Determinants of capital flight in Namibia

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ABSTRACT

The research investigated the determinants of capital flight and the behaviour of capital flight before and after the passage of Regulations 28 and 29 in Namibia. Using annual data form 1990 to 2016, the unit root and cointegration analyses were performed. The findings of the study indicate that foreign direct investment, current account deficit, change in foreign exchange reserves and external debt are important determinants of capital flight, whereas corruption and political uncertainty do not influence capital flight. The researcher therefore recommends that these factors should be taken into account when designing policies to prevent and reduce the outflows of capital from Namibia. Thus, the combination of good governance and fostering fiscal discipline and tax adjustments is also recommended.

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GLOSSARY OF TERMS

UN – United Nations

CMA – Common Monetary Area

GDP - Gross Domestic Product

FDI - Foreign Direct Investment

IMF - International Monetary Fund

EPL - Exploring Prospecting Licenses

SADC - South African Development Community

ACC - Anti- Corruption Commission

GFI- Global Financial Integrity

BOP - Balance of Payment

NAMFISA - Namibia Financial Institution Supervisory Authority

BON - Bank of Namibia

ODA - Official Development Assistance

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Capital flight brings about an increase in fiscal deficit to such a degree that the state resorts to printing money in order to finance the deficit (Ndikumana, Boyce, & Ndiaye, 2014). In a study carried out by Ajayi (2013) on Latin American countries, it was found that capital flight leads to inflation (inflation caused by fiscal deficit), thus residents invest in foreign assets so as to mitigate the downside of domestic inflation. Exchange rate overvaluation, disbursement of public debt and lagged capital flight are motivators of capital outflow (Abbottd, 2016). Therefore, the causes of capital flight can be attributable to unfavourable budget (budget deficit) and unfavourable foreign exchange (Ajayi & Ndikumana, 2015). "Residents' expected returns on domestic assets are threatened by inflation, and the perceived inflation risk which encourages capital flight" (Dooley, 1978:430).

African states need to develop methods that aim at reducing capital flight, if funds are to be invested locally to boost the economy. States have to develop infrastructure, and to be able to support the economy, they have to rely profoundly on the availability of capital for financing.

It is against this background that Namibia and African states jointly created laws that address capital flight. Capital flight if not properly managed, can cause economies to fail (Onwioduokit, 2002). The implication is that the movement of capital abroad leaves little or less resources for financing domestic investment (Andrew, 2014). It is in this light that Namibia and many developing countries have resorted to borrowing as a way of bridging their saving- investment gap.

Managing capital flight in Namibia is of utmost importance, especially for the execution of the nation's development agenda in realising the country's Vision 2030, as well as the UN Millennium Development Goals.

As a member of the common monetary area (CMA), there is a free movement of capital between Namibia and the CMA area, notably so with the economic powerhouse - South Africa. This has been a major concern for Namibia as it sees this as supply capital to the South African market to its own detriment.

Capital flight in Namibia, as the case in most African countries, has raised some serious concerns. The most causes of capital flight are due to extreme macroeconomic risks, structural distortions like financial sector repression, distortionary taxation, repressed returns and poorly enforced property rights.

Poorly enforced property rights are as a result of a failed legal system which is unable to mediate claims on property credibly and equitably, which will result into capital being moved to less risky countries. Moreover, because of the fear that investors might have that their property may be taken away by people that have no legal right over them, countries such as Russia have some entrepreneurs that are often forced to pay racketeers to protect them. As a result, investors take extra efforts to protect themselves from these regulations by moving their capital to countries where they feel more protected. As a way of encouraging a reduction in capital flights, it calls for African countries to develop sound economic policies that aim at making the home risk lower than the world level risk.

1.2 Problem statement

Namibia is a small country with high levels of unemployment and ensuing poverty, despite the country having contractual savings far in excess of Gross Domestic Product (GDP). Sadly, these funds flow out of the country and get invested in the rest of the Common Monetary Area (CMA) and in offshore accounts resulting in what is termed capital flight. Namibia faces a free flow of capital between other states in the CMA. South Africa receives most of the capital flow in the CMA because of its developed financial markets. It is sad to note that even after its independence in 1990, Namibia continues to export capital despite various attempts by the government to persuade financial institutions to retain their funds for developmental purposes.

In 2013 and 2014 alone, Namibia lost about N$4.5b through the outflow of money from the economy. From 2013 to date, the country managed to only reinvest about N$400m by both the banking and non-banking financial sector.

Namibia therefore, faces high levels of capital flight of 86%, and this is due to inadequate frameworks for banking regulations and supervision (Mehran, Ugolini, Briffaux, Iden, Lybek, Swaray & Hayward, 1998; Ndikumana et al. 2014). Therefore, due to high capital flight, Namibia like many other African countries ends up borrowing from the World Bank at a high cost. This creates a dependency culture on foreign aid and in return creating poor foreign aid exit strategies. Moreover, this weakens the tax collecting efforts in developing countries, which is a system that extends the balance of payment deficit.

In order to mitigate the outflow of funds, Namibia took a bold step and introduced Regulations 28 and 29 which were gazetted in 2014. This is an attempt by the Namibian government to retain more of these funds in an effort to develop the local real and financial sectors. Regulations 28 and 29 stipulate that 35% of pension funds money have to be invested locally.

Namibia has other economic policies and institutional reforms that it can pursue to reduce capital outflows, these include but are not limited to, "boosting domestic savings and promoting investments on a sustained basis; fighting capital flight; judicious and innovative use of pension funds and remittances and external borrowing" (Odhiambo, 2014:1). Therefore, Namibia has to embark on the process of developing its financial sector so as to move in tandem with other developing countries.

Therefore, capital flight from emerging nations shows possible losses in economic growth and development. Moreover, capital flight represents forgone opportunities for promoting growth and reduction of poverty for the countries having these capital outflows. Thus, if not controlled, capital flight will "negatively impact the economy in the form of missed private investments and development opportunities" (Mohamed & Finnoff, 2005). Hence the study intended to investigate the impact of the capital controls (Regulation 28 and 29) on capital flight in Namibia and establish the determinants of capital flight.

1.3 Research questions

The success of the research outcome hinged on answering the following questions:

1. What is the behaviour of capital flight before and after the passage of Regulations 28 and 29?

2. What are the determinants of capital flight in Namibia?

1.4 Research objectives

1. To examine the behaviour of capital flight before and after the passage of Regulations 28 and 29.

2. To identify the determinants of capital flight in Namibia.

1.5 Significance of the research

The study aimed to understand the dynamics of capital flight in Namibia. The study wished to analyse the situation as pertaining to different stakeholders namely government, pension funds administrators, as well as short-term investment and life insurance companies in the face of Regulations 28 and 29. By so doing, the study came up with results as to whether capital flight can be easily addressed especially by Regulations 28 and 29.

1.6 Limitations of the study

Capital flight in Namibia has been scrupulously recorded, including many private external assets, thus making it difficult to compare data to past years, especially before the introduction of Regulations 28 and 29. Since the introduction of Regulations 28 and 29, NAMFISA, the financial regulatory body in Namibia requires a report of all investments done in the CMA, outside the CMA and the domestic market, which will in the future assist with proper record keeping.

1.7 Assumptions of the study

In conducting the study, the following assumptions were taken into consideration:

- The selected sample (listed companies on the Namibian stock exchange) was assumed to be representative of the whole country in Namibia.
- Unbiased data was collected from official statistics such as the IMF, World Bank, NAMFISA and Bank of Namibia.
- The research also made use of the multiple linear regression model assumptions.
- The time period 1996-2016 is assumed to be the representative period on which conclusions can be made on the topic in context.

1.8 Conclusion

Emphasis in this chapter was on providing the logic for the need to carry out a research study on capital flight in Namibia as well as introducing the research. The chapter explained the background from which the problem originated and brought out the problem which incited the study. The objectives that need to be met, research questions to be answered and delimitations were outlined. The next chapter, Chapter Two, focuses on the literature review, the causes of capital flight and the theoretical models on capital flight. It concentrates on reviewing related empirical and theoretical literature, pointing out gaps expected to be covered by this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides an empirical literature review of capital flight. The chapter provides an in-depth analysis on capital flight as well as different theories of capital flight. The chapter further unpacks the root causes of capital flight, unravels the determinants of capital flight and finally makes a conclusion by providing information on capital flight as a form of corruption. The material in previously published literature are summarised and deductions made.

2.2 Definition and measurement of key concepts

We can all look at the same sky but all have different interpretations of how it looks. A majority of researchers disagree on the definition of capital flight. Although most authors agree that capital flight has been a contentious problem, there is however, no single delineation of capital flight. Capital flight can be delineated to incorporate all outflows that take place in excess of those that would generally be anticipated as part of the international investment divergence strategy (Mauro & Loungani, 2012). This definition embraces outflows of funds emanating from truly criminal goings-on; outflows of funds that are gotten through authentic activities but are illegitimate in that they crack capital controls (or evade taxes); and soiled legal outflows that conform to existing protocols and are inspired by a desire to abscond the country owing to factors such as political vagueness. The employment of the lexis capital flight also evokes strong sentiments.

Some researchers perceive capital flight as an indication of a sick nation, while others construe capital flight as the causative of highly indebted states with the inability to recover from the present debt challenges (Ajayi, 2013). The paradoxical statement of differentiating between legitimate outflows of capital from ‘capital flight’ (Harrigan, Marrotas & Yusop, 2007) has generated mixed delineations with dissimilar probabilities of capital flight in each case.

In its simplest form, capital flight can be defined as the process of amassing unrecorded assets in foreign institutions by the private sector (Ajayi, 2013; Ndikumana & Boyce, 2010; Yalta & Yalta, 2012). It is essential to highlight that capital flows that culminate as capital flight can be ‘licit’ or ‘illicit’.

Licit capital delineates the capital legitimately acquired, transferred or utilised, while illicit capital depicts capital flows illegally acquired, transferred or utilised by domestic economic agents (Mills & Rutherford, 2013).

The researcher contends that whether licit or illicit, capital flows become capital flight when they are in contravention of capital control regulations; whether they are fleeing the state due to tax evasion, or to dodge the risk of loss as a result of expropriation, or due to risks from wicked macroeconomic management. Even though 'illegitimate capital flows' and 'capital flight' are used as synonyms in the discourse (Ndikumana, Boyce, & Ndiaye, 2013) refute that they are dissimilar concepts. Illicit capital flows may be classified as capital flight if they accrue abroad, but this may not hold factual if part of the illicit capital is applied to finance imports which ultimately return to the resident's home country. This study concurs with the delineation that capital flight refers to undocumented private capital outflows escaping the domestic economy to circumvent any risk or loss due to changes in macroeconomic policy errors, political turmoil, as well as asset diversification.

The measurements of capital flight

There are several definitions of capital flight, and these have given rise to different methods of measuring capital flight. Hence despite increment of the literature over the last thirty years, there is no common measurement of capital flight (Hermes et al., 2002; Ndikumana et al., 2014). The non-consistency of the measurement of capital flight has been due to differences in the estimates of the magnitude of capital flight (Lawanson, 2007). Thus academics have come up with these methods in their studies: Residual Method (World Bank, 1985; Morgan Guaranty, 1986); Dooley Method (Dooley, 1986); Trade Misinvoicing Method (Bhagwati, 1964); and Hot Money Method (Cuddington, 1986).

The four methods of measurement of capital flight were used as they measure capital flight directly and indirectly. Thus, direct measures use data collected directly from Balance of Payments statistics (BOP). Therefore, estimating capital outflows from the country needs direct data on the nation's assets in other nations. But often data in this regard is hard to come by. "Statistics on bank deposits_are available from the bank but these statistics suffer some limitations" (Yalta, 2009:78). Since the coverage of the direct information leaves out all domestic flows, thus indirect methods are utilised to calculate capital flight (Schneider, 2003).

Therefore, the present research used the indirect method (residual method) to measure capital flight in Namibia. The four methods were discussed below:

The hot method

The hot money method is sometimes referred to as a narrow measure of capital flight. According to the hot money method, capital flight can be seen as the short term movement of capital of the non-bank public sector plus the errors and omissions from the BOP (Cuddington 1986 cited Makochekanwa, 2007). The hot money rather tends to focus only on the short term outflow of capital. It is calculated as:

$$KFr = SKO + EO \quad (2.1)$$

Where SKO is the short term capital outflow of the private sector and EO are the errors and omission. It encapsulates "hot money" that retorts to a political and pecuniary crisis, substantial taxes, a forthcoming tightening of capital or a key devaluation of the domestic currency arising from a high misalignment of the currency (Andreas & Friman, 2013). Political risk and expected depreciation are noteworthy determinants of capital flight. The linkage between capital flight and disparities in political solidity in 17 Latin American states deduced that political uncertainty adversely influences FDI in a state (Brada, 2014). The present researcher argues that no matter how capital flight is well-defined conceptually and/ or measured, political risk factors do matter in the case where no other macroeconomic variables are taken into account. States with poor track records on macroeconomic fundamentals may also be well-thought-out as having weak organisations.

Residual approach

The residual method or broad measure is an indirect approach to measuring capital flight; the capital outflow is equal to the differences between sources of funds (that is, net increase in external debt and net inflow of foreign investments) and the actual usage of these funds (that is, the current account deficit and additions to foreign reserves). This is the principal measure of capital flight proposed by Erbe (1985), World Bank (1985) and Dooley et al. (1986), and it seems to be the most used or preferred method of measuring capital flight.

"Algebraically, capital flight is expressed as follows:

$$KFr = (\Delta ED + FDI) - (CAD + \Delta FR) \quad (2.2)$$

Where KFr stands for 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 represents the change in the stock of official foreign reserves." (Boyce & Ndikumana, 2003:23).

Dooley method

The Dooley method separates the legal and illegal capital flows; under this method capital flight is equal to the amount of income from foreign assets which are not reported to the domestic country (Hermes et al., 2002). The Dooley method capital flight is calculated as:

$$TKO = FB + FDI - (CAD + \Delta FR) - EO - \Delta WBIMF \quad (2.3)$$

Where TKO is the total capital outflows, FB is the foreign borrowing as reported in the BOP statistics, EO are the net errors and omissions, and ΔWBIMF 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 related to reported interest earnings is:

$$ES = INTEAR/rus \quad (2.4)$$

Where ES is the external assets, rus is the US deposit rate (assumed to be a 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:

$$KFr = TKO - \Delta ES \quad (2.5)$$

Trade mis-invoicing method

It is easier for capital to move between countries illegally through trade. According to Claessens and Naude (1993), capital arises when there is export under invoicing and import over invoicing, and this is illustrated as below:

Export under invoicing = (Mw/CIFFOB) –Xc (2.6)

Import over invoicing = (Mc/CIFFOB) – Xw (2.7)

Where, Mw: World's import from that country

Xc: Country's export to the world

Mc: Country's import from the world

Xw: World's export to that country

It is important to note that the import reported by the country and the import as reported by the world should be on a comparable basis. Therefore, they need to be adjusted by a country specific CIF/FOB ratio. A positive sign indicates capital flight while a negative sign shows capital inflow. The net effect of mis-invoicing is the capital flight.

Limitations of the methodologies of measuring capital flight

The capital flight measures have limitations which were discussed under this section. The Dooley method and hot money method are conceptually incorrect, that is, the distinction between abnormal and normal flows is not useful since what really matter is the country facing a lack of financial resources (Hermes et al., 2002).

The hot money method lacks clarity on why capital flight should consist of short-term capital movements only. Rather assets of residents held abroad on a long term basis should be part of capital flight.

2.3 Determinants of capital flight

Literature on the determinants of capital flight is broad and many studies have proposed different views on the subject matter. Although these studies have added on the body of knowledge pertaining to the causes of capital flight, the findings cannot adequately reflect country specific results. The reason being, the uniqueness of economic and political factors that determine capital flight differ within the countries due to heterogeneity in the macroeconomic and political environment among the countries, hence it is difficult to provide country specific conclusions. Thus, the reason for mixed results is that most of these studies (Boyce & Ndikumana, 2012; Raheem, 2015) on the causes of capital flight are mainly cross-country studies.

Theoretically, the portfolio adjustment theory and debt driven capital flight thesis depict determinants of capital flight. The portfolio adjustment theory postulates that capital flight occurs as a result of an unstable macroeconomic and political environment in emerging countries and the concurrent existence of better investment opportunities in developed countries like high foreign interest rates (Dim & Ezenekwe, 2014). Furthermore, the debt driven capital flight thesis states that the huge external debt of a country is the main cause of capital flight (*ibid*).

Therefore, increasing domestic debt discourages saving and investment in an economy based on the assumption that high foreign debt is an indication of exchange rate depreciation, fiscal crisis and the likelihood of crowding out domestic capital. As a result, domestic investors transfer their funds to foreign countries where the risk of loss is low (*ibid*).

Taking into consideration the portfolio adjustment and debt driven theories of capital flight, the main determinants of capital flight can be reduced to push and pull factors as depicted by Table 2.1 below.

Table 2.1: Push and pull factors of capital flight

	Internal (Push factors)	External (Pull factors)
Political and institutional factors	Political upheaval; social instability; bad governance; corruption	Opacity and loose banking regulatory framework; accommodative financial policies
Macroeconomic factors	Low or negative real interest rates, overvalued exchange rates; inflationary pressure; capital account liberalisation; rising external indebtedness	High external real interest rates, strong and stable exchange rates of hard currencies
Microeconomic factors	Banking undercapitalisation; liquidity crisis; institutional weaknesses of the financial system; rise in corporate income taxes; unregulated financial system; stock market crisis	Strong asset management; competitive advantage; dynamic offshore; financial systems; offshore tax; havens; booming stock markets in foreign countries

Source: Bouchet (2012)

Several authors have come up with different views in their studies on the causes of capital flight and these were discussed in detail below. In studies on domestic macroeconomic variables which cause capital flight from various developing countries, the findings showed that the major determinants of capital flight include; exchange rate misalignment, high budgetary deficits, hyperinflation, interest rate differentials, domestic tax and trade policies (Cuddington, 1987; Lessard & Williamson, 1987; Boyce, 1992; Ajayi, 1995). Other studies done by Ajayi (1995); Boyce and Ndikumana (2001); Hermes, Lensink and Murinde (2002); Ndikumana and Boyce (2002); and, Mohamed and Finnoff (2004) postulate different findings.

These studies reviewed the major determinants of capital flight as macroeconomic instability, political instability, foreign direct investment, external borrowing, structural causes, capital

account and trade openness. These factors were scrutinised in detail below to further understand their impact on capital flight.

2.3.1 Exchange rate

Exchange rate overvaluation is found to be driving capital abroad, if the exchange rate is overvalued at some point one will predict it to depreciate at some point in the future, and the depreciation would cause foreign goods to seem more expensive than local ones. Thus in order to avoid future losses, residents will opt to hold their assets abroad which will eventually generate capital flight (Ajayi, 1995).

2.3.2 Inflation

Inflation erodes the value of domestic assets leaving local residents to opt for investment opportunities abroad and ultimately triggering capital outflows. High inflation goes hand in hand with exchange rates in that it increases the expectation of future depreciation (Hermes et al. 2002).

Dooley (1988) examines the impact of inflation on capital flight, and uses a pooled regression on Latin American countries for the period 1976 to 1983. The results were in line with theoretical expectations that a high inflation rate generates capital flight, and found that a 1% increase in inflation leads to a 23.10% increase in capital outflow.

2.3.3 External debt

Namibia, like many developing countries, relies heavily on external borrowing, the reason being that it needs external debt to finance the budget deficit. The Namibian economy is growing slowly and at times, if not mostly, the country ends up needing a financial injection to be able to carry out its objectives and mission, and in return external borrowings stimulate capital flight. Studies have revealed a positive correlation between external debt and capital flight. Beja (2006) has shown that there is a positive correlation between external debt and capital flight.

At times government transfers the burden of external debt on the public by imposing high tax, like the recent debates of introducing solidarity tax. This tax is still under investigation, and once a proper formula is reached, it will be announced accordingly.

This is according the pronouncements made by the President thus, “I would also like to clarify that funds collected through this wealth solidarity tax will be ring-fenced to ensure that it is utilised for distribution and poverty eradication activities only” (President H. Geingob). The rise of taxes sometimes motivates investors to flee tax obligations by investing offshore. According to Gulati (1988), domestic residents try to avoid such taxes by placing their capital outside the country, which in turn leads to capital flight. Government based guaranteed debt stimulates further capital flight (Eaton, 1987).

2.3.4 Fiscal deficit

When governments are faced by fiscal crisis they turn to borrowing outside their borders to access funding. Foreign borrowing attracts risk in the form of insolvency and default risk and these will induce capital flight (Ize & Ortiz, 1987). Emerging governments as alluded to previously, are financed by injecting more funds into the economy and thus causing inflationary pressure, hence eroding monetary balances, thus encouraging residents to move to foreign assets to escape inflationary tax. Some countries finance fiscal deficit through bond sales which can be as dangerous as printing money, thereby driving countries to more currency devaluation.

2.3.5 Foreign direct investment (FDI)

The difference in the rate of return between domestic and foreign countries can result in capital flight. If the domestic investment climate offers a higher rate of return as opposed to foreign countries, it will stimulate growth in FDI and reduce capital flight. In some cases, emerging countries attract foreign investors through providing incentives to international investors like differential taxation and exchange rate guarantees which are not given to local residents, and because of the preferential treatment given to non-residents, domestic residents resolve to investing offshore and in turn causing capital flight. Other things such as economic mismanagement and inefficiencies might also cause capital flight.

2.3.6 Domestic causes of capital flight

Capital flight in some cases is caused by domestic factors which are related to structural deficits of the economy, the macroeconomic ecology, risk and returns portfolio, economic governance encapsulating the management of external borrowing, and political factors. Thus, empirical studies carried out in respect to the relationship between these factors and capital flight are inconclusive (Ndikumana et al. 2014).

2.3.7 Structural causes of capital flight

Empirical research evidence demonstrates that "many African states which are rich in oil and minerals (Angola, Côte d'Ivoire, Cameroon, the Democratic Republic of Congo, the Republic of Congo, Gabon and Nigeria) have undergone comparatively high levels of capital flight." (Ndikumana et al, 2014:24). Ndikumana et al. (2014:24) further argue that "a state's endowment in natural resources *per se* does not necessarily make it prone to capital flight. Rather it is poor governance and the lack of management capacity together with natural resource endowment that exposes states to high levels of capital flight. Botswana, with a good governance record, has low levels of capital flight despite its rich endowment in diamonds".

2.3.8 Risk and returns to private investment and portfolio choice

A plethora of studies have modelled capital flight as outflows retorting to unequal risk on local resources comparative to foreign resources (Murinde & Mullineux, 2015). A research by Mankiw (2012), states that political uncertainty can lead to capital flight which tends to accentuate interest rates and cause the currency to lose value.

The researcher concurs with Murinde and Mullineux (2015) since local resources might be affected by risk (currency depreciation; expropriation; inflation and higher taxation), capital flight deflation, financial variability, and lower public guarantees on private debts (Eaton, 1987). Thus in cases where returns attributable to risky investments are inferior domestically than overseas, investors will favour to invest wealth in a foreign country (Ajayi & Ndikumana, 2015). This can be done through capital flight.

Following this ideological philosophy, "key factors would include: the real interest rate differential between a country and the rest of the world; changes in the real exchange rate; the quality of infrastructure, human capital, and other features of domestic economy that affect trade and production costs; and the business and legal environment in general" (Ndikumana et al., 2015:25).

2.3.9 Capital account regime and financial regulation

The researcher concurs that the capital account regime and the standard of the financial scheme in general may also have insinuations for capital flight, although their effect cannot be determined as a *priori*. "It may be argued that, on the one hand, that the absence of capital

control makes it relaxed to shift funds overseas, thus facilitating capital flight. If so, financial honesty would be interrelated with higher capital flight" (Ndikumana et al., 2014:26). Therefore, it can be said that the capital account transparency lessens incentives for capital outflows because global transactions will become easier and thus diminishing the need to put funds abroad (House of Lords, 2014).

2.3.10 Governance

One can take note that capital flight can be branded as an outcome of the catastrophe of economic governance. This could be due to an unbalanced macroeconomic habitat or due to regulations that dishearten private investment, thus inspiring outflow of capital. Therefore, ineffective governance due to corruption, exploitation of political authority, and sloppy legislation is probably associated with capital flight (Sawyer & Arestis, 2013).

Another study postulated that "poor economic governance facilitates and encourages theft of public funds, embezzlement of national resources, trade misinvoicing, and smuggling of goods and capital across borders. The evidence demonstrates that African states on the top of the list in terms of capital flight – such as Angola, Côte d'Ivoire, Cameroon, the Democratic Republic of Congo, the Republic of Congo, Gabon and Nigeria – also tend to have a weak governance record" (Ndikumana, 2014:27).

2.3.11 Empirical evidence

Several empirical studies have been done regarding capital flight, however, this section covered capital flight from developing countries (Africa). In a study on Nigeria, Ajayi (1992) used time series data to analyse determinants of capital flight over the period of 1971 to 1989. Explanatory variables included in the study were: growth rate in gross national product (GNP), foreign interest rate, international real interest rates differential, inflation rate, exchange rate movements in relation to market rate index, foreign exchange reserves, financial repression and the fiscal surplus/deficit as a percentage of GNP. The results which were based on the Ordinary Least Square (OLS) estimation model showed that the coefficient of real interest rate differential, growth of domestic economy, changes in exchange rate, foreign interest rate and the fiscal deficit were found to be statistically significant.

In another study conducted by Schineller (1997), the researcher used panel data to analyse capital flight from a group of seventeen developing countries over the period 1978 to 1993. "The econometric study specifically attempted to examine the relationship between capital flight and the degree of macroeconomic mismanagement, postulated to generate a domestically undiversifiable risk than can significantly reduce the returns on domestic investment" (Schineller, 1997:2). The study used the generalised least of squares (GLS) and results showed an "inverse relationship between the central government surplus and capital flight. Thus the findings depicted the motivation of domestic residents to export capital in order to escape future taxation" (Schineller, 1997:3).

It was also found that black market exchange rate was negatively related to capital flight but statistically insignificant. The coefficient on IMF adjustment programmes was found to be statistically insignificant and negatively correlated with capital flight.

Fedderku et al. (1999) carried out a research study on the determinants of capital flows and capital flight in South Africa over the period of 1960-1995. The study estimated autoregressive distribute lag models using three measures of capital flight, that is, the balance of payment and residual and non-bank cross border deposits approach. Hence capital flight was a result of structural instabilities and political risks. The study concluded that capital flight from South Africa is due to risk factors and political factors.

Several studies show that external debts are positively related to capital flight, that is, the higher the external debt is, then the greater the capital outflows from the economy. A study carried out by Chipalkatti and Rishi (2001) in India highlights the hypothesis of a bi-directional, contemporaneous relationship between debt and capital flight. The study concluded that India's case featured a financial revolving door, where external debt and capital flight fuel each other by providing capital for the reverse flow.

Another study conducted by Nyoni (2000), analysed capital flight from Tanzania using time series data for the period 1973 to 1992. The study captured the effects of real growth rates, changes in interest rates, exchange rate differentials and political shock as a dummy. The results of the study depicted that lagged capital flight, real growth rates, changes in interest rates and exchange rate differentials had a significant impact on capital flight, while political shock had no statistical significance.

However, increased domestic income was found to encourage the accumulation of foreign assets, thus indicating that it is negatively related to capital flight from the country. This is in line with the study by Lensink, Hermes & Murinde, (2000) which showed that political instability, political rights and civil liberties are determinants of capital flight. Lensink et al.'s (2000) results showed that civil liberties were one of the factors propelling capital flight from most of the 84 least developed countries.

Boyce and Ndikumana (2002) undertook a study on the determinants of capital flight from thirty Sub-Saharan countries (SSA) including Namibia over the period 1970-1996. The determinants used in the study were put in sub sections of: capital flows and stocks and the study used the annual change in total debt stock as a measure of capital inflows and the stock debt as a measure of debt overhang. The findings showed that external borrowing was an important determinant of capital flight.

Furthermore, inflation showed a positive relationship with capital flight but this was statistically insignificant. "The coefficient of budget deficit was negative and statistically significant at 5 percent" (Njuru, 2012:91). Thus, the important determinants results can be summarised as: capital inflows (annual flow of external borrowing), the macroeconomic environment, fiscal policy, risk and returns to investment, financial development, and political and governance factors.

In another study by Pastor (1990) which focused on analysing capital flight from Latin America during 1973-1986, the variables considered were inflation, interest rates, degree of currency over valuation, capital availability, growth rates differentials and taxes. The study used the residual approach to measure capital flight. The estimation results obtained by the ordinary least square estimation method revealed that the financial variables were significant and had positive signs.

It should be noted that empirical results on the determinants of capital flight differ from country to country due to dissimilarities of the measurements of capital flight and dissimilarities in econometric methods and conditions. Hence Boyce and Ndikumana (2002) summarised them and Table A (in the appendices) depicts the major results on the causes of capital outflows from a selection of 17 studies on emerging economies.

The major findings on capital flight were capital inflows (annual flow of external borrowings), the macro-economic environment, fiscal policy, risk and returns to investment, financial development, political and governance factors. Therefore, there is a gap in literature regarding the link between capital controls and capital flight in Africa and other developing countries. Although the research carried out by Ndikumana et al. (2014) on thirty-nine African countries over the period of 1970-2010 shows that capital control may help prevent capital flight, however, more studies have to be carried out so as to have definitive answers on the correlation of regulatory controls of capital and capital flight.

2.3.11.1 Developed countries

Epstein (2005) in his study of capital flight from Turkey discovered that capital flight was moderately low as a percentage of their GDP which was pegged at 0.32 percent but this however fluctuated rather strongly (between 3 percent and 6 percent). The period between 1971 and 2000 was a period of economic significance for Turkey and this resulted in significant changes in their economic policies. Epstein (2005) also discovered that in this Turkish case, the inflow and outflow of the economic activities cost them the most. This led to the weakening of their economy and thus contributed to their economic catastrophes.

Epstein (2005) concentrated mainly on the issues of power and politics that influenced capital flight in this country from 1971–2001. They used the capital flight insight to look deeper into the influence and contribution of politics into the Chile economy. Their focus was not mainly on ascertaining the contributing factor of capital flight or in calculating the costs, but to consider capital flight as a means or gate way of the active different class of power and politics during this trying time.

The challenge is that capital flight, at its core, is a means to escape social control of someone's assets, they have confidence in the flight among different appellants on these assets, which is one of the characteristics of the tussle for supremacy among these and other classes, and this was to be an important focus area for their study. In closely looking at the history of Chile regarding its political and economic landscape by focusing on capital flight, they realised the influences that would help to explain capital flight in Chile. These influences are: the state of domestic investment opportunities, capital controls and political risk. Epstein (2005) used the influences to explain the ups and downs of the Chilean economy.

2.3.11.2 Developing countries outside Africa

Thailand is one of the developing countries outside of Africa, which was of interest to the researcher. In reference to Epstein (2005) in their reconnoiter of capital flight in Thailand from 1980 to 2000, they found that capital flight was very high during much of that phase, and that at times in the 1990s it even went above 10 to 15 percent of their GDP. According to their analysis, capital flight from Thailand has been significant from 1985 onwards, and it has been attributed to the country being a net creditor. They realised that there are more Thai-owned assets (capital flight) held overseas than Thai residents have appropriated from overseas; while this capital flight is concealed, this overwhelming circumstance is not satisfactorily acknowledged. Out of the many other matters studied by these authors, they discovered a link between capital inflows and capital flight, and the link is that the more inflows a country has, the more the level of capital flight. The authors also discovered that financial liberalisation and predicaments add to capital flight. They also discovered that financial liberalisation spearheads more instability of capital flight. Thus as depicted in the Turkish study, it can be learnt that it is not reasonably the level of capital flight that is essential, but also its volatility. At the end of the study the authors ascertained that the cost of capital flight in terms of forgone investment in the Thai economy is great.

Brazil is one of the interesting case studies due to the fact that it was once a highly indebted country during the period of 1980 to 2001. According to Eryar (2004), Brazil is known for its high foreign indebtedness, thus Brazil's capital flight undoubtedly has costs with regards to misplaced foreign exchange and as a result it has to deal with debt. In the same analysis, Eryar (2004) looked at distinctive 'accumulation strategies' monitored by the Brazilian authorities at various times. Many of the modifications in the strategy by the Brazilian government added to volatility, which, as Eryar (2004) discusses, added to capital flight. Eryar (2004) notes that neo-liberal approaches of financial liberalisation did not perform any superior than other strategies. The creation of swift economic development in Brazil was the only solution to capital flight as concluded by Eryar (2004) in this study on Brazil. In conclusion, corresponding with other authors, Eryar (2004) appealed for the practice or enforcement of capital controls.

There are several studies with regards to China's capital flight. Li, Zhu, and Epstein (2005) discovered a comparable outline in capital flight, which was also discovered by other researchers. China's capital flight was tremendously high at approximately 10 percent of GDP, and this is relatively significant comparatively to foreign direct investment (FDI).

They deliberated on the motivating inconsistency that develops from these findings that China managed to accomplish so exceptionally notwithstanding the fact that China had such high levels of capital flight. They discovered that a considerable amount of the capital flight is 'round- tripped', meaning that it reappears to China as foreign investment. However, the other authors attribute the capital flight on government meddling in the country's economy, including capital controls. The authors advocate that it is government policies, regulations and controls, including management of the capital account, that assist to justify the considerable Chinese economic growth, despite the high levels of capital flight.

2.3.11.3 Selected case studies in Africa

Abdullah (2005) provided some estimates of capital flight in North African countries. The analysis engaged a development comparative approach to the countries of the region which are mainly resource-based driven economies. Specifically, the study provided insights on the capital flight of each country to the model of development that is pursued by that particular country. Resource-based industrialisation states register the largest amount of capital flight, amounting to more than USD 273 billion with accumulated interest earning capital flight more than USD 935 billion. This means that huge amounts of capital produced mainly by natural resources were not allocated to contribute to the wellbeing of the public and to public projects; rather these significant amounts were contributing in the form of capital flight to finance external private assets. On the other hand, state-led development economies and balanced economies of the North African region showed large negative capital flight of USD 102 and 112 billion in 1995 respectively. The capital flight considered in the first model was aided by natural resource exporting rents, the capitalist positioning of most economies of the model and the monarchial character of most of their political systems. However, in considering the last two models of capital flight, they are in contrast from the first in that they are determined by large negative trade through misinvoicing and supported by the inward-looking strategies of the two models, one-party or militarily controlled governments as well as the significant capital controls characterising the two models.

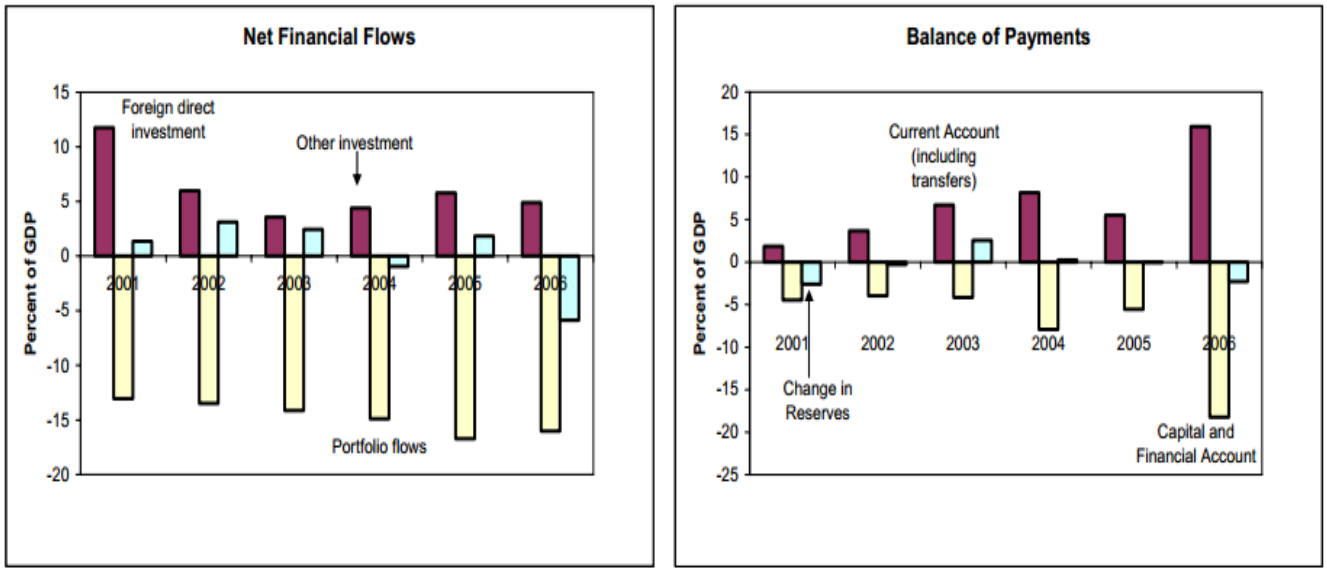
2.4 The role of financial regulations in capital flight

Namibia, like many other developing countries, is faced with capital flight, but it is important to know that different countries have different reasons that promote capital flight. Global Financial Integrity, a company that is based in the Unites States depicted that illicit outflows

have been increasing from developing countries, averaging US$725 billion to US$810 billion per year (Bank of Namibia, 2016); although the reasons of capital flight tend to be the same in most emerging economies.

Firstly, there is need to look at the trend of capital flight before and after the implementation of capital flight regulations in Namibia. Namibia has experienced large capital outflows in the past years. From 2003 to 2005, outflows on the financial account exceeded US$500 million per annum (approaching 10 percent of GDP) and surged to UD$1.3 billion in 2006 (19 percent of GDP). The largest part consisted of net portfolio outflows, which averaged 15.5 percent of GDP. According to the International Investment Position (IIP) data for mid-2007, total gross foreign assets amounted to an estimated 105 percent of GDP, with 70 percent made up of portfolio investments. Thus, South Africa's assets made up approximately 80 percent of both total and portfolio investment. The data is presented in Figure 2.2 below which shows the capital outflows and balance of payments from 2001 to 2006.

Figure 2.2: Namibia net financial flows and balance of payment, 2001-2006



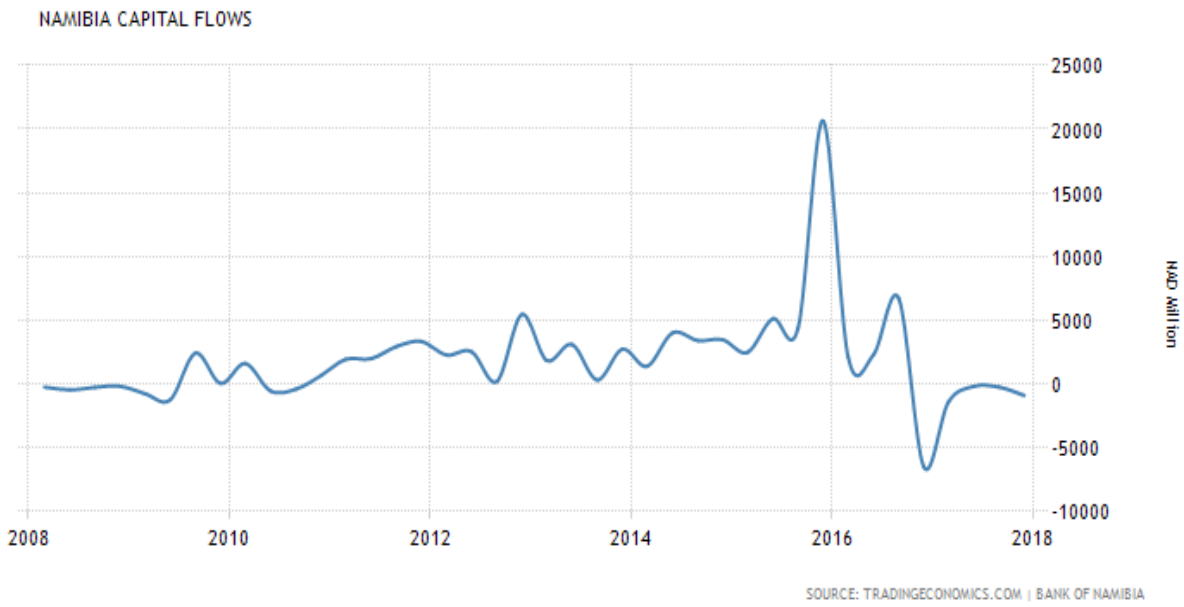
Source: Bank of Namibia, 2006.

Capital outflows from pension funds, life insurance and commercial banks amounted to N$1.8 billion on average between 1990 and 1994. However, it increased to N$2.3 billion between 1995 and 2000. These outflows resulted in the capital account deficit of N$404 million per year on average between 1994 and 2001, of which the highest deficit was N$1.1 billion (Bank of Namibia, 2003).

The IMF country report backed these assertions, indicating that the overall limited investment opportunities in domestic financial markets have led to sizeable outflows of Namibian savings into liquid and relatively developed markets in South Africa (IMF, 2005).

In 2014, Namibia lost about N$4.5 billion through the outflow of money from the economy, of which reinvestments amounted to N$400 million by the banking and non-banking financial sector (Bank of Namibia, 2014). Therefore, in 2014 capital flight was reduced to 41% after the introduction of Regulations 28 and 29. In Namibia, capital flight is mostly influenced by investors looking for high returns and low risks, which is at many times what investors ideally prefer if we were in a perfect world. This is in line with the portfolio adjustment theory postulated by Cuddington (1986). Thus, individuals and investors maximise their asset returns by diverting away from any financial return risk and possible loss on their investments through diversification of their wealth. However, assertions can be made that such behaviour of risk averse by investors has a direct relationship with capital flight. The capital flows of Namibia after the introduction of the regulations are summarised below in Figure 2.3.

Figure 2.3: Namibia capital flows



Source: Bank of Namibia

It can be found that the decision on whether to move or hold capital abroad is based on the amount of wealth, the relative risk and uncertainty, and the relative rates and returns of assets (Hermes et al., 2002). Capital flight in Namibia is mostly generated by economic factors, namely exchange rate, inflation, foreign borrowing, fiscal deficit, foreign direct investment (FDI) and capital outflows. Growth in the economy is a factor considered when coming up with the decision whether one must invest in the local economy or not, therefore it is important for developing countries to create a macroeconomic environment for investors, if they are in to invest locally.

In a research conducted by Geller, Slot, Yikona, Hansen, and Fatima (2016), findings showed that Namibia's lawful and institutional background for curbing corruption is appropriate and among the most practical in the region. However, this does not deter the assertion that Namibia's rate of corruption has a less impact on capital flight. After Namibia's independence, efforts have been made by the government to regulate the flow of capital from Namibia, first by attempting to modify Namibian financial systems and secondly by developing state controls over foreign trade (GRN, 2005). These efforts have continued and they have given birth to Regulations 28 and 29 in 2013. Thus, the next section scrutinised the impact of capital controls on capital flight.

Capital controls

Globalisation has impacted Africa in different ways such that the African continent has evolved to open ended capital accounts. However, regardless of the openness, some countries have policies and controls to restrict the movement of capital out from their countries (IMF, 2015). Empirical evidence highlights that capital flight controls are still in implementary phases in some of the sub-Saharan Africa countries (Ndikumana, 2003; Murinde, 2007). Therefore, the presence of regulations against capital flight is diverse amongst sub-Saharan African countries. Angola and South Africa, among other countries, have tight regulations against capital flight, whilst Uganda and Gambia have the lowest levels of capital outflow controls (IMF, 2012). The levels of controls on capital outflows in an economy might affect capital flight presence in such an economy (IMF, 2012). "The presence of capital controls may encourage capital flight through the development of mechanisms for circumventing these regulations, such as over and under-invoicing, disguising restricted flows as unrestricted flows and derivative products" (Spiegel, 2012).

Furthermore, another assertion is that the absence of capital controls may reduce the incentives to shift funds abroad illegally, thus reducing capital flight. On the other hand, no capital controls mean an easier movement of funds abroad and the level of capital flight increases.
For example, in the case of South Africa the "loosening of capital controls by the government in the post-apartheid period offered more chances for business and individuals to move capital abroad thereby causing more capital flight" (Epstein, 2005:9).

2.5 Conclusion

The chapter probed previous research and works related to the study context. An analysis of various definitions of capital flight, measurement theories of capital flight, determinants of capital flight and analysis were looked at. A review of the determinants of capital flight was done with various determinants discussed. Literature suggests that "poor governance and the lack of management capacity together with natural resource endowment expose countries to high levels of capital flight" (Ndikumana et al., 2014: 23). Although a number of studies propose many potential determinants of capital flight from a country, Ngéno's (2000) study ignored a number of these factors. These include the role of political and governance factors, capital inflows and fiscal policies.

Authors like Boyce and Ndikumana (2002) argue that political instability and poor governance contribute to poor economic performance, higher uncertainty and a negative investment environment thus discouraging investment and causing capital flight.

Empirical literature demonstrates that capital flight tends to persist, signifying that the impact of the causes tends to persevere over time (Djeudo, 2016). One elucidation for the perseverance of capital flight is habit formation, hence action is deliberately made such that capital outflows abroad are executed illegitimately. Since these individuals are amongst the elite, they can avoid or obstruct the authorities. However, financial crime devoted to top management oozes down, thus disintegrating the wholeness of the bureaucracy (MacDonald, 2015).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the activities and methods that were used by the researcher in collecting data from pension fund companies, fund managers and the central bank. It evaluates the methods used for data collection, presentation and analysis to investigate the causes of capital flight. The chapter further presents the model specification and description of variables, study population and sampling procedure, the data collection methodology and analytical techniques. Therefore, the research employed a model to analyse the data. As stated by Ott (1993), for any data to make sense the data has to be first collected, analysed and then interpreted for it to be meaningful. The data collection exercise involves the identification of variables, use of an appropriate design study and ultimately the collection of data itself (Ott, 1993).

3.2 Model specification and description of variables

The study is structured to address the following objectives: investigation of the determinants of capital flight in Namibia and examine the behaviour of capital flight before and after the passage of the two pieces of legislation (Regulations 28 and 29). The study calculated capital flight from Namibia during the period 1990 to 2016 using the methods proposed by Erbe (1985), World Bank (1985), Dooley et al. (1986) and Morgan Guaranty Trust (1986). These methods were selected for this research because of data availability constraints. Therefore, the residual method was the key method that was employed, which is based on the differences between the change in external debt and net foreign investment inflows, and current account deficit and stock of official foreign reserves. Since most studies on capital flight estimations have used the residual method to determine capital flight, the researcher adopted the methods below. The following equation was used:

$$KF_r = \Delta EXTDEBT + FDI - CAD - \Delta RESERVES \quad (3.1)$$

Where KF is capital flight, $\Delta EXTDEBT$ represents change in external debt reported in the World Bank, FDI is the net foreign investment inflows, Cad is the current account deficit and RESERVES is the stock of official foreign reserves (Hermes et al., 2002).

It should be noted that the Morgan Guaranty Trust also measures capital flight as a residual but subtracts the increase in short-term assets of the banking system from total capital inflows, hence the equation of capital flight (KF_m) will be as follows:

$$KF_m = \Delta EXTDEBT + FDI - CAD - \Delta RESERVES - FASSETB \quad (3.2)$$

3.2.1 Model specification

Capital flight was used as a dependent variable in running the model. The following independent variables were used: foreign direct investment, current account deficit, total external debt, change in foreign exchange reserves, and dummy variables of corruption and political uncertainty. The model captured the effects of various macroeconomic variables that are expected to affect capital flight and this is expressed as follows:

$$KFr_t = \alpha_t + \beta_1 FDI_t + \beta_2 CAD_t + \beta_3 TED_t + \beta_4 CFER_t \quad (3.3)$$

Where KFr_t = Capital flight based on the residual method; FDI = Foreign direct investment; CAD = Current account deficit; TED = Total External debt; CFER = Change in foreign exchange reserves.

$$KFm_t = \alpha_t + \beta_1 FASSETB_t + \beta_2 CAD_t + \beta_3 TED_t + \beta_4 CFER_t + \beta_5 FDI_t \quad (3.4)$$

Where: KFm_t = Capital flight based on the Morgan Guaranty Trust method, FASSETB = Foreign Assets of domestic banking systems.

3.2.2 Description of variables

The description of the independent variables in models 1 and 2 is explained in detail below:

Foreign direct investment (FDI) – In recent years, Africa has seen FDIs in the form of foreign banks and these have been major contributors of capital flight. Massa (2014:5) states that "the presence of foreign banks or banks with majority stake by foreigners leads to what has been defined as "capital flight at home", whereby local residents generally perceive branches or subsidiaries of foreign banks as safer than domestic banks, since the former has support of their parent bank". Moreover, if the domestic investment climate offers a higher rate of return as opposed to foreign countries, then it will stimulate growth in FDI and reduce capital flight.

However, if the situation is reversed, investors will seek high returns in foreign countries thus causing capital outflow from the domestic country. Thus, FDI affects capital flight and the relationship needs to be investigated further.

FDIs are also affected by corporate tax as high corporate tax deters investment and affects capital flight. Governments impose taxes in response to fiscal deficit on investors and this causes a reduction in profits in the investments. This encourages capital flight in situations where there are tax incentives to foreign investors, whereas no incentives to domestic investors may also drive capital out of the country. Capital flight results in loss of revenue as the domestic government cannot tax the revenues abroad (Forgha, 2008).

Current account deficit (CAD) – In African states, there are characteristics of large undesirable incongruities amongst the source of foreign exchange and their uses, resulting in a current account deficit (Brada, 2014). Thus, the deficit means that the capital account outflows exceed inflows hence capital flight. Thus, a current account deficit means that a country is investing more abroad than in the domestic market. However, the government responds by taking on debt from abroad since this consumption was not budgeted for and in so doing this creates opportunities of capital flight.

Change in foreign exchange reserves (CFER) – An economy characterised by exchange rate overvaluation will eventually lead to an expected future depreciation. In response to such a scenario, residents in such an economy will transfer their assets abroad. Pastor (1990) shows that real exchange rates play a significant role in the direction and magnitude of capital flight from indebted countries. Therefore, the overall effect of the interaction between the exchange rates is presented in the foreign exchange reserves since the exchange rates affect the foreign exchange reserves positively.

External debt (TED) – In cases where investors access capital from a foreign facility, it will mean that the payment of interest and principal can be considered to be capital flight. As stated by Edsel (2007), external debt provides funds which create conditions for migrating capital outside the domestic economy. Thus, the funds are easily transferred abroad in the name of repayment of external debt.

Table 3.1: Summary of model specifications and description of variables

Variable Name	Description of variable	Measurement	Expected Sign	Data source

FDI	Foreign direct investment	Ratio scale	Positive	Secondary source (BoN & WDI)
TED	Total external debt	Ratio scale	Positive	Secondary source (IFS)
CAD	Current account deficit	Ratio scale	Positive	Secondary source (BoN)
CFER	Change in foreign exchange reserves	Ratio scale	Positive	Secondary source (BoN & NAMFISA)
FASSETB	Foreign Assets of domestic banking systems	Ratio scale	Positive	Secondary source

Source: Author

3.3 Data type, sample and sources

The researcher used secondary data sources to collect data for the research. With respect to this study, secondary data included: Bank of Namibia (BoN), NAMFISA, finance journals, World Bank, International Financial Statistics (IFS) and world development indicators (WDI). The data under consideration was from 1996 to 2016. The data used to calculate the change in stock of external debt was from IFS. Net foreign direct investment was calculated using data from the Bank of Namibia. Current account data and change in reserves was obtained from the WDI and Bank of Namibia.

3.4 Analytical techniques

Data collected was analysed and presented in Chapter Four. Statistical software was used to analyse the data, that is, E-views was used. The study used a portfolio model adopted from Lessard and Williamson (1987) to decide which variables should be taken into account. This was done through a reduced estimation equation. The estimation technique used in the model is ordinary least squares. Moreover, in a study by Ndikumana and Boyce (2002), in order to establish the determinants of capital flight, they used the residual method for analysis and such is the case in the present study. Cuddington (1986) indicates that the starting point for modelling capital flight is a standard portfolio balance or portfolio adjustment model. The same approach was used in the present study.

The portfolio adjustment theory states that capital flight occurs due to an unstable macroeconomic and political environment in developing countries and the concurrent existence of better investment opportunities in developed countries (Dim & Ezenekwe, 2014).

3.4.1 Testing for stationarity

The unit root tests for stationarity were performed on each variable using the Augmented Dicky Fuller test (ADF) as suggested by Granger and Engle (1987). It is the most efficient test among unit tests and is used for regression models in practice. The ADF showed that if the variables used in the regression model possess unit roots then the sample moments do not converge to constant matrices as required by asymptotic characteristics.

The unit root test was done using the following hypothesis: Hypothesis 1: The null hypothesis states that each of the parameter measures has a unit root that is non-stationary.
H_0: Parameter measure has a unit root
H_1: Parameter measure has no unit root

It is important to note that for the successful implementation of the ADF test is the specification of the lag length *p*. That is, if *p* is too small then the remaining serial correlation in the errors will bias the test and if *p* is too large then the power of the test will suffer. Therefore, to resolve this issue the research used information criteria such as Akaike Information Criterion (AIC) and the Schwartz Bayesian Criterion (SBIC) so that the appropriate lag length which minimises the information criteria can be determined. The reason for the choice of these two was because the SBIC selects the correct model with few lags while on average the AIC chooses the model with too many lag orders.

However, the reason why the ADF was chosen among other methods of testing stationarity was because of the fact that its advantages outweigh its limits in this type of research. However, the Phillips-Perron (PP) test may be considered the better alternative to the ADF test since it is a non-parametric test. On the other hand, the PP test is based on an asymptotic theory hence it is designed to test the unit roots in long time series. The downside of the PP is that this assumption is hard to meet in reality. Thus as stated by Pesaran (2015), the PP and ADF tests are asymptotically equivalent. Therefore, the reason why the research adopted the ADF was that it is similar to other tests and also because the limitations of the test were addressed.

3.4.2 Estimation procedure

3.4.2.1 Cointegration

The test for cointegration is done to check if there is a long run equilibrium relationship among variables or not. Engle and Granger (1987 suggested that any co-integrating can be reparametrised as an error correction model. The error correcting term shows the speed with which short term deviations are corrected gradually towards the long run equilibrium. To test for cointegration, the current study used techniques as suggested by Johanssen (1988), and Johanssen and Juselius (1990) on the maximum likelihood technique. The technique uses two test statistics which are trace test and maximum Eigen value, to examine the number of cointegrating vectors among a set of variables.

Consider an *n*-dimensional vector autoregressive (VAR) model:

$$X_t = c + \sum_{i=1}^{l} \pi_i X_{t-1} + \in_t \quad (3.5)$$

Where X_t is an *n x 1*vector of I (I) variables, π is an n x n matrix parameter, and c is a constant. *n* also indicates the number of included variables. The vector $\in_t$ is a white noise which may be contemporaneously correlated. The VAR model can be written in the following error correction form:

$$\Delta X_t = c + \Gamma_1 \Delta X_{t-1} + \cdots + \Gamma_1 \Delta X_{t-l+1} + \prod X_{t-1} + \in_t \quad (3.6)$$

Where ΔX_t is the vector change in period *t*, with:

$$\Gamma_m = -I + \sum_{i=1}^{m} \pi_i \quad , m = 1,2, \dots \dots, k-1 \quad (3.7)$$

$$\Pi = -I + \sum_{i=1}^{n} \pi_i \quad (3.8)$$

I is the identity matrix, Γ is the short run dynamics and Π is the long run coefficient matrix. The Johansen test focuses on the examination of variable Π by looking at the rank of its matrix via its eigenvalues (λ). The values of the rank specify the number of its cointegrating vector.

There are two test statistics for examining cointegration under the Johansen approach, trace test and maximum eigenvalue test. These are formulated as follows:

Trace test:

$$\lambda_{trace}(r) = -T\sum_{i=r+1}^{n} In(1-\lambda_i) \quad (3.9)$$

With the null and alternative hypotheses:

$H_0: r \leq k$

$H_1: r \geq k+1$

Maximum eigenvalue test:

$$\lambda_{max}(r, r+1) = -TIn(1-\lambda_{r+1}) \quad (3.10)$$

With the null and alternative hypotheses:

$H_0: r \leq k$

$H_1: r = k+1$

And k = 0, 1, 2, 3…..n

Both of the tests are conducted in a sequence, starting from *k=0*. If the first null hypothesis is rejected, the second null hypothesis will be tested, and so on until the null hypothesis is no longer rejected. If the rank is zero (the 1st H_0 is not rejected), it would be concluded that there are no cointegrating vectors. If the number of cointegrating vectors is equal to the number of examined variables (full rank), the variable in question is a stationary variable.

Thus, cointegration exists if the rank of the cointegration vector is between $0 < r < n$. The higher the number of the cointegrating vector, the more stable the equilibrium is.

Motivation for use of the Johansen cointegration

The research used the Johansen (1988, 1991) model to test for cointegration since the model allows testing whether two or more series of data cointegrated, that is, basing on the results from the unit root. The test has more advantages compared to the other tests (for example Engle and Granger, 1987).

The Engle and Granger test is conducted using an estimator obtained in two stages, however if an error is encountered in the calculations in the first stage it means that it is transferred to the

second stage. However, the Johansen test uses the matrix rank and eigenvalues which are obtained in a single stage and this is invariant to the choice of the variable selected for normalisation.

Limitations of the Johansen cointegration

It assumes that the cointegration vector does not change during the period of study, however, this might not be the case as long-run relationships between underlying variables adjust. This might be due to economic crisis, political risk, technology advancements and institutional development. This limitation was mitigated by using the cointegration tests postulated by Gregory and Haven (1996) which have one and two unknown structural breaks. However, such tests are not applicable in this study.

3.4.2.2 Diagnostic tests

The diagnostic test was performed so as to evaluate whether the model used is adequate and reliable. Therefore, the tests used are auto regression test and white test.

3.4.2.3 Identifying the long run relationship

The advancements in applied time series econometric literature has brought forward assertions that state that non-stationary macroeconomic variables can become stationary through the combination of two or more non-stationary variables with common stochastic trends. The variables X_t and Y_t are held to be cointegrated if they follow a common stochastic trend and their linear combination which yields a stationary process (Engle & Granger, 1987). Testing for cointegrated series requires the use of either the Johansen (1988) or Engle and Granger (1987) cointegration techniques. Thus for this research, the long run relationship was derived from the cointegration technique used. Therefore, using cointegration methods on non-stationary level data preserves more of the original information in the data, which can be beneficial for establishing long-run relationships.

3.4.2.4 Identifying the short run relationships

When the model has a long-run cointegrated relationship, then the short-run diverges can be understood by specifying an error correction model (ECM).

When variables are cointegrated, we use the ECM model (restricted Var) and if variables are not cointegrated, we use the unrestricted Var. The ECM relates the short-run deviations to the long-run relationships with an error correction term (γ_1) that must have a negative coefficient value of less than 1 to be stable. Therefore, ECM is a two-step procedure whereby the first step involves estimating the long-run relationship using the Johansen method and the second step involves estimating the short-run equation.

3.4.2.5 Short run relationship model specification

The next step is the formulation of the short-run equation of the first difference of the independent variables and ECM on the first difference of capital flight. The error correction term is used to capture the dynamic relation of the adjustment in the short run.

A statistically significant ECM indicates the speed of adjustment in the short-run capital flight when long-run equilibrium occurs (unregistered Var). Therefore, the ECM model is as follows:

$$\Delta KFr_t = \alpha_t + \beta_1 \Delta FDI_t + \beta_2 \Delta CAD_t + \beta_3\, \Delta TED_t + \beta_4\, \Delta CFER_t + \beta_5\, \Delta ECM_{t-1} + \varepsilon t \quad (3.11)$$

Where KFr_t = Capital flight based on the residual method; FDI = Foreign direct investment; CAD = Current account deficit; TED = Total External debt; CFER = Change in foreign exchange reserves.

$$\Delta KFm_t = \alpha_t + \beta_1 \Delta FASSETB_t + \beta_2 \Delta CAD_t + \beta_3 \Delta TED_t + \beta_4 \Delta CFER_t + \beta_5 \Delta FDI_t + \beta_6\, \Delta ECM_{t-1} + \varepsilon t \quad (3.12)$$

The error correction model equation states that change in capital flight depends on ΔFASSETB, ΔCAD, ΔTED, ΔCFER, ΔFDI and also on the equilibrium error term of the previous period (ΔECM_{t-1}). If the error correction term is non-zero then the model is not at equilibrium.

3.5 Conclusion

The chapter explained how the researcher carried out the research. It encompassed the research design, research population, research sample and the justifications for using the research design. Data collection methods, data validation and data presentation were also discussed in the chapter.

The explanatory research design was adopted and it targeted the listed companies on the Namibian stock exchange only. Secondary data collection methods were used to collect information from the market. The chapter briefly outlined a plan on how data were to be organised, compressed and assembled to analyse and present the findings on the research topic. The next chapter, Chapter Four, presented and analysed the findings from the market.

CHAPTER FOUR

DISCUSSION OF FINDINGS

4.1 Introduction

This research investigated the challenges that Namibia faces with regards to the outflow of capital, known as capital flight. To solve the problem of capital flight, the Namibian

government introduced Regulations 28 and 29 in an effort to put a restructure measure and help retain some funds in the domestic market, eventually supporting local economic developmental activities. The current chapter provides a presentation and analysis of the findings in line with the research design assumed in Chapter Three. Data are presented and analysed quantitatively with respect to the research questions.

4.1.1 Results from the measurement of capital flight

This section shows the estimates of capital flight based on the database and time frame, through the use of definitions and methods discussed in Chapter Three. The results first show the estimates of capital flight according to the residual method and this is compared to previous work. The data used in the calculation is presented in the appendix.

The results show that during the period 1990 – 2000, Namibia had a total of US$56 million capital flight using the residual method. This could be explained by changes in macroeconomic stability and possible uncertainties associated by the change from the South African Rand to the Namibian dollar. On the other hand, capital flight estimates for the same period using Morgan Guaranty method ($KF_{m)}$ had capital inflows because of the changes in the short-term foreign assets of the domestic banking system. The period 2001 to 2010 showed a pattern of capital inflows from both measures of capital flight. This was mainly attributable to a favourable current account balance in that period.

The period 1998 - 2016 showed a mixed picture regarding capital flight measures using the residual method and Morgan Guaranty method. From 2014 – 2016 after the passing of Regulations 28 and 29, there is evidence of increased capital outflows. Therefore, using the residual method, capital outflows were experienced, that is, from 2010 to 2016 there was US$13 billion outflow and the Morgan Guaranty method shows that in the same period capital outflows of US$10.5 billion were experienced. Thus, the two measures give similar results.

Table 4.1 Namibia: Estimates of capital flight, 1990-2016

(in millions of US dollars)	KF_r	KF_m
1990	43.172	4.356
1991	4.554	-32.624
1992	69.740	32.419
1993	56.737	93.719
1994	75.646	132.179
1995	-0.068	89.676
1996	35.599	9.737

1997	68.413	-125.849
1998	-13.414	-258.545
1999	-107.339	-479.221
2000	-176.867	-559.644
2001	41.936	-236.879
2002	-64.565	-213.381
2003	-407.435	-459.363
2004	-512.710	-589.461
2005	-523.844	-613.158
2006	-433.881	-536.001
2007	-514.126	-654.676
2008	363.263	132.703
2009	384.657	164.537
2010	913.477	573.027
2011	1859.473	1581.363
2012	2004.729	1533.749
2013	2296.105	1768.865
2014	1880.597	1477.337
2015	2985.511	2624.731
2016	1979.417	1480.647
TOTALS		
1990-2000	56.13	-1093.797
2001-2010	-753.226	-2432.65
2011-2016	13005.83	10466.69

Source: Author's estimates from research data

However, capital flight from Namibia according to the Bank of Namibia Report (2014) reached N$4.5 billion on average and it was mainly from pension funds, life insurance and commercial banks for the period 2013-2014; thus, showing similar effects with slightly different results from the study (US$4.2 billion as per residual and US$3.2 billion as per the Morgan Guaranty method). However, the difference in results can be as a result of different methods used in measuring and defining capital flight. The estimate and scale of capital flight differs with the definition employed at different country levels (Boyce & Ndikumana, 2002).

The Bank of Namibia measured capital flight by subtracting the inflows from the outflows of FDIs, portfolio investment and other investments. Empirical literature on the measurement of capital flight in Namibia is limited to that carried out by the Bank of Namibia. It should be noted that the methodology used to measure capital flight in this study is similar to most empirical literature found on capital flight whereby the balance of payment is taken into account for estimating all measures of capital flight from developing countries.

4.2 Descriptive statistics

The results showed that the average amount for CAD for the period was a negative 113 million, external debt also had a negative 0.6 million and reserves had a negative of 5.6 million. Whereas, the average amount of FDI was found to be 337 million together with FASSETB which had a mean of 198 million. Capital flight measures also showed an average amount of 455 million and 257 million for KFR and KFM respectively. Capital flight measured using the residual method (KFR) had the highest average of the period that is, the central value of the data was pegged at 455 million.

The lowest amount for CAD was pegged at a negative 1.6 billion US dollars for the period 1990 to 2016. EXTDEBT, FDI, RESERVES, FASSETB, KFR, and KFM had the lowest amount for the period at negative 13 million, 1.5 million, negative 0.5 million, negative 532 million and negative 654 million US dollars respectively. Thus, the minimum represents the lowest figure for the different variables under scrutiny during the period 1990 to 2016. CAD had the biggest minimum value of negative 1.6 billion US dollars in 2015, since it was a year coupled with the externalisation of funds and capital outflows which in turn affected the current account balance.

Table 4.2: Descriptive statistics of the variables

	Mean	**Standard Deviation**	**Minimum**	**Maximum**	**Observations**
KFR	455.8791	997.0372	-523.844	2985.511	27
KFM	257.0446	882.5049	-654.676	2624.731	27
CAD	-113.584	674.11	-1600.22	1082.363	27
EXTDEBT	-0.67707	7.54233	-13.651	20.35	27
FDI	337.3602	361.4259	1.593	1183.091	27
RESERVES	-5.61211	230.5462	-521	758	27
FASSETB	198.8346	177.1147	-89.745	527.24	27

Source: Author's estimates from research data

The maximum value in Table 4.2 shows the highest or largest amount found from the various variables in the period of concern. The highest amount for CAD was 1.08 billion US dollars for the period 1990 to 2016. All the variables had positive maximum values, that are 20 million, 1.1 billion, 758 million, 527 million, 2.9 billion and 2.6 billion US dollars for EXTDEBT, FDI, RESRVES, FASSETB, KFR and KFM respectively. Thus, KFR had the largest maximum amount of 2.9 billion in 2015 which was due to the increased value of capital flight determinants in that year. The table above shows that CAD has a standard deviation of 674 million US dollars, indicating that the majority of the values in the period under scrutiny are far from the

average, in this case the mean of CAD is a negative 113 million. The standard deviation of EXTDEBT, RESERVES, KFR and KFM are outliers as the amounts are farther away from the mean. However, the standard deviation of FDI and FASSETB are clustered around the mean, that is, 361 million is near 337 million and 177 million is near 198 million. The study had 27 observations, that is, the time frame from 1990 to 2016.

4.3 Model estimation credibility tests

4.3.1 Unit root test

After performing the unit root test on the independent variables as shown in the appendix, the researcher tested the stationarity of the variables at 95% confidence using the Augmented Dickey Fuller test.

The summary of findings is presented below:

Table 4.3: Stationarity results

Parameter measure	Conclusion
Foreign Direct Investment	Reject H_0
Current Account Deficit	Reject H_0
Total External Debt	Reject H_0
Change in Foreign Exchange Reserves	Reject H_0

Source: Eviews

The ADF tests showed that none of the variables had a unit root and we can conclude that at 5% level of significance all the suggested variables to the regression model had stationary data since for a model to be complete it must be variable with stationarity for regression purposes.

4.3.2 Results of diagnosis tests

4.3.2.1 Bivariate correlation Analysis

Another prerequisite for a regression model is to check for multicollinearity, that is, to check whether the variables used in the model correlated or not. Therefore, the test was done for the dependent variable and the independent variables in the regression equation. The findings are shown below.

Capital Flight versus FDI, CAD, TED and CFER

Table 4.4: Correlation between KF, FDI, CAD, FASSETB AND RESERVES

	CAD	EXTDEBT	FASSETB	FDI	FDI	RESERVES
CAD	1.0000	-0.436626	-0.673801	-0.520128	-0.642100	0.370066
EXTDEBT	-0.436626	1.000000	0.078554	0.354048	0.500830	-0.113034

FASSETB	-0.673801	0.078554	1.000000	0.498154	0.588270	-0.266374
FDI	-0.520128	0.354048	0.498154	1.000000	0.679461	0.116513
KFM	-0.642100	0.500830	0.588270	0.679461	1.000000	-0.443708
RESERVES	0.370066	-0.113034	-0.266374	0.116513	-0.443708	1.000000

Source: Author's computation from Eviews

The results show that there is a negative weak relation between current account deficit and the capital flight of -0.64. The correlation matrix above shows the direction and strength of the relationships between the dependent variable and the independent variables. Thus CAD negatively influences KF to a certain extent (-0.64); the same with change in foreign exchange reserves and foreign direct investment which are characterised by negative impacts of -0.44 and a positive relation with FDI of 0.67. On the other hand, total external debt influences CF to a certain extent although this is not that strong (0.501). The variables show no strong correlation between each other and it can be said that the variables do not present a threat of multicollinearity.

4.3.2.2 Cointegration test

The cointegration test was carried out to satisfy the condition of no long run equilibrium relationship among the variables of the study. Thus, the results showed no cointegration between the variables for capital flight measured through the residual method (KF_r). Table 4.5 below shows no existence of cointegration equation at 5% significant level. This cointegration equation depicts that no linear combination exists between the variables that forces these variables to have a relationship over the entire period of study.

Table 4.5: Johansen Cointegration trace results

Hypothesized Number of Cointegrating equations	Trace statistic	0.05 Critical value	Probability	Significance level at 5% level	Conclusion
None	55.60608	57.85613	0.0790	_____	No cointegration
At Most 1	23.66811	29.79707	0.2148	_____	No cointegration

At Most 2	7.855772	15.49471	0.4809	_____	No cointegration
At Most 3	0.452225	3.841466	0.5013	_____	No cointegration
At Most 4	0.301124	0.337341	0.2293	_____	No cointegration

Source: Author's computation from Eviews

Table 4.5 above shows no existence of cointegration equation at 5% significant level. This cointegration equation depicts that no linear combination exists between the variables that forces these variables to have a relationship over the entire period of study.

Table 4.6: Johansen Cointegration results Max-Eigenvalue test

Hypothesized Number of Cointegrating equations	Max-Eigenvalue Statistic	0.05 Critical value	Probability	Significance level at 5% level	Conclusion
None	31.93797	37.58434	0.1129	_____	No cointegration
At Most 1	15.81234	21.13162	0.2360	_____	No cointegration
At Most 2	7.403547	14.26460	0.4426	_____	No cointegration
At Most 3	0.452225	4.011476	0.4223	_____	No cointegration
At Most 4	0.301124	0.337341	0.2293	_____	No cointegration

Source: Author's computation from Eviews

The Max-Eigenvalue test results table above shows that there is no cointegration among the equations at the 5% level confirming the trace test. Thus the two tests show that there is no cointegration relationship over the period under study.

The results from the cointegration test done on the variables of capital flight measured by the Morgan Guaranty method (KF_M) also showed no cointegration. The analysis depicted the results below.

Table 4.7: Johansen Cointegration trace results

Hypothesized Number of Cointegrating equations	Trace statistic	0.05 Critical value	Probability	Significance level at 5% level	Conclusion
None	57.20203	58.01522	0.0991	_____	No cointegration

At Most 1	29.78618	30.88765	0.2479	_____	No cointegration
At Most 2	8.908732	16.87652	0.4610	_____	No cointegration
At Most 3	0.679064	5.914879	0.5193	_____	No cointegration
At Most 4	0.456723	0.543107	0.2146	_____	No cointegration

Source: Author's computation from Eviews

Table 4.7 shows no existence of cointegration equation at 5% significant level. Since we reject the null hypothesis if trace statistic is greater than critical value at 5% level of significance. In our case all the equations have trace statistic is less than the critical value. Therefore, we conclude that there is no cointegration between the variables.

Table 4.8: Johansen Cointegration results Max-Eigenvalue test

Hypothesized Number of Cointegrating equations	Max-Eigenvalue Statistic	0.05 Critical value	Probability	Significance level at 5% level	Conclusion
None	34.71093	38.66436	0.1423	_____	No cointegration
At Most 1	17.47825	22.90214	0.2526	_____	No cointegration
At Most 2	7.982375	13.10038	0.4170	_____	No cointegration
At Most 3	0.463213	3.854714	0.4664	_____	No cointegration
At Most 4	0.304519	0.478145	0.2847	_____	No cointegration

Source: Author's computation from Eviews

The Max-Eigenvalue test results table above shows that there is no cointegration among the equations at the 5% level confirming the trace test. Since the Ma-Eigen statistic is less than the critical value, we do not reject the null hypothesis. Thus the two tests show that there is no cointegration relationship over the period under study.

4.3.2.3 Short run Error Correction Modelling (ECM)

The variables are not cointegrated and we use the unrestricted Var ECM. Therefore, the short-run dynamic reduced form equation for capital flight measured by residual model from Namibia appeared to be relatively good as shown by the adjusted R-squared value of 81 percent and a high F-statistic value of 29.6. Hence the ECM results confirm the appropriateness of the error correction approach framework. The results of the ECM model are depicted in the appendix

(ECM Short-run results). Also the capital flight measured through the Morgan Guaranty method was good with an adjusted R-squared value of 80 percent and an F-statistic of 28.

4.3.2.4 Autoregressive conditional heteroscedasticity test (ARCH)

The research also used the ARCH as a diagnosis test so as to validate the use of the underlying variables and the results are depicted below:

ARCH results

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FASSETB	-2.3E-13	3.8E-13	-2.4E+00	0.0348**
CAD	-1.5E+00	1.2E-16	-3.9E+15	0.0700*
EXTDEBT	9.0E-01	3.9E-14	4.7E+13	0.1100
FDI	1.1E+00	2.6E-16	1.1E+15	0.2400
RESERVES	-0.727	4.12E-16	-2.69E+15	0.0000***

*Notes: ***, ** and * denotes significance at 1%, 5% and 10% respectively*

The results of the ARCH test are not different from the error correlation model and they are also supported by the cointegration tests. Thus, the heteroscedastic standard error independent variables are justified in the ARCH test by rejecting the existence of heteroscedastic disturbances. Therefore, we can conclude that there is no heteroscedasticity between the variables and thus justify the use of the underlying variables.

4.4 Determinants of capital flight

4.4.1 The role of regulations 28 and 29

The role of Regulation 28 and 29 was scrutinised using the Namibian context and the results found are depicted below under the two models:

Long run regression equation

Model results: Equation 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.25E-13	1.48E-13	-3.540534	0.00180***
CAD	-1.000E+00	2.08E-16	-4.81E+15	0.00000***
EXTDEBT	1.000E+00	1.48E-14	6.75E+13	0.00000***
FDI	1.000E+00	3.53E-16	2.83E+15	0.00000***
RESERVES	-1.000E+00	5.03E-16	-1.99E+15	0.00000***
R-squared	1.000	Mean dependent var		455.8791
Adjusted R-squared	1.000	S.D. dependent var		997.0372
S.E. of regression	5.06E-13	Sum squared resid		5.63E-24
F-statistic	2.53E+31	Durbin-Watson stat		1.22603
Prob(F-statistic)	0.00E+00			

*Notes: ***denotes significance at 1%,*

The above model was fitted using Eviews package. Thus, the parameter estimate of the coefficient of a predictor variable indicates the magnitude of strength of influence that the particular regressor has. Therefore, a higher value indicates a stronger influence and a lower value depicts a weaker influence. The sign of the parameter estimate shows the direction of the effect.

The results show that the value of the coefficient of CAD (current account deficit) is -1, which means that a unit increase in CAD will cause a decrease in capital flight by 100%. Reserves (change in foreign exchange reserves) have a negative impact on capital flight and will cause a unit change of -100% on capital flight. A percentage change in EXTDEBT (external debt) will cause the capital flight to change by a magnitude of 100% in the same direction of change.

Moreover, a unit increase in FDI will cause a positive change of 100% in capital flight in the opposite direction. All the independent variables have a significant level under 5% and therefore are considered to be significant to the study. Therefore, all the variables affect the model and they should be considered.

In terms of model checks, the model has an R-squared which represents the coefficient of determination of 100%, meaning that 100% variation of capital flight around the mean are explained by FDI, CAD, RERSERVES and EXTDEBT. Another test that also validates the model fitness is the Durbin-Watson statistic. The decision criterion is that when the Durbin-Watson statistic is less than the R-squared in a model, not minding the significant level, such a model is said to suffer from multicollinearity positive first order auto correlation and spurious regression. Therefore, the Durbin-Watson statistic is 3.05 which is greater than the R-squared in the study of 1, and with reasonable number of the significant factors, the model is free from multicollinearity, positive first order autocorrelation, estimation bias emanating from wrong specification of model and spurious regression.

Since the overall significance of the model is determined by checking the probability value of the F-statistic in the table of the output, if this value is less than 5% then it is said that the fitted model is significant. In our case, the p-value of the F-statistic is 0.0018, thus the overall regression model is significant.

The regression equation above indicates that holding other factors constant (CAD, EXTDEBT, RESERVES and FDI), the capital flight in Namibia would decrease by a factor of 5.25E-13. The inclusion of the dummy variables so as to realise the effects of political uncertainty and corruption failed to reveal any significant estimates, hence they were not included in the final regression equation.

Model results: Equation 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	178.1659	96.62108	1.843966	0.0078***
CAD	-1.15832	0.137186	-8.44343	0.0000***
EXTDEBT	12.28537	8.797166	1.396514	0.0175**
FASSETB	-0.235791	0.455481	-0.517675	0.6099
RESERVES	-0.447913	0.263713	-1.698488	0.0105**
R-squared	0.910191	Mean dependent var		257.0446
Adjusted R-squared	0.893863	S.D. dependent var		882.5049
S.E. of regression	287.5089	Akaike info criterion		14.32596
Sum squared resid	1818550	Schwarz criterion		14.56593
Log likelihood	-188.4005	Hannan-Quinn criter.		14.39732
F-statistic	55.7414	Durbin-Watson stat		1.549711
Prob(F-statistic)	0.0000			

*Notes: *** and ** denotes significance at 1% and 5% respectively*

The above results show that CAD has a coefficient of -1.158, which means that a unit increase in CAD will cause a decrease in capital flight by a magnitude of 116%. RESERVES also have a negative effect on capital flight and will cause a unit change of 44, 8% on capital flight. EXTDEBT will cause a positive percentage change in capital by 12.285, that is, EXTDEBT is directly proportional to capital flight.

More so, a unit increase in FASSETB (foreign assets of the domestic banking system) will cause a negative change of 23.6% in capital flight in the opposite direction. All the independent variables have a significant level under 5% except FASSETB which is higher than 5% (60.1%), and therefore they are considered to be significant to the study. Thus, FASSETB is not considered in the model.

In terms of model checks, the model has an R-squared which represents the coefficient of determination of 91%, meaning that 91% variation of capital flight around the mean is explained by CAD, RERSERVES and EXTDEBT.

To validate the model, another test was used for model fitness which was the Durbin-Watson statistic. The decision is based on the condition that when the Durbin-Watson statistic is less than the R-squared in a model, not minding the significant level, such a model is said to suffer from multicollinearity positive first order auto correlation and spurious regression. Therefore, the Durbin-Watson statistic is 1.55 which is greater than the R-squared in the study of 0.91, and with a reasonable number of significant factors, the model is free from multicollinearity positive first order autocorrelation estimation bias emanating from wrong specification of model and spurious regression.

However, the overall significance of the model is determined by checking the probability value of the F-statistic in the table of the output. If this value is less than 5% then it is said that the fitted model is significant. In our case, the p-value of the F-statistic is 0.0078, thus the overall regression model is significant. The regression equation above indicates that holding other factors constant (CAD, EXTDEBT and RESERVES), the capital flight in Namibia would increase by a factor of 178.17.

The regression results from all equations are remarkable and consistent with the theory. The results strongly support the findings by Cuddington (1986), which pointed at such factors as external debt, foreign direct investment, and current account deficit, although the study by Cuddington (1986) had more determinants of capital flight than the current study. To sum up, Equation 1 makes the best equation above and appears to have residuals that have no white noise. The two equations produce results which are consistent with the theory and which are relevant for the Bank of Namibia.

Summary of results of residual method

Variable Name	Description of variable	Significant to study	Sign
FDI	Foreign direct investment	Significant	Positive
EXTDEBT	External debt	Significant	Positive
CAD	Current account deficit	Significant	negative
RESERVES	Foreign reserves	Significant	negative

Source: Author

Under the first model it was found that all the variables affect capital flight at 5% level of significance in different directions. The results are in line with the study done by Boyce and Ndikumana (2002) on the determinants of capital flight in Sub Saharan Africa and found that

the determinants of capital flight were total external debt, FDIs, current account deficit, and the tradings of the country measured through the foreign reserves. However, Pastor (1990) interdicts in that he depicted that capital flight was determined mostly by financial variables (inflation, interest rates, degree of currency valuation, growth rates differentials and taxes).

Summary of results of the Morgan Guaranty method

Variable Name	Description of variable	Significant to study	Sign
FDI	Foreign direct investment	Significant	Positive
EXTDEBT	External debt	Significant	Positive
CAD	Current account deficit	Significant	Negative
RESERVES	Foreign exchange reserves	Significant	Negative
FASSETB	Foreign Assets of domestic banking systems	Not Significant	Negative

Source: Author

The model results showed that capital flight as measured through the Morgan Guaranty method was due to CAD, EXTDEBT, FDI and RESERVES and are significant at 5% level of significance. This is in line with the study carried out by Murinde, Hermes and Lensink (1998) on the determinants of capital flight in Sub Saharan African countries. The study by Murinde et al. (1998) concluded that debt flows have a positive effect on capital flight, whilst FASSETB has a negative effect. Furthermore, Hermes and Lensink (1992) found that FDI has a positive effect on capital flight, CAD has a negative effect, whilst interest rates and government policies have a positive effect on capital flight. The research also showed that inflation has no effect on capital flight.

4.4.2 Other determinants of capital flight

The above results indicate that the capital flight as measured by the two methods is determined by FDI, CAD, RESRVES and EXTDEBT. However, the determinants of capital flight are not limited to the ones found above as there are other factors that can also be considered. Such factors are discussed under this section. In a similar study on the determinants of capital flight by Ajayi (1992) using the regression method (OLS), it was found that capital flight can be a result of real interest rates changes, change in exchange rates and fiscal deficit.

In some cases, capital flight as seen as capital outflows from the domestic economy was caused by non-macroeconomic factors but rather policies and regulations of the country. This concurs with the research by Schineller (1997), who used panel data to analyse determinants of capital

flight. The results showed that capital outflow was due to domestic residents trying to avoid policies for future taxation and stringent regulatory frameworks.

Capital flight can be highly attributable to external borrowing as purported by several authors like Boyce and Ndikumana (2002), Njuru (2012), and Pastor (1990). Most developing counties especially in the Sub Saharan Africa are in need of capital to fund development and their economies. But the major problem is that domestic financial institutions do not have the necessary facilities to cover such projects. Thus they resort to borrowing externally and therefore leading to capital outflows when it is time for repayments or interest payments. The determinants of capital flight are summarised in the appendices in tabular form showing the effects on capital flight, that is either positive or negative, and they are grouped according to research on developing countries only.

4.5 Conclusion

The chapter focused on the analysis of capital flight, with the goal of trying to reveal the relationship of Regulations 28 and 29 on capital flight in Namibia. The findings showed that the independent variables relating to capital flight explain the movement of capital outside the host country. Thus, for reference sake, theoretical explanations were provided in every case to highlight the inherent relationship.

CHAPTER FIVE

CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Introduction

The previous chapter (Chapter Four) gave an analysis and presentation of the research findings. The current chapter (Chapter Five) presents a summary of the research findings of this study. The chapter also provides conclusions and discussions drawn from the research findings and gives recommendations on capital flight and how Regulations 28 and 29 can effectively reduce capital outflow. The chapter also provides further study areas at the end of the chapter.

5.2 Summary findings

The research investigated capital flight in Namibia, the main focus being the determinants of capital flight and an examination of capital flight before and after the introduction of Regulations 28 and 29. The researcher used quantitative techniques to come up with research conclusions. The techniques helped in addressing the research objectives, which enabled the making of valid conclusions and recommendations. Capital flight was measured by the balance of payment method, World Bank (1985) and the Morgan Guaranty Method (1986) of the residual approach. The determinants of capital flight were identified through a regression analysis, using a portfolio adjusted model to determine the best fit variables for the equation that best explains capital flight.

5.2.1 Measurement of capital flight

Capital flight was calculated using the two residual method techniques, that is, the residual method of the World Bank (KFr) and the Morgan Guaranty test (KFm). From 1990 to 2000, Namibia had a capital flight of US$56.13 million (as per KFr) and capital inflows of US$1.093 billion (as per KFm). From 2001 to 2010, both methods showed capital inflows of US$753.23 (KFr) and US$2.4 billion (KFm). The last period of 2011 - 2016 showed an estimated total of US$13 billion in capital flight (KFr) and US$10 billion (KFm).

It should be taken into account that the difference between the two methods led to different estimate figures of capital flight. The Morgan Guaranty Method excludes the acquisition of foreign assets by banks as capital flight, whilst considering acquisition of foreign assets by other agents as capital flight (Cuddington, 1986). This affects Namibia since its major banks are foreign-owned, as a result they send money to their parent company countries thus causing capital flight.

Results also showed that investment in shares and equities outside Namibia were quite high in 2015, which was the period when the regulation was introduced. Thus shares and equities abroad proved to have better return on investment compared to the ones offered in Namibia and as such, investors chose where they would have added value to their capital. This goes in line with the portfolio adjustment model which depicts that investors seek to maximise profits by apportioning their funds amongst domestic and foreign investments according to the relative risk-adjusted rates of return at home and abroad (Boyce & Ndikumana, 2002).

The study aimed at providing statistical inferences to investigate capital flight in Namibia, as well as identifying the determinants and the impacts of Regulations 28 and29 on the capital outflows. Therefore, this objective was met through the use of a regression model to fully acknowledge the relationship. The model depicted that not all the factors identified as determinants of capital flight in Namibia were significant to the research and factors such as corruption and political uncertainty were insignificant to the research. The research highlighted four variables as the determinants of capital flight as measured by the residual method (KFr), that is, foreign direct investment, external debt, current account deficit and change in foreign exchange reserves. These variables accounted for 100% variation of the capital flight in Namibia.

The model was based on the definition of capital flight by the World Bank (1985), which states that capital flight is the sum of gross capital inflows and the current account deficit less the increases in official foreign reserves, where capital inflows are the sum of net direct investment and changes in gross public and private debt. External debt was found to positively influence capital flight in both equations of the model. This shows the important role played by external indebtedness in propelling outflows of capital from the domestic country since large amounts of external debts create uncertainty about future taxes. Furthermore, this might cause a possible loss of real returns on the residents' hard earned income. Thus, with this in mind, economic agents hold firms to these expectations which would cause residents to avoid the potential capital loss by converting into foreign claims.
The results from equation 1 and equation 2 are consistent with the portfolio adjustment theory and most empirical studies have found evidence of a positive relationship between capital flight and external debt (Boyce & Ndikumana, 2002; Hermes & Lensink, 1992).

The results from the model show that the estimated coefficient of foreign direct investment is very high, implying that FDI is a robust variable that affects capital flight in Namibia. The models show that a unit increase in FDI will increase capital flight by 100%, whilst other factors held constant. This is in not in line with the model proposed by Alan and Quazi (2003) whereby they formulated a model to check which variables affect the capital flight in Bangladesh. More so, the study by Boyce and Ndikumana (2002) showed a negative impact of FDI on capital flight that is conflicting with the results of the present study.

Moreover, the current account deficit showed a negative relationship with capital flight, meaning that an increase in current account deficit would result in a decrease of capital flight. This is because of the fact that a current account deficit in short means that a country is investing more abroad than it is investing in its own home country. Thus, in an attempt to correct the GDP, the country might find external debt as the answer. Tahir, Mahmood and Ahmad (2009) found that current account disparities were the reasons why countries sought external debt and, in a way, enable capital flight.

5.3 Policy recommendations

The following are policy recommendations that may be used to address the issue of capital flight in Namibia and how effective Regulations 28 and29 might be in order to reduce capital outflow from the country. Therefore, based on the findings, the following policy options could be applied so as to reduce capital flight. The government could formulate policies such as the fiscal and monetary policies that are inclusive of factors tailored at reducing capital flight. This would mean adopting appropriate policies that encourage a stable macroeconomic environment at the same time reducing foreign borrowing to avoid running into deficits. In order to do so, there are several prerequisites that should be in place like the determination of the level of spending which should not be based on political grounds and tax revenue should be adjusted after considering the cost benefit analysis of such a move. Therefore, there is a need for an effective budgetary process so as to make sure that the financing of any expenditure is tenable and within the prescribed spending limits.

The government also has several policy options that it can adopt so as to ensure that Regulations 28 and 29 are implemented and that the rate of capital flight is reduced. From the study it was found that FDI negatively influences capital flight. Therefore, as a way to curb capital outflow, the government can create a favourable investment climate so as to encourage FDIs (thus reducing capital flight) and in the process mitigating the capital flight problem.

Furthermore, in the event of increased FDI flow into the country, it will mean increased GDP growth which will be sufficient enough to deter capital flight, that is, all things held constant. However, the policy in place should foster an improved economic outlook including better tax reforms, real estate markets and better bank regulation policies. Empirical results have suggested that capital outflows can be reduced by policies that promote economic growth and deepen financial markets (Sawyer & Arestis, 2013). But to achieve this, there are several

prerequisites that should be in place and these include: level the legal and administrative systems for domestic investors and most importantly emphasis should be placed on achieving a stable macroeconomic environment.

Furthermore, on the aspect of policy setting and achievement of consistent and effective policies tailored at the reduction of capital flight, another macroeconomic variable should be scrutinised. Thus, policymakers should make sure that inflation is monitored strictly because it has an influence on other macroeconomic variables like the interest rates and exchange rates, and their indirect impact on GDP growth. For instance, inflation can cause currency overvaluation in real terms and affect fiscal and monetary policies due to expectations which cause capital flight.

Namibia under its Vision 2030 initiative seeks to achieve improved economic and social welfare for the country and to do, so it needs to deal with the external debt problem. Suggestions have been made at trying to mitigate the external debt problem and all recommendations can be summed up into strengthening the measures and cultivating the right policies. However, this is easier said than done as it involves the efficiency of the country as a whole in policy setting and implementation and adopting an effective sustainable growth model which will in the long run reduce the debt.

It should be stated that the issue of external debt needs interventions from external parties because of the size of the debt. Therefore, the country can seek assistance from the IMF and World Bank under the highly indebted poor countries programme (HIPC) as a way to reduce debt. The HIPC programme is beneficial in that countries under this scheme can receive debt pardoning and the debt is reduced. Therefore, the country will have used nothing in terms of financial capacity to repay the debt as this is a form of assistance.

In situations where investors are seeking higher returns on assets and financial securities, Namibia can establish or formulate a wide variety of assets as a way of broadening the financial sector. This move is achieved by setting policies that encourage secondary market development in terms of financial markets. Therefore, such securities like derivatives will be available in the market as derivatives from most of the securities found in developed financial markets. Hence investors will be able to get financial assets and securities which they pursue in these developed

financial markets.

The political issue was identified as a determinant of capital flight although its impact, if unattainable, can be addressed through ensuring that the anti-corruption policies in place are effective. This can be achieved through review processes whereby the government sets out evaluations of the department so as to check whether the policy enforcers are abiding by the law since in some cases in the SADC region it is believed that law enforcers are also the source for unethical practices such as corruption.

5.4 Areas for further research

The research primarily focused on the capital flight in Namibia and the impact of the Regulations 28 and 29 with particular focus on pension funds and commercial banks. Thus there may be need for further research on the subject matter as the study only focused on five variables that influence capital flight and the results may be limited because of the small size of the sample, hence there is a need to expand in this area. Therefore, since the research did not include all the possible explanatory variables of capital flight, future research may be done towards that area including different combinations of explanatory variables.

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APPENDICES

➢ Unit root for Current Account Deficit

Null Hypothesis: CAD has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.271495	0.02105
Test critical values:	1% level	-5.604618	
	5% level	-3.694851	
	10% level	-2.982813	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CAD)
Method: Least Squares
Date: 1/26/18 Time: 17:27
Sample (adjusted): 1990 2016
Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAD(-1)	-0.543829	0.427709	-7.271495	0.0112
C	-6.11E+08	3.93E+08	-1.554274	0.2180

R-squared	0.350185	Mean dependent var	-1.62E+08
Adjusted R-squared	0.133580	S.D. dependent var	4.15E+08
S.E. of regression	3.86E+08	Akaike info criterion	42.67119
Sum squared resid	4.48E+17	Schwarz criterion	42.51496
Log likelihood	-104.6780	Hannan-Quinn criter.	42.25189
F-statistic	1.616700	Durbin-Watson stat	2.116469
Prob(F-statistic)	0.029218		

- **Unit root change in RESERVES**

Null Hypothesis: CFER has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-11.455177	0.0403
Test critical values:	1% level	-5.604618	
	5% level	-3.694851	
	10% level	-2.982813	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CFER)
Method: Least Squares
Date: 1/26/18 Time: 17:37
Sample (adjusted): 1990 2016
Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFER(-1)	-0.885807	0.608728	-11.455177	0.0216
C	32228385	1.80E+08	0.179229	0.0862

R-squared	0.413781	Mean dependent var	34000000
Adjusted R-squared	0.218374	S.D. dependent var	4.55E+08
S.E. of regression	4.02E+08	Akaike info criterion	42.75135
Sum squared resid	4.85E+17	Schwarz criterion	42.59512
Log likelihood	-104.8784	Hannan-Quinn criter.	42.33205
F-statistic	2.117539	Durbin-Watson stat	1.817408
Prob(F-statistic)	0.021623		

Unit root for Foreign Direct Investment

Null Hypothesis: FDI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.241892	0.0170
Test critical values:	1% level	-5.604618	
	5% level	-3.694851	
	10% level	-2.982813	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FDI)
Method: Least Squares
Date: 1/26/18 Time: 17:44
Sample (adjusted): 1990 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI(-1)	-1.916068	0.591034	-8.241892	0.0378
C	1.52E+09	5.17E+08	2.932453	0.0209

R-squared	0.777940	Mean dependent var	-93000000
Adjusted R-squared	0.703920	S.D. dependent var	5.94E+08
S.E. of regression	3.23E+08	Akaike info criterion	42.31513
Sum squared resid	3.14E+17	Schwarz criterion	42.15891
Log likelihood	-103.7878	Hannan-Quinn criter.	41.89584
F-statistic	10.50986	Durbin-Watson stat	1.676229
Prob(F-statistic)	0.047782		

Unit root for Total External Debt

Null Hypothesis: TED has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-11.382803	0.0050
Test critical values:	1% level	-5.604618	
	5% level	-3.694851	
	10% level	-2.982813	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TED)
Method: Least Squares
Date: 1/26/18 Time: 17:47
Sample (adjusted): 1990 2016
Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TED(-1)	-0.511405	0.369832	-11.382803	0.0107

C	3.04E+09	1.66E+09	1.832414	0.1643

R-squared	0.389269	Mean dependent var	8.29E+08
Adjusted R-squared	0.185692	S.D. dependent var	1.09E+09
S.E. of regression	9.86E+08	Akaike info criterion	44.54503
Sum squared resid	2.92E+18	Schwarz criterion	44.38881
Log likelihood	-109.3626	Hannan-Quinn criter.	44.12574
F-statistic	1.912144	Durbin-Watson stat	1.792139
Prob(F-statistic)	0.020677		

Namibia: Balance of payment data used in capital flight estimation, 1990-2016

	CAD	EXTDEBT	FDI	RESERVES	FASSETB
1990	27.558	4.367	29.567	-36.795	38.816
1991	105.095	1.630	120.450	12.431	37.178
1992	49.754	7.819	118.232	6.557	37.321
1993	110.198	20.350	55.268	-91.317	-36.982
1994	85.333	-11.997	97.978	-74.998	-56.534
1995	175.926	-1.323	153.015	-24.166	-89.745
1996	115.762	-0.256	128.694	-22.923	25.862
1997	90.365	-0.022	90.973	-67.784	194.262
1998	161.840	-3.618	96.232	-55.811	245.130
1999	157.858	-8.184	1.593	-57.111	371.883
2000	292.711	-13.651	118.863	-10.633	382.777
2001	57.884	-7.005	36.138	-70.688	278.815
2002	127.673	-6.033	51.232	-17.909	148.816
2003	335.655	-8.442	33.258	96.596	51.929
2004	572.617	-11.832	88.204	16.464	76.751
2005	599.34	-12.334	112.39	24.56	89.314
2006	1082.363	0.71	609.772	480.000	102.12
2007	748.805	0.89	669.789	896.000	140.55

2008	-9.491	1	749.772	1293.000	230.56
2009	-306.042	0.8	835.815	2051.000	220.12
2010	-534.108	2.18	287.189	1961.000	340.45
2011	-842.608	2.37	811.495	1758.000	278.11
2012	-893.841	4.54	1094.348	1746.000	470.98
2013	-982.812	4.3	787.993	2267.000	527.24
2014	-1210.3	4.31	445.987	2047.000	403.26
2015	-1600.22	5.2	1183.091	1850.000	360.78
2016	-1584.08	5.95	301.387	1762.000	498.77

Source: IFS

ECM OF capital flight from Namibia: Dependent capital flight (residual method)

Variable	**Coefficient**	**Standard Error**	**t-statistic**	**Probability**
ECMt-1	-0.53	0.18	-2.90	0.0091
DEXTDEBTC	1.14	0.12	9.39	0.0000
DRESERVES(-1)	1.68	0.41	4.15	0.0005
DCAD	-19.26	8.98	-2.15	0.0451
DFDI	2.46	0.15	5.49	0.0003
C	-8.75	55.61	-0.156	0.8766
R^2	0.84	F-statistic	29.6	
Adjusted - R^2	0.81	Prob(F-statistic)	0.0000	

ECM OF capital flight from Namibia: Dependent capital flight (Morgan guaranty method)

Variable	**Coefficient**	**Standard Error**	**t-statistic**	**Probability**
ECMt-1	-0.63	0.19	-3.90	0.0071
DEXTDEBTC	1.24	0.15	9.94	0.0001

DRESERVES(-1)	1.88	0.61	4.55	0.0004
DCAD	-18.26	9.98	-2.45	0.0351
DFDI	2.66	0.13	5.59	0.0002
C	-9.75	52.61	-0.186	0.9766
R^2	0.82	F-statistic	28	
Adjusted - R^2	0.80	Prob(F-statistic)	0.0001	

TABLE A: Selected empirical studies on determinants of capital flight as summarized by Boyce and Ndikumana (2002).

	Authors	Sample and method	Capital Inflows	Macroeconomic Environment	Fiscal Policy	Risk and returns to investments	Fiscal depth	Political and governance factors
	A. Studies on Sub-Saharan Africa							
1.	Hermes and Lensink (1992)	6 SSA countries, 1976-1991: time series pooled data analysis	Debt flows (+)	Growth (0); Inflation (0)	Budget surplus (0); Tax/GDP (0)	Interest rate differential (0); exchange rate overvaluation (+)		
2.	Murinde, Hermes and Lensink (1996)	6 SSA countries, 1976-1991: time series analysis	Debt flows (+/0); grants (+/0)	Growth (+/0); Inflation (+/0)		Interest rate differential (0); exchange rate overvaluation (+/0)		
3.	Murinde, Hermes and Lensink (1998)	9 SSA countries, 1970-1991: pooled data	Debt flows (+)	Inflation (+), lagged capital stock (-)		Deposit rate (-); expected change in exchange rate (+)	lagged demand deposits(-)	
4.	Olopoenia (2000)	Uganda, 1971-1994		Growth (0); Inflation (+)		Paralle market premium (0)		
5.	Nyoni (2000)	Tanzania, 1973-1992; regression in first difference	Debt flow (0); past capital flight (-)	Growth differential (+); Inflation (0)		Paralle market premium (0); interest rate differential (0)		Political shock dummy (0)
6.	Ng'eno (2000)	Kenya quartley data, 1985-1995		Real GDP (+)		Interest rate differential (-); exchange rate (+)		

	Authors	Sample and method	Capital Inflows	Macroeconomic Environment	Fiscal Policy	Risk and returns to investments	Fiscal depth	Political and governance factors
	Studies on other countries (some sample including SSA countries)							
7.	Cuddington (1987)	7 Latin America countries, 1974-1984: Time-series analysis	Debt flow (+/0); past capital flight (+/0)	Inflation (+/0)		Real exchange rate (+); US interest rate (+/0)		
8.	Dooley (1988)	5 Latin America countries and Philippines, 1976-1983: Pooled data		Inflation (+)		Financial represion (+); risk premium on external debt (-)		
9.	Pastor (1990)	8 Latin America countries, 1973-1986: Pooled data	Debt flows (+)	Growth differential (-); Inflation (+/0)	Change in tax/GDP (0)	Interest differential (+); exchange rate overvaluation(+)		
10.	Mikklesen (1991)	22 Developing counties , 1978-1985; Pooled data & time series analysis for Mexico	Debt flow (+); past capital flight (+)	Growth (-)		Expected relative returns on foreign vs domestic assets (+)		
11.	Antony and Hollett (1992)	4 Latin America countries and Philippines, 1976-1988: Pooled data		Inflation (+/0)	Budget surplus (-/0)	Interest rate (-/0); exchange rate (+/0); returns on foreign assets (+/0)		
12.	Boyce (1992-1993)	Philippines, 1962-1986	Debt flow (+); past capital flight (0)	Growth (0)	Budget surplus (-)	Interest rate differential (+)		
13.	Vos (1992)	Philippines, 1972-1988	Debt flow (+); debt stock (0) past capital flight (+)	Inflation (0)	Tax/GDP (0)	Interest differential (+); exchange rate undervaluation(-)		
14.	Henry (1996)	Barbados, Jamaica & Trinard, 1971-1987; time- series analysis	Debt flows (+)	Growth (-/0); Inflation (-/0)	Budget surplus (-/0)	Interest differential (+); exchange rate (-/0)		
15.	Hermes and Lensink (1992)	84 Developing countries, 1971-1991; cross-section analysis	Bank lending (+/0), foreign aid		Policy uncertainity; government consuption (+); Tax(+); deficit (+); interest rate (+): inflation (0)			Political instability (+)
16.	Lensink, Hermes and Murinde (2000)	84 Developing countries, 1971-1991; cross-section analysis	Bank and trade-related lending (+);aid (+); FDI (0)					Political instability (+); democracy and political freedom (-); war (+)
17.	Collier,Hoeffler and Pattillo (2001)	50 countries (including sub-set of 22 SSA countries); 1980-1990; cross-section analysis	Debt stock (squared) (+)	Capital stock (+/0)		Dollar distortion index (squared) (+); Investor risk (residuals) (0)	M2/GDP (0)	Governance indicators (0)