectively. On the negative side of this argument is Muchai and Muchai (2016).

From the aforementioned empirical literature studies, it is evident that there are mixed findings with regards to the factors that could potentially cause capital flight in a country. This encompasses those that agree to have found a positive relationship, those that obtained a negative relationship to those that did not find any relationship at all amongst the determinants of capital flight.

There could be a number of inexhaustible reasons why such contradictions might exist. For example, in the case of political regime, it is obvious that different countries have had different political ideologies with different (or similar) policy frameworks directing the cause of their economies. Despite this, different researchers employ different data frequencies and methodological approaches in different (or same) countries. This could explain the differences in the outcomes of its effect on capital flight from country to country. Even though such contradictions exist, it is yet to be established where Namibia stands in the midst of this conflicting debates. This study therefore contributes to the literature gap for Namibia as it will expose the country's position amongst these contradictory views.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter is in four-fold: Firstly, it stipulates the nature of the research; secondly, it outlines the model specification and the econometrics steps that have been undertaken; thirdly, it highlights the data sources and the coverage period; lastly, it delineates the means by which the data was processed and analysed.

3.2 Research Design

The research design is longitudinal since the study makes use time series data and a quantitative approach is used to analyse the effect of fiscal policy on capital flight.

3.3 Sample

The sample for this study was limited to a period of 1993-2014 quarterly time series data. Variables in this study were sourced from the World Bank, with exception of external debt, and debt stock which were obtained from the BoN website.

3.4 Data Analysis

3.4.1 Model Specification

In order to capture the objectives, this study adapts the modelling approach used by Muchai and Muchai (2016) functional form. The linear equation model specification is given by:

$$KF_{rt} = \beta_0 + \beta_1 ED_t + \beta_2 CD_t + \beta_3 T_t + \beta_4 GX_t + \beta_5 D_1 + \beta_6 INF_t + \beta_7 FD_t + \xi_t \dots \dots 3.3.1(a)$$

Where,

KF_r = capital flight using the residual measured as ratio of capital flight to GDP

ED = external debt measured as ratio of total external debt to GDP

CD = change in debt stock measured as ratio of the change in debt stock to GDP

T = tax measured as rate ratio of total tax to GDP

GX = expenditure measured as ratio of government expenditure to GDP

D_1 is a dummy variable to capture political regime where:

$$D_1 = \begin{cases} 1 & 1990 - 2005 \text{ Regime} \\ 0 & \text{Otherwise} \end{cases}$$

INF = average inflation rate

FD = financial deepening measured as ratio of money supply over GDP

ξ is the stochastic error term possessing its usual properties

t is time and the rest are parameters.

The basis for including the variables in the above regression model is presented next:

External debt (ED): According to the debt driven capital flight thesis, huge external debt in a country propels residents of that economy to transfer their funds abroad. This implies that there is a positive relationship between capital flight and external debt.

Debt stock (CD): According to the debt driven capital flight thesis, the more a country accumulates its debt stock, the greater the capital flight due to debt serving. Hence, the coefficient of CD is expected to be positive.

Taxes (T): This can be linked to the investment diversion thesis which stipulates that an unfavourable tax policy, such as higher taxes on corporate income, will lead investment to friendly tax destinations. Therefore, a positive relationship between increase in taxes and capital flight is expected.

Government Expenditure (GX): The Keynes theory of government spending states that an increase in government spending enhances economic growth by increasing the purchasing power in the economy. It further propagates that deficit spending stimulates the economy and shields it from recessionary pressures. The outcome of increased government spending with regards to capital flight is as follow: Firstly, a boost in the economy's growth guarantees investors' trust, thereby diminishing capital flight. Secondly, it enhances aggregate demand which in turn fosters domestic investment, to which international capital will be attracted. Notwithstanding, in most developing countries deficit spending have caused far-reaching repercussions on their economies. Particularly, a high budget deficit may distort the tax system since it means a rise in the expected tax rates, thereupon leading to capital flight.

Political regime (D₁): many empirical studies (Okoli, 2008; Alam & Quazi, 2003; Hermes & Lensink, 2001; Le & Zak, 2006) are in full support of the fact that countries with stable and durable regime types end up experiencing less capital flight as opposed to countries with socio-political instability; such as, civil wars, military rule, terrorism or unstable regime

types. This is because any political disturbance with the economy will cause fear of an uncertain future. In the case of Namibia the sign of the coefficient, although it is expected to be negative since it has enjoyed a stable political atmosphere and good governance upon obtaining independence in 1990, the test results is what is going to settle its position. (Melber, 2015)

Average inflation (INF): Increases in the general price level of domestic goods and services cf., the foreign price level causes the real value of domestically held assets to diminish at a faster pace as opposed to similar assets abroad. Under those circumstances, rational residents hedge their assets against such losses by transferring them to countries with lower inflation rates (Cuddington, 1986).

Financial deepening (FD): Not many studies have focussed on the role played by financial intermediation with respect to capital flight. The point often overlooked is that, financial deepening could spur capital flight, especially if it facilitates international capital transfers. More especially if financial markets are liberalised and international capital movements are deregulated, then domestic capital may be expected to flow abroad provided the risk-returns are greater in those markets (Okoli, 2008). Namibia's financial market is not liberal, hence a negative relation between financial deepening is expected.

Subsequent to the above discussions, the *a priori* expected signs of the regression coefficients is as follows: $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$, $\beta_4 > 0$, $\beta_5 < 0$, $\beta_6 > 0$, and $\beta_7 < 0$.

3.4.2 Methods of estimation

In order to investigate the effect of fiscal policy on capital flight, this study employed the Auto-Regressive Distributed Lag Bounds Test (ARDL BT) to cointegration technique as developed by Pesaran, Shin, and Smith (2001). This is an advanced approach used to establish whether or not there exist a long-run relationship between the variables. The ARDL BT has numerous advantages as opposed to the traditional cointegration approaches (such as, Engle and Granger and the Johansen and Juselius cointegration approach). For instance, the ARDL BT approach can be used irrespective of whether the variables of interest have ambiguous order of integration i.e. purely $I(0)$, purely $I(1)$ or a combination of $I(0)$ and $I(1)$ which is not acceptable in traditional approaches. In addition, it is more suitable and provides better results for studies with a small sample size and produces unbiased estimation of the short and long-run parameters simultaneously. Moreover, the ADRL BT approach makes it possible to carry out estimations even when the explanatory variables are endogenous, and it is sufficient to simultaneously correct for residual serial correlation.

Before employing the ARDL BT it was crucial that, some pre-conditions be satisfied: Firstly, it is necessary to determine the optimum numbers of lag determined by the various information criteria; such as, the Akaike Information Criterion (AIC), Schwarz (Bayesian) Criterion (SC) or Hannan-Quinn Criterion (HQC). The selected optimum lag was used when carrying out the unit root test. This requirement ensured the choice of the best long-run equation model and it was necessary in order to have a standard error term that is normally distributed, without any serial correlation, homoscedastic, to mention but a few (Nkoro & Uko, 2016).

Secondly, the time series property of the data needed to be examined in order to determine whether the data is stationary or not and the order of integration of the variables. It is required that none of the variables be integrated of I (2). The stationarity step is indispensable when dealing with time series data in order to mitigate spurious regressions and meaningless results. Conventionally, most economic researchers carry out the Augmented Dickey Fuller (ADF) and the Philips-Perrons (PP) test for unit root. Both the ADF and PP have got weakness in that they are likely to under-reject the null hypothesis of unit roots because it has got a lower power. Advancements in these tests is what led to other more sophisticated tests, i.e. the DF-G, Ng Peron, Kwiatkowski-Phillips-Schmidt-Shin (KPSS) and Clemente-Montanes-Reyes (1998), which work best when the sample size is small. Given the aforementioned limitations, this study will use the ADF together with the KPSS test as a robustness check for unit root, since it is considered to be more superior to the ADF test.

Under ADF test, the null hypothesis of a unit root is reject when the computed t-statistics is greater than the t-critical. Additionally, the p-value can also help to guide the decision of whether the data is stationary or not. In this case, any p-value less than 0.05 would imply a rejection of the H_0 .

On the other hand, the KPSS test does the opposite as compared to the ADF test by rejecting the H_0 when the computed t-statistics is lesser that the t-critical. Also, the KPSS does not provide p-value. Hypothesis under the KPSS test are as follow: H_0 : Variable is stationary (no unit root) and H_1 : Variable is non-stationary (has a unit root).

Thirdly, the Auto-Regressive Distributed Lag Bounds Test (ARDL BT) to cointegration is estimated. This methodology proposes analysing the null hypothesis of no co-integration through a joint significance test of lagged levels of the variable. The capital flight model is specified as:

$$Z_t = (KF_{rt}, ED_t, CD_t, T_t, GX_t, D_1, INF_t) \dots \dots \dots 3.3.1(b)$$

The selected ARDL (k) long-run reduced-form equation is:

$$\begin{aligned} \Delta KF_{rt} = & \alpha_0 + \alpha_1 KF_{rt-1} + \alpha_2 ED_{t-1} + \alpha_3 CD_{t-1} + \alpha_4 T_{t-1} + \alpha_5 GX_{t-1} + \alpha_6 D_{1t-1} \\ & + \alpha_7 INF_{t-1} + \alpha_8 FD_{t-1} + \sum_{i=1}^k \delta_i \Delta Z_{t-i} \\ & + \xi_{1i} \dots \dots \dots 3.3.1(c) \end{aligned}$$

Where: k is the number of optimum lag orders determined by the various information criterions; Δ denotes the first difference operator; δ is the parameter meant to capture the short-run relationship and the variables are as previously defined.

The null hypothesis of no cointegration amongst the variables in equation 3.3.1(b) is defined as:

$$H_0: \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5 = \alpha_6 = \alpha_7 = \alpha_8 = 0 \text{ (Null, i.e. no long-run relationship).}$$

$$H_1: \alpha_1 \neq \alpha_2 \neq \alpha_3 \neq \alpha_4 \neq \alpha_5 \neq \alpha_6 \neq \alpha_7 \neq \alpha_8 \neq 0 \text{ (Alternative, i.e. there is a long-run relationship).}$$

The hypothesis in equation 3.3.1(b) is tested by means of an F-test (Wald test). Pesaran *et al*, (2001) provides two sets of critical value for different model specifications. The first set assumes that all variables are I (0), entailing that there is no cointegration amongst the underlying variable. The second set assumes that all variables are I (1), implying the existence of cointegration amongst the variables. Based on the sample size of this study (88 observations), this paper finds it appropriate to use the critical value provided in Narayan (2005) and Pesaran, *et al* (2001) study. The critical value in Pesaran, *et al* (2001) are mostly suitable for larger sample sizes whilst those in Narayan (2005) are based on a relatively smaller sample size of 30-80 observations.

Based on the Wald test, if the computed F-statistic for the joint significance lies outside the critical bounds, a final decision regarding cointegration can be reached, without one bothering to know whether the variables are integrated of order I(0) or I(1). In other words, when the computed F-statistics is larger than the upper bound critical value, then the null hypothesis is rejected, meaning the variables are cointegrated. On the other hand, if F-statistic falls below the lower bound, then the null hypothesis of no cointegration amongst the variables cannot be rejected. However, if the F-statistic lies within the lower and upper bounds, the test is inconclusive. This means, other supportive tests should be carried out to reach a conclusion.

Since the cointegration property is supported in this study, an error correction model (ECM) was evaluated and the short-run dynamic parameters were obtained by estimating an error

correction model from the long-run estimates. The reduced form short-run model was specified as follows:

$$\Delta KF_{rt} = a_0 + \sum_{i=1}^k \Omega_1 \Delta KF_{rt-i} + \sum_{i=0}^k \Omega_i \Delta Z_{t-1} + \varphi ECM_{t-1} + \xi_{1i} \dots \dots \dots 3.3.1(d)$$

Where, the Ω_i measures the short-run dynamics coefficients of the model's convergence to the equilibrium; φ measures the speed of adjustment parameter needed obtain long-run equilibrium in the event of any shocks to the system; ECM is the error correction term obtained from the estimated equilibrium relationship of equation 3.3.1 (c) and the rest of the variables are as previously defined .

Lastly, the model's robustness was determined by checking for autocorrelation, heteroscedasticity, the CUSUM/CUSUMSQ stability test, and the normality of the residual. For one to fails to reject the null hypothesis of no autocorrelation, it is required for that the probability of the observed R-squared be greater than 5%. Otherwise, the alternative hypothesis of is autocorrelation must hold. For the CUSUM and the CUSUMSQ stability test, the null hypothesis say there is no stability (line falls outside the bands of 5% significant levels) whereas the alternative hypothesis says is stability (line falls within the bands of 5% significant levels). With regards to heteroscedasticity, the null hypothesis states that the residual is homoscedastic (if the P-value of (F and Chi-square) is greater than 5%), else the alternative hypothesis of heteroscedasticity (if the P-value of (F and Chi-square) is smaller than 5%) has to hold. With respect to normality, the null hypothesis states that, residuals are

normally distributed (normality). The *Jarque-Bera* normality test was used, and if the residual is normally distribute then the coefficient of the residual be insignificant (P-value > 0.05), otherwise the alternative hypothesis must hold.

The study uses statistical and econometric software package called EVIEWS (version 9.0) to estimate the regression model necessary to address the objectives of this study.

3.4.3 Research ethics

This study adheres to all ethical behaviours of truthful reporting in order to enhance existing knowledge. The data was not be distorted, fabricated nor falsified in any manner. All sources used in this study have been properly acknowledged.

CHAPTER 4: EMPIRICAL ANALYSIS AND RESULTS

4.1 Introduction

This chapter will present the findings obtained using the methodology explained in the preceding chapter. The chapter discusses and presents the findings of various tests; such as, lag length test, unit root test, ARDL BT to cointegration, serial correlation test, model stability test, normality test and lastly the homoscedastic test.

4.2 Time series property of the data

First, a summary of the correlation matrix and the descriptive statistics of the variable is determined in Table 1 and Table 2, respectively:

Table 1: Correlation matrix

	KFr	ED	CD	GX	D1	INF	FD	T
KFr	1							
ED	-0.15685	1						
CD	-0.13313	0.96838	1					
GX	0.229805	-0.30007	-0.46901	1				
D1	0.38787	-0.81707	-0.68352	0.006742	1			
INF	-0.00495	-0.5037	-0.56422	0.608562	0.309621	1		
FD	0.069171	0.829258	0.779301	0.012208	-0.68554	-0.36283	1	
T	-0.01721	0.778323	0.672975	0.066176	-0.78891	-0.33402	0.82807	1

Source: Author's own compilation using Eviews

The descriptive statistics demonstrated in Table 1 shows that deviations around the mean for all the variables is small. Not only that, but that the Table also reveals that there is a strong positive correlation between CD and ED. The reason why this is the case could be because ED is one of the component that makes up CD. In the same vein, FD and ED has a positive correlation, same with T and FD. However, D_1 and KF_r have a negative collinearity.

Table 2: Descriptive Statistics

	KFr	ED	CD	GX	D1	INF	FD	T
Mean	-0.1536	0.1809	0.3485	0.2526	0.5909	7.3863	0.4182	0.2765
Median	-0.1403	0.1674	0.3609	0.2583	1	7.7	0.3869	0.2706
Maximum	-0.0025	0.5149	0.6960	0.2687	1	13.6	0.6405	0.3358
Minimum	-0.2835	0.0187	0.1517	0.2085	0	1.4	0.2314	0.2318
Std.Dev.	0.0596	0.1278	0.1352	0.0158	0.4945	2.6283	0.1037	0.0281
Skewness	-0.3018	0.3973	0.1405	-1.3879	-0.3698	-0.0312	0.9835	0.6285
Kurtosis	3.1137	2.2284	2.1749	3.9488	1.1368	2.4157	3.0308	2.4294
Jarque-Bera	1.3835	4.4986	2.7859	31.5506	14.7352	1.2660	14.1894	6.9877
Prob	0.5006	0.1055	0.2483	0	0.0006	0.5310	0.0008	0.0304
Sum	-13.5189	15.9232	30.6691	22.2264	52	650	36.8044	24.3353
Sum Sq. Dev.	0.3100	1.4211	1.5910	0.0217	21.2727	601.0036	0.9352	0.0688
Observations	88	88	88	88	88	88	88	88

Source: Author's own compilation using Eviews

The correlation matrix in Table 2, shows a number (the correlation coefficient) between -1 and 1 that measures how two variables are related. A correlation coefficient value closer to 1 (i.e., CD and ED) indicates positive linear correlation between two variables. Whereas, a correlation coefficient value closer to -1 (i.e., T and D1) shows a negative linear correlation between two variables. Nonetheless, if the correlation coefficient is close to zero (i.e., FD and GX) it implies that there is no evidence of any relationship.

4.3 Lag length selection test

Before carrying out the ARDL BT to cointegration, it was imperative to identify the optimum number of lags to be included under unit root test and other subsequent tests. The Table below illustrates the test results obtained by various information criteria.

Table 3: VAR lag length selection criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	858.3890	NA	1.05e-19	-20.9973	-20.7608	-20.9024
1	1799.877	1673.756	4.12e-29	-42.6636	-40.5352	-41.8097
2	2002.708	320.5236	1.40e-30	-46.0916	-42.07125*	-44.4786
3	2045.265	58.84397	2.66e-30	-45.5621	-39.6499	-43.19
4	2122.328	91.33338	2.44e-30	-45.8846	-38.0805	-42.7535
5	2325.607	200.7700	1.19e-31	-49.3236	-39.6276	-45.4335
6	2489.684	129.6408*	2.06e-32	-51.7947	-40.2067	-47.1454
7	2615.681	74.66481	1.47e-32*	-53.32545*	-39.8456	-47.91716*

Source: Author's own compilation using Eviews

Note: * indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

HQ: Hannan-Quinn information criterion

SC: Schwarz Information Criterion

The result from Table 3, indicates that the FPE, AIC, and HQ selected a VAR system with a maximum lag number 7. However the LR and SC suggests a maximum number of lag 6 and lag 2 respectively. Given that the SC always selects a more parsimonious model and is suitable for small samples, this study finds it robustly safe to use lag 2 as the optimum lag to be applied in all the subsequent tests that follow.

4.4 Unit root (non-stationarity) test

This study uses the ADF and the KPSS tests to test for unit root in order to establish at which level the underlying variables become stationary. The two hypotheses testing jointly used in both tests are the null (H_0) and the alternative (H_1). Whereby under the ADF test the hypothesis is specified as:

H_0 : Variable has a unit root

H_1 : Variable does not have a unit root

The ADF and KPSS stationarity tests were carried out using the equation with an intercept and the model with an intercept and a trend, the outcomes are presented in the Table 4.

Table 4: Unit root test: ADF & KPSS

Name of Variable	Model Specification	Unit root test				Order of Integration
		ADF		KPSS		
		Levels	First difference	Levels	First difference	
KFr	Intercept	-2.1339 (-2.8959)	-3.9395** (-2.8963)	0.6452 (0.4630)	0.3061** (0.4630)	I (1)
	Trend & Intercept	-1.7951 (-3.4635)	-4.0961** (-3.4620)	0.3813 (0.1460)	0.0865** (0.1460)	I (1)
ED	Intercept	0.4420 (-2.8959)	-5.2413** (-2.8963)	2.8439 (0.4630)	0.2035** (0.4630)	I (1)
	Trend & Intercept	-3.4189* (-3.1582)	-5.4017** (-3.4642)	0.1596*** (0.2160)	0.0455** (0.1460)	I (0)
CD	Intercept	-0.1491 (-2.8959)	-5.0505** (-2.8963)	2.6366 (0.4630)	0.1257** (0.4630)	I (1)
	Trend & Intercept	-2.9998 (-3.4635)	-5.0554** (-3.4642)	0.1542*** (0.2160)	0.0681** (0.1460)	I (0)
T	Intercept	-1.2342 (-2.8959)	-5.1302** (-2.8963)	1.9353 (0.4630)	0.1632** (0.4630)	I (1)
	Trend & Intercept	-2.6980 (-3.4635)	-5.1454** (-3.4642)	0.3640 (0.1460)	0.0420** (0.1460)	I (1)
GX	Intercept	-2.4652 (-2.8959)	-2.9739** (-2.5869)	0.6741*** (0.7390)	0.2146** (0.4630)	I (0)
	Trend & Intercept	-2.3396	-3.0336	0.4120	0.1187**	I (1)

		(-3.4635)	(-3.4642)	(0.1460)	(0.1460)	
INF	Intercept	-	-5.7761**	0.8314	0.0281**	I (1)
		3.1672** (-2.8959)	(-2.8963)	(0.4630)	(0.4630)	
FD	Trend & Intercept	-	-5.7426**	0.0806**	0.0280**	I (0)
		3.9567** (-3.4635)	(-3.4642)	(0.1460)	(0.1460)	
FD	Intercept	-1.4326	-4.0656**	2.0378	0.1202**	I (1)
		(-2.8959)	(-2.8963)	(0.4630)	(0.4630)	
FD	Trend & Intercept	-2.4031	-4.0397**	0.3955	0.1261**	I (1)
		(-3.4635)	(-3.4642)	(0.1460)	(0.1460)	

Sources: Author's own compilation using Eviews.

*Note: *, **, and ***, denotes rejection of a unit root null hypothesis at critical values of 10%, 5%, and 1% respectively. In instances whereby a variable is stationary in all levels, ** is chosen.*

Following the ADF test results from the Table 4, it is evident that the variables are not stationary in levels, but after first difference, most of the variables are stationary. Confirming these outcomes with the KPSS unit root test, it can be seen that most variables are still non-stationary in levels, however after first difference they all become stationary. The final conclusion of the order of integration is based on the KPSS unit root test since it is considered to be more powerful than the ADF test. The mixture in the order of integrations as indicated by results in Table 4 makes the application of the ARDL BT to cointegration approach an appropriate methodology for this study.

4.5 ARDL cointegration test results

The appropriate number of lags for the ARDL (2, 2, 0, 0, 0, 0, 0, 1) model under consideration was based on the SC automatic lag selection option provided in Eviews. The cointegration relationship amongst the variables is evident, as seen in Table 5:

Table 5: ARDL BT for cointegration

Variables	F-Statistics		Result	
F(ED, T, GX, D1, INF, FD)	4.3855*,**,***		Cointegration	
	Pesaran		Narayan	
Critical Value	Lower Bound	Upper Bound	Lower Bound	Upper Bound
1%	2.73	3.9	3.021	4.350
5%	2.17	3.21	2.336	3.458
10%	1.92	2.89	2.017	3.052

Source: Author's own compilation using Eviews

Note: The, critical values obtained from Narayan (2005) is for 80 observations; Case II is for restricted constant and no trend (k=7).

Comparing the calculated F-Statistics results from Table 5, with the critical values obtained from both Pesaran and Narayan, the results reveal that the F-Statistics is beyond the upper bounds at all levels of significance in both statistical tables. Thus, it is safe to reject the null hypothesis of no cointegration and conclude that the variables bear a long-run equilibrium relationship. This answers objective 3 of the study.

4.6 Long-run coefficient using ARDL approach

Since the presence of a long-run relationship has been established, next was to estimate and examine the marginal effects of external debt, tax, government expenditure, inflation and financial deepening on capital flight using equation 3.3.1(c). Table 6 presents the long-run coefficients.

Table 6: Estimated Long-run Coefficients (1, 2, 0, 0, 0, 0, 0, 0, 1)

Dependent Variable: KF_t			
Variables	Coefficient	t-Statistic	Prob.
ED	0.865647	0.369269	0.7130
CD	-1.089696	-0.524535	0.6015
T	-11.398460	-0.952794	0.3438
GX	6.780196	0.889729	0.3765
D1	-0.221839	-0.552856	0.5821
INF	-0.031049	-1.051808	0.2964
FD	2.722477	1.035723	0.3038
C	0.774988	0.419444	0.6761

Source: Author's own compilation using Eviews

Table 6 results reveals that in the long-run, the relationship between Capital Flight (KF_t), Government Expenditure (GX) and Financial Deepening (FD) is positive. However, Political Regime (D_1) and Debt Stock (CD) was found to have a negative effect on KF_t . The findings on D_1 are new and specific to Namibia. The reason why D_1 is perhaps insignificant, may be

due to the fact that the country has over the years enjoyed peace and stability coupled with good governance. Moreover, the fact that there has only been one political ruling party in power since the country attained its independence and given that the party's ideologies under three regime changes have been pretty much the same under the different regime changes maybe another reason to substantiate this insignificance. These results clearly answer objective one of the study.

4.7 Short-run dynamics of capital flight in Namibia

The study further analysed the nature and direction of the short-run dynamics of the selected macroeconomic variables by estimating the error correction model (ECM). Under the ECM method, the long-run relationship amongst the variables in the model is ascertained by a negative sign and a significant probability value of the ECM. Equation 3.3.1(d) was used to estimate the general short-run dynamics and the results are provided in Table 7.

Table 7: Estimates from the Error Correction Mechanism (1, 2, 0, 0, 0, 0, 0, 0, 2)

Variables	Coefficient	t-Statistic	Prob.
D(KFR(-1))	0.966562	6.392004	0.0000
D(ED)	0.752869	3.971808	0.0002
D(ED(-1))	-1.822446	-12.40126	0.0000
D(ED(-2))	0.934909	5.488831	0.0000
D(CD)	0.048720	0.306874	0.7599
D(T)	-0.153053	-0.897117	0.3728
D(GX)	-0.241647	-0.588887	0.5579
D1	-0.001769	-0.747616	0.4572
D(INF)	-4.20E-05	-0.056151	0.9554
D(FD)	0.009827	0.123443	0.9021
ECM(-1)	-0.479759	-2.724316	0.0082
C	0.001502	0.897211	0.3727
R ²	0.871224		
Adjusted R ²	0.846962		
F-Statistics	35.90877		0.0000
DW	2.299603		

Source: Author's own compilation using Eviews

The results in Table 7 shows that the ECM (-1) is negative (-0.4798) and statistically significant at 5% levels. This is a further reaffirmation of the results obtained by the ARDL BT to cointegration, that there exist a stable long-run relationship between capital flight and the macroeconomics variables in this study. More precisely, the coefficient of the ECM

indicates that approximately 48% of the quarterly disequilibrium in capital flight from the previous period's shocks on the macroeconomic variables will converge back to the long-run equilibrium levels in the current quarter.

Moreover, Table 7 reveals that the coefficient of determination (R^2) whose value is 0.8712 (R^2 Adjusted is 0.8470) indicates that almost 87% of the variations in capital flight is jointly explained by tax, government expenditure, political regime, financial deepening and inflation. Besides this, the F-Statistics test whose significant value is above 38% also affirms the goodness fit of the model. The DW statistics of 2.2996 shows that the model has no autocorrelation, i.e., the model is not spurious.

Likewise, results in Table 7 illustrate that past capital flight and current external debt has got a positive significant effect on capital flight in the short-run. But external debt lagged by one period yields a negative effect on capital flight. This normally happens when a country's foreign lending is great. The results obtained with respect to past capital flight are in line with those obtained by other studies such as, Al-Fayoumi, AlZoubi and Abuzayed (2012), Ndikumana and Boyce (2003) and Cuddington (1986), but inconsistent with the findings by Brada *et al* (2008). Likewise, the finding with regards to current external debt are in harmony with: Muchai and Muchai (2016); Al-Fayoumi, AlZoubi, and Abuzayed (2012); Brada *et al* (2008); Alam and Quazi (2003).

Correspondingly, tax, government expenditure, political regime and inflation were found to exert a negative impact on capital flight, whilst financial deepening exerts a positive effect on capital flight. Nevertheless, the variables are altogether insignificant. Thus, they do not bear

any effect on capital flight in the short-run. These findings further provides an answer to objective 1 stipulated in this study.

4.8 Wald Coefficient test

The study conducts the Wald coefficient test in order to examine and validate the significance of whether or not fiscal policy affects capital flight in Namibia. The results of these tests are presented in Table 8.

Table 8: Wald test for joint significance of the fiscal policy variables

Estimated equation: $KF_t = \beta_0 + \beta_1 ED_t + \beta_2 CD_t + \beta_3 T_t + \beta_4 GX_t + \beta_5 D_1 + \beta_6 INF_t + \beta_7 FD_t + \xi_t$			
Null Hypothesis: $\beta_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$			
Test statistics	Value	Df	Probability
F-statistics	11.5487	(6.62)	(0.0000)
χ^2 -statistics	69.2926	(6)	(0.0000)

Source: Author's own compilation using Eviews

The results obtained in Table 8 shows that the null hypothesis that fiscal policy is insignificant in determining capital flight should be rejected as the p -value for the test is zero to four decimal places. In other words, the results imply that fiscal policy significantly affects capital flight in Namibia. The findings further substantiate answers to objective 1 of this study.

4.9 Diagnostic tests

With regard to the diagnostic checks, the model is fit and passes all the diagnostic scrutiny. The absence of serial correlation confirmed earlier on, is further attested by the Breusch-Godfrey LM test. To test for heteroscedasticity, the White Heteroscedasticity test was employed. The Ramsey RESET test checks whether there is any error in the way the overall model has been specified. Table 9 summarises the diagnostic tests results as follows:

Table 9: Diagnostic test

White Heteroscedasticity	Chi-square:	15.07436 (0.3027)
Breusch-Godfrey LM test	Chi-square:	8.79677 (0.0190)*
Ramsey RESET test	F-statistics:	0.58361 (0.4475)

Source: Author's own compilation using Eviews

Note: * denotes the acceptance of null hypothesis of autocorrelation at 10% levels and the values in bracket are respective probability value of each test.

Results from Table 9 illustrate that the model has passed the diagnostic tests; namely, the residuals are homoscedastic, no serial correlation, and that there is no specification error in the general model.

4.10 Stability tests

Lastly, the stability test of the long-run parameters combined with the short-run dynamics for the equations is assessed in order to decide whether or not the parameters in the model are stable. This study applies the cumulative sum of recursive residuals (CUSUM) and cumulative sum of recursive residuals of squares (CUSUMSQ) to test for model's stability as in Figure 1 and 2.

Figure 1: CUSUM

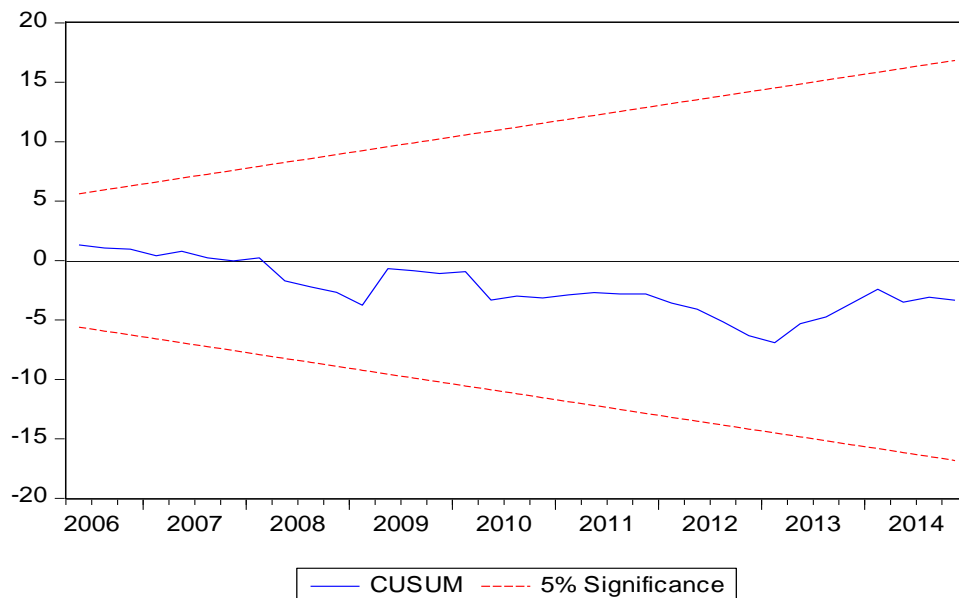


Figure 2: CUSUMSQ

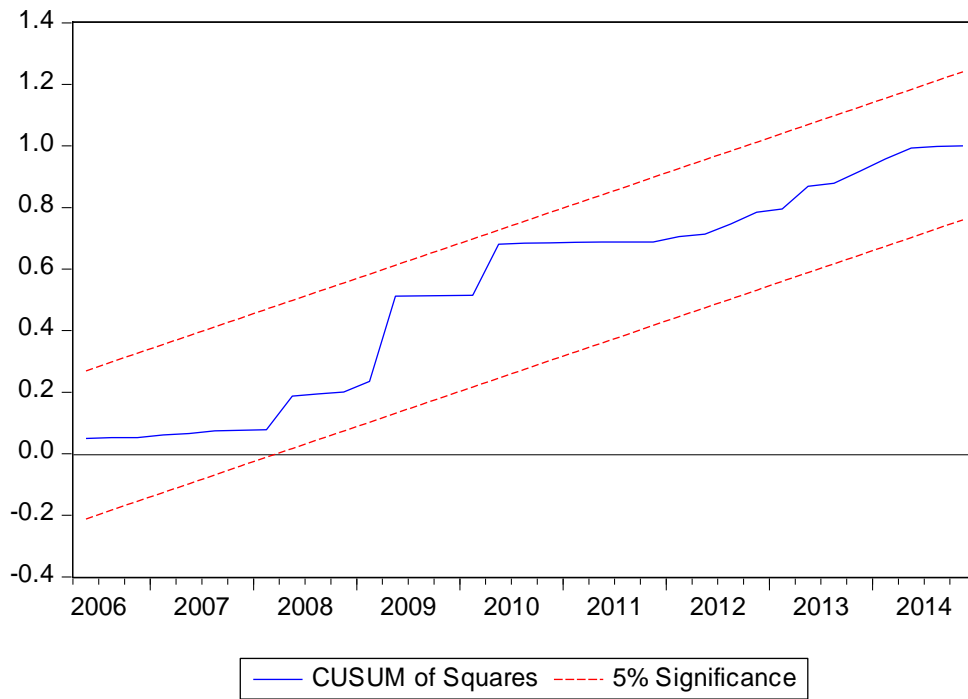


Figure1 and 2 were plotted using equation 3.3.1 (d). As it can be observed, both the CUSUM and the CUSUMSQ plot are within the critical bounds of 5% significance level. This is once again to imply that the model is correctly specified and stable.

The residual approach was utilized in order to capture the magnitude of capital flight in Namibia. This was necessary in order to answer objective 2 of the study.

Table 10: Magnitude of capital flight in Namibia between periods 1993-2014

Year	(Change in External Debt) ΔED	(Net Foreign Direct Investment) FDI	(Current Account Balance) CAB	(Change in Foreign Reserves) ΔFR	(Capital Flight) KFr	KFr as % of Nominal GDP
1993	-56600000	-46607112.62	1.1E+08	83976971.2	-297382516.2	-9.239855305
1994	66000000	-104089268.2	85332923	68927260.1	-192349451.1	-5.289199205
1995	21600000	-156544442.7	1.76E+08	18364918.4	-329235759.3	-8.350984891
1996	-8800000	-150371596.9	1.16E+08	-27120259.5	-247813044.7	-6.281156907
1997	-134000000	-90321931.93	90365335	56665174.7	-371352441.7	-9.051529075
1998	191500000	-98403045.79	1.62E+08	9721681.4	-78465177.69	-2.050558241
1999	183700000	-20277883.61	-2.8E+07	45236310.9	145789864.2	3.817533469
2000	2597000020	-184282056.9	1.92E+08	-45653239.5	2266847745	57.99549883
2001	1683880293	-381653453.5	10539838	-25585270.9	1317272272	37.13990987
2002	-1117780313	-179443646.5	85854159	88882400.6	-1471960519	-43.7920415
2003	2800971744	-157599677.4	2.66E+08	2084330.6	2375594711	48.1736836
2004	-518861532	-246101741.2	4.46E+08	19842577.5	-1231101456	-18.63368805
2005	3587041389	-403097362.2	3.33E+08	-32955447.7	2883523599	39.71066034
2006	4191264082	-403542706.7	1.08E+09	137473939.2	2567884765	32.18411136
2007	-496287793	-718515017.6	7.49E+08	446443163.6	-2410051733	-27.57223189
2008	3855772794	-742612032.8	-9491787	396911964.4	2725740584	32.11770823

2009	-1686625101	-509840635.3	-1.3E+08	757993483	-2823423804	-31.80895686
2010	4677503268	-793082495.5	-3.9E+08	-355236951	4630170179	41.03963069
2011	17280524054	-868073932.9	-3.8E+08	90999383	16700049594	134.5733097
2012	-2529171702	-1122813818	-7.4E+08	-40823647	-2868876874	-22.04069395
2013	11812030045	-827711832.4	-5.2E+08	-234704426	11735691986	92.30986648
2014	-1134317073	-495512031.3	-9.6E+08	-333961279	-336742304.9	-2.61975471
Total	45266344175	-8700497722	7.49E+08	1127483038	34689810218	15.8

Source: Author's own compilation

The estimates obtained from Table 10 shows that Namibia lost approximately US\$35 billion in 21 years (1993-2014) in the form of capital flight. During the same period, capital flight to GDP ratio was approximately 15.8%. Implying that, for every US\$ 1.00 of annual GDP accumulated by the Namibian economy, private Namibian residents amassed about US\$ 0.16 in the form of external assets.

With regards to the interpretations of capital flight, a positive amount of KFr implies unrecorded capital flight since it is a resemblance of private assets accumulated abroad. On the other hand, a negative amount of KFr implies unrecorded reversed capital flight, because it is tantamount to a decreasing foreign private assets.

Based on Table 10, it is evident that under the 1990-2005 regime, capital flight was more contained as opposed to the one that succeeded after. This is quite surprising given that the Anti-Corruption commission (ACC) was not present by then to combat criminal acts that would perpetrate capital flight. Since the ACC came into existence during the 2005-2015 regime, one would have expected capital flight to be more contained under this regime as

opposed to the preceding regime. However, this seemed not to be the case. Thus it is safe to argue that efforts by the ACC meant to combat corruption and other related financial crimes believed to have been linked to Namibia's capital flight seem to be futile. Moreover, the fact that Namibia's external debt ballooned significantly during the 2005-2015 regime is another explanatory factor, amongst others, to justify the prevalence of capital flight under it.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of results

This study was carried out with the aim to examine how fiscal policy affects capital flight in Namibia. The results proved that regime change does not in Namibia. More precisely, a positive and significant link between past capital flight and current capital flight was found in the short-run. This implies that capital flight has a tendency of habit formation. In the same vein, the coefficient of current external debt is positive and was found to significantly affect capital flight in the short-run. This is because the indebtedness of the country entails future capital flight as a result of its repayment of debt (plus interest) to the donor countries. Furthermore, estimates of Namibia's capital flight over the 1993-2014 periods have amounted to approximately US\$35 billion. During the same period, capital flight to GDP ratio was approximately 15.8%. Implying that, for every US\$ 1.00 of annual GDP accumulated by the Namibian economy, private Namibian residents accumulated about US\$ 0.16 in the form of external assets.

5.2 Conclusion

This study examines the effects of fiscal policy on capital flight in Namibia from period 1993- 2014. To establish these dynamics, the ADRL BT to cointegration technique has been employed. Prior to conducting the ARDL BT, the study initiated by firstly determining the optimum number of lags provided by various information criterions. The results suggested by the SC (2 lags) was used. Thereafter, the ADF and KPSS unit root tests were carried out in order to determine the order of integration- a combination of I (0) and I (1) was found. Following this, the ARDL BT to cointegration was conducted and results reveal that there is a

long-run relationship between capital flight and the selected macroeconomic variables. With regards to the short-run, the study found a positive relationship between past capital flight, external debt and capital flight. The outcomes imply that only past capital flight and external debt can adjust to the long-run equilibrium levels following an exogenous shock. The diagnostic checks on the residual and the model's stability were conducted and the outcomes prove that the findings of this study are reliable. Lastly, the Wald test was used to test for the joint significance of the fiscal policy variables and indeed fiscal policy found to have a significant impact on capital flight in Namibia. The magnitude of capital flight was estimated to the tune of approximately US\$ 35 billion over a period of 21 years.

5.3 Policy Recommendation

The outcomes from this study yield several policy implications deemed necessary in order to address and minimise the momentum of capital flight in Namibia. Nevertheless, the policy intervention outlined below are not meant to be exhaustive.

- a) Firstly, the evidence of debt-fuel capital flight implies that the government needs to pay attention on its external debt management and take decisive steps to minimise it. This can be alleviated by ensuring value addition on the raw material that the country exports. By so doing, the employment rate would rise and this would lead to higher revenues generation for the government through various forms of taxation.
- b) Secondly, there is a need for concerted effort by the government to engage countries believed to have been benefiting from Namibia's capital flight in order to enhance the

revenue base. Through an establishment of international tax treaties and agreements which allows countries to liaise information, especially those linked to financial crimes, i.e., money laundering. These actions, will broaden the tax revenue base since it will include taxes contributed by both the local residents and also those residents residing outside Namibia who are holding foreign assets.

- c) Thirdly, the government should accelerate the creation of a conducive economic environment which promotes inward investment opportunities in order to offset capital flight. This can be achieved through economic diversification (i.e., by aggressively investing in other sectors such as solar energy, nuclear energy from the available uranium deposit, agriculture... etcetera.

- d) Fourthly, the need for a dynamic financial sector development is imperative. The government should allow the country's financial system to open up in order to permit the development of the financial system to happen at a faster pace. This is indispensable more so for the fact that many a time the outflow of capital is always from the least developed financial markets (i.e., Namibia) to highly developed financial markets (i.e., South Africa).

- e) Lastly, the government should consider enforcing tighter control of capital outflows in order to minimise or restrict capital flight. This can be achieved by granting sufficient resources to the existing regulatory bodies (i.e., BoN, ACC...) in order to effectively control this phenomenon.

5.4 Areas for further Research

Since Namibia uses a policy mix, an examination of the effects of monetary policy on capital flight is commendable.

REFERENCES

- Ahmad, B., & Sahto, Q. D. (2015). Determinants of Capital Flight in Pakistan. *IBT Journal of Business Studies*, 8(2), 55-64.
- Alam, I., & Quazi, R. (2003). Determinants of capital flight: An econometric case study of Bangladesh. *International Review of Applied Economics*, 17(1), 85-103.
- Al-Fayoumi, N. A., AlZoubi, M. S., & Abuzayed, B. M. (2012). The Determinants Of Capital Flight: Evidence from MENA countries. *The International Business & Economics Research Journal (Online)*, 11(1), 1.
- Allum, P., Dwight. L., & Chen, C. (2008). *Namibia: Selected issues and statistical appendix* (IMF Country Report No. 08/82). Retrieved from the International Monetary Fund. Website: <https://www.imf.org/external/pubs/ft/scr/2008/cr0882.pdf>
- Brada, J. C., Kutan, A. M., & Vukšić, G. (2008). *Capital Flight from Central and East European Countries: Estimates and Causes*. EMG Working Paper WP-EMG-04-2008.
- Bank of Namibia, Research Department. (2007). *Quarterly bulletin June 2007*, 16 (2), 1-115. Retrieved from Bank of Namibia website: <https://www.bon.com.na/>
- Claessens, S., & Naude, D. (1993). *Recent estimates of capital flight* (p. 1186). Washington, DC: World Bank.
- Clemente, J., Montañés, A., & Reyes, M. (1998). Testing for a unit root in variables with a double change in the mean. *Economics Letters*, 59(2), 175-182.
- Cuddington, J. T. (1986). *Capital flight: Estimates, issues, and explanations*. Princeton, NJ: International Finance Section, Department of Economics, Princeton University.

- Dooley, M. P. (1988). Capital flight: a response to differences in financial risks. *Staff Papers*, 35(3), 422-436.
- Dooley, M. P., & Kletzer, K. M. (1994). *Capital flight, external debt and domestic policies* (No. w4793). National Bureau of Economic Research.
- Helleiner, E. (2011). Understanding the 2007–2008 global financial crisis: Lessons for scholars of international political economy. *Annual Review of Political Science*, 14, 67-87.
- Henry, A. W. (2013). Analysis of the Effects of Capital Flight on Economic Growth: Evidence from Nigerian Economy (1980–2011). *Analysis*, 5(17).
- Hermes, N., & Lensink, R. (2001). Capital flight and the uncertainty of government policies. *Economics letters*, 71(3), 377-381.
- Hermes, N., Lensink, R., & Murinde, V. (2002). *Capital Flight and its reversal for development financing* (No. 2002/99). Discussion Paper.
- Le, Q. V., & Zak, P. J. (2006). Political risk and capital flight. *Journal of International Money and Finance*, 25(2), 308-329.
- Lucas, R. E. (1990). Why doesn't capital flow from rich to poor countries?. *The American Economic Review*, 80(2), 92-96.
- Kar, D., & Spanjers, J. (2014). Illicit Financial Flows from Developing Countries: 2003–2012. *Global Financial Integrity Report*.
- Narayan, P. K. (2005). The saving and investment nexus for China: evidence from cointegration tests. *Applied economics*, 37(17), 1979-1990.
- Ndikumana, L., & Boyce, J. K. (2003). Public debts and private assets: explaining capital flight from Sub-Saharan African countries. *World Development*, 31(1), 107-130.

- Nkoro, E., & Uko, A. K. (2016). Autoregressive Distributed Lag (ARDL) cointegration technique: application and interpretation. *Journal of Statistical and Econometric Methods*, 5(4), 63-91.
- Makochekanwa, A. (2007). *An Empirical Investigation of Capital Flight From Zimbabwe* (No. 2007- 11). University of Pretoria Working Paper. Retrieved from University of Pretoria website: <http://www.repository.up.ac.za/>
- Mankiw, N. G. (2014). *Principles of macroeconomics*. Cengage Learning.
- Melber, H. (2015). From Nujoma to Geingob: 25 years of presidential democracy. *Journal of Namibian Studies*, 18, 2015, 49 – 65.
- Mohamed, S., & Finnoff, K. (2005). Capital Flight from South Africa, 1980–2000. *Capital Flight and Capital Controls in Developing Countries*, 85-115.
- Muchai, D. M., & Muchai, J. (2016). Fiscal policy and capital flight in Kenya. *African Development Review*, 28, 8-21.
- Odhiambo, O., & Ziramba, E. (2014). *Mobilising Domestic Resources for Development Financing in Namibia? Constraints and Opportunities* (No. 252).
- Ogbokor, C. A., & Musilika, O. A. (2014). Investigating the relationship between aggregate savings and investment in Namibia: A causality analysis.
- Okoli, M. N. (2008). *An empirical analysis of the determinants of capital flight and their impact on the Nigerian economy* (Doctoral dissertation, University of Technology, Owerri, Nigeria). Retrieved from <http://futoportal.silveredgeprojects.com/Research/FUTO/167.pdf>
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, 16(3), 289-326.

- Schineller, L. M. (1997). An econometric model of capital flight from developing countries. *Board of Governors of the Federal Reserve System Working Paper*, (579).
- Schlettwein, C. H. G. (2016). *Fiscal Policy Strategy for the 2016/17 to 2018/19 Medium-Term Expenditure Framework* (MoF Document No. 27827/235390). Retrieved from the Ministry of Finance. website:<http://www.mof.gov.na/>
- Shiimi, I. W., & Kadhikwa, G. (1999). *Savings and investment in Namibia* (BoN occasional paper no.2). Windhoek, Namibia: BoN.
- Undji, V.J., & Kaulihowa, T. (2015). Determinants of inflation in Namibia: A cointegration approach', *Journal of Business and Management Dynamics*, 5(1), 7 pages. Retrieved from <http://www.icbmd.org/index.php/ICBF/7thICBF/paper/viewFile/12/15>
- Wujung, V.A., & Mbella, M.E. (2016). Capital flight and economic development: The experience of Cameroon. *Economics*, 5(5), 64 -72. doi: 10.11648/j.eco.20160505.11