ANALYSING THE IMPACT OF CROSS-LISTING ON FIRM VALUE FOR JOHANNESBURG STOCK EXCHANGE COMPANIES LISTED ON THE NAMIBIA STOCK EXCHANGE

A THESIS SUBMITTED IN PARTIAL FULFILMENT
OF

THE REQUIREMENTS

FOR THE

MASTER OF BUSINESS ADMINISTRATION FINANCE DEGREE

OF

THE UNIVERSITY OF NAMIBIA

BY

KONRAD NDAPOPI MBANGULA

201510122

SEPTEMBER 2021

SUPERVISOR: DR OMU KAKUJAHA-MATUNDU (UNAM)

ABSTRACT

When companies are looking to raise funds for growth and increasing firm value, equity and debt are the only options at their disposal. In raising equity, companies can sell their stock to the public, within their domestic market or through cross-listing on another stock exchange which may be domestic or foreign. Accordingly, research on the impact of cross-listing on liquidity and firm value in the African context, has been growing. However, in Namibia there has been no study that comparatively assessed the impact of cross-listing on firm values of both cross-listed and locally listed stocks. Therefore, this study analysed the asset value, liquidity, and profitability of locally listed and cross-listed assets on the Namibia Stock Exchange (NSX). The study used secondary data from publicly available financial indicators from 32 NSX listed companies in the period 2019 to 2021. The study found that the average 1isting time on for stocks on the NSX was 15.78 years. The findings also showed that 86.5% of the stocks were listed on the NSX Main board, of which 45.9% were cross listed and 40.5% were locally listed. The findings indicated that the cross listed stocks on the Capital Development Board (DevX) had the lowest Market Capitalisation averaging N$4 l 4 million. The average asset values of cross-listed firms were at least 4.5 times the value of those locally listed. The study also found statistically significant differences between locally listed and cross-listed assets, with respect to financial performance indicators like Asset value, Market capitalisation, 3-Year Beta and liquidity. While there were no significant associations with respect to Return on Shareholder Funds. The study concluded that cross-listing in the Namibian context can be grouped into two types, one which is inclined inwards and another one outward. The inward cross-listing is recommended for those companies seeking to raise local funds through the NSX, while the outward cross-listing is recommended for local firms looking to raise capital or increase their stock value by listing on the JSE Africa Development board.

Keywords:

Cross-listing; NSX; JSE; Firm Value; Profitability; Liquidity

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FGURES

ABBREVIATIONS AND ACRONYMS

ASEA	African Stock Exchange
CAGR	Compounded Annual Growth Rate
DevX	Development Capital Market
ETF's	Exchange Traded Funds
IPO	Initial Public Offering
JSE	Johannesburg Stock Exchange
LSE	London Stock Exchange
MktCap	Market Capitalisation
NAMFISA	Namibia Financial Institutions Supervisory Authority
NAVPS	Net Asset Value per share
NSX	Namibia Stock Exchange
NYSE	New York Stock Exchange
QCA	Quantitative Content Analysis
Ret on SH funds	Return on Shareholders' Funds
SADC	Southern African Development Community
SSA	Sub-Saharan African

ACKNOWLEDGEMENTS

God Almighty, who provided everything needed to complete this undertaking and the purpose for which it was undertaken, has my undying appreciation. He took care of everything that would have stopped me in my tracks during the studies and strengthened me even in the most trying circumstances.

I would love to thank my parents and siblings for their prayers, love, words of encouragement and constant support throughout my studies. Lastly, I am and will always be grateful to all my friends most specifically those who were also part of this MBA. Thank you for being there without hesitation when I needed you most.

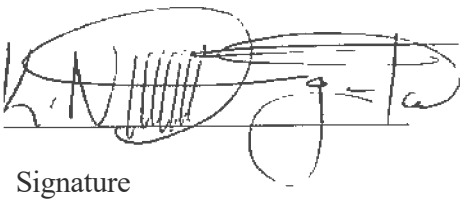
DEDICATION

This thesis is dedicated to Mr Linus Amulungu who believed in my potential for academic excellence. It would not have been possible without his emotional and spiritual support.

Mr Amulungu, your wisdom, and knowledge cannot be found in any literature. I thank the Almighty Lord for the day we met and pray that He continues to bless you abundantly uncle.

DECLARATION

I, Konrad Ndapopi Mbangula, hereby declares that this study is a true reflection of my own research, and that this work, or part thereof has not been submitted for a degree in any other institution of higher learning.



Signature

September 2021

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

Cross-border listing involves companies that trade on the stock exchange of their home country and on a stock exchange in another country. Literature points out that cross-listing of a firm may increase or decrease the firm's value. Cross-listing is known to benefit listed firms by increasing exposure to potential investors, increased liquidity, and reputation. Conversely, the high cost of cross-listing may discourage firms (Donald 2020). As pointed out by Donald (2020) one of the reasons why firms cross list is to enable the company to grow by raising money on an overseas stock exchange. For example, a Chinese company may have its shares in Hong Kong, in the United States, and in many different exchanges, in the world to raise new capital. In emerging economies, regional cross-listing is beneficial to the firms and to the countries of both primary listing (home country) and secondary listing (host country) (Sabitova, 2018).

The Johannesburg Stock Exchange (JSE) was formed in 1887. It joined the World Federation of Exchanges in 1963 and upgraded to an electronic trading system in the early 1990s. The bourse demutualised and listed on its own exchange in 2005. Currently the JSE offers five financial markets namely: Equities and Bonds as well as Financial, Commodity and Interest Rate Derivatives (JSE, 2020). According to the NSX (2020) on 21 July 2020 there were 33 companies listed on the NSX. 11 of those companies were local Namibian companies, 15 were South African companies, four were Mauritian companies, two were from Great Britain, one was from Australia and one from Canada. There were 40 I companies listed on the JSE on the same day according to African Markets (2020).

1.2 Background

When companies are looking to raise long-term additional capital, this may come in the form of long-term debt (loans, bonds and debentures) or new issues of equity (preference shares and ordinary shares) or retained earnings. However, as they continue to expand, equity and debt are the only options at their disposal. In a study of Kenyan companies, it was found that most companies prefer to use equity because it forms a permanent source of funding that cannot be easily cancelled (Onyuma, Mugo and Kamiya, 2012).

When a firm looks to raising equity by selling their stock to the general public for the first time, they may raise it within their domestic market, and this is known as an initial public offering (IPO). Cross-listing refers to the listing of ordinary shares of a firm on an exchange other than the stock exchange in its registered jurisdiction. Where a country has more than one securities exchange, cross-listing may occur within the country. However, in most cases, cross-listing occurs when a company attempts to raise equity capital beyond its national boundaries. In this sense, cross-listing occurs when a firm lists its shares for trading on at least two stock exchanges located in different countries (Onyuma *et al.,* 2012).

According to Ernst and Young's Attractiveness Survey for Africa 2014, South African-headquartered companies were the most active in expanding their operations in the rest of Africa. Overall, between 2007 and 2013, South Africa was the fourth-largest investor in the rest of the continent by FDI projects. It was also noted that South African projects in other African countries had grown at a compounded annual growth rate (CAGR) of 44.2% since 2007 (EY Attractiveness Survey Africa *2014).* Investment has occurred in a number of economic sectors and has gone beyond the traditional Southern African

markets, spreading into West, East and Central Africa, in most cases with much success. The South African corporate presence has traditionally been strongest in countries of the Southern African Development Community (SADC), for obvious reasons of logistics, culture, and proximity, however this presence has expanded further to East and West Africa (Games, 2014).

According to Games (2014) the push further into other parts of Africa has been fuelled by stagnation in the local market, curiosity about the opportunities the rest of Africa offers, the fact that so many South African products are tailor-made for the African market, and regional integration. In addition, many international companies either opened or reopened offices in South Africa after the end of apartheid and are using South Africa as a springboard for their operations elsewhere in the continent (Games, 2014).

Most studies have focused on cross-listings from relatively less developed markets to more developed markets with stricter regulations - this is because conventional theory has long held that firms cross-list their shares on other developed exchanges to buy their access to more investors, greater liquidity, a higher share price, and a lower cost of capital (Waweru, 2012). The bonding hypothesis, one of the key hypotheses driving this thinking, claims that firms cross list in countries with strict disclosure requirements and strong legal and regulatory institutions to assure shareholders that managers will not expropriate resources from the firm - this "bonding" is thought to facilitate access to capital (Crawford, 2017).

However, Sub-Saharan African (SSA), countries have followed the global trend in establishing new stock exchanges and it has been argued that regional cross-listing of stocks can bring significant benefits. These benefits include helping finance SSA

corporate and development needs, providing wealth diversification, bringing greater efficiency, lowering the cost of capital, increasing market access for smaller stock markets, and potentially helping to mitigate the effects of foreign investment outflows in shallow markets (Adelegan, 2018). It is further argued by Waweru (2012) that cross-listings in such instances cannot be viewed from the standpoint of the bonding hypothesis, but rather from the perspective of a company's desire to exploit growth opportunities.

1.2.1 The nature of African Stock Exchanges

There are currently 29 formal stock exchanges on the African continent. The past decades have seen a significant growth in the number and size of stock markets in Africa growing from 5 in 1960 to 17 by the end of 2002 and 29 by 2020. According to the 20 I 0 African Stock Exchange Association (ASEA) report, between 2007 and 2009, there were 170 new listings across 18 of the exchanges translating into over 10 billion US dollars of share capital raised within the period. Also, the ten largest stock markets in the region saw their market capitalisation grow from 222 billion to over 1,005 billion US dollars between 2002 and 2020, representing an annual growth rate of 25% within the period. The apparent substantial increase in stock markets in Africa can be attributed to the extensive financial sector reforms undertaken by several African countries (Ntim, 2012). In 2003 the JSE had an estimated 473 listed companies and a market capitalisation of US$l 82.6 billion, as well as an average monthly traded value of US$6.399 billion. As of August 2020, the market capitalisation of the JSE was at US$1,005 billion

However, looking more closely at the 23 Sub-Saharan African exchanges, (excluding the 6 North African exchanges in Algeria, Egypt, Libya, Morocco, Sudan & Tunisia), the

pace and stage of stock market development has varied among most of the countries. Only four stock markets have more than 50 listed stocks; five have at least 20 listed stocks; and the remaining 14 have less than 20 stocks. In 2013, the number of listed firms ranged from as low as 6 for the stock market of Swaziland, to as high as 388 for South Africa. Market capitalisation accounts for less than 20 percent of the GDP of about half of the countries in the sample (Adelegan, 2018).

However, these exchanges are faced with a myriad of development challenges. According to Afego (2017) the first challenge faced by these exchanges is that a low literacy level across much of the continent has resulted in a large number of poorly informed investors who possess very little knowledge of the workings of the capital market. The second challenge described by Afego (2017) that is closely linked to the first, is the lack of public knowledge and awareness about stock markets and how members of the public can participate in them. The third challenge is that there is a lack of effective regulatory, institutional and operational structures. This weakens the effectiveness of contract enforcement, and settlement processes across many of Africa's bourses. The fourth constraint relates to the limited array of financial instruments and investment vehicles on offer in these stock exchanges which limits investors' ability to switch between instruments and asset classes.

The fifth challenge Afego (20I 7) mentions is that, while there appears to have been significant improvements in the political and economic conditions in many African countries, the popular perception is that the political and economic landscape across much of the continent remains volatile. The final constraint described by Afego (2017)

relates to the view by most African governments that stock exchanges are more or less national treasures. Hence, efforts to modernise and internationalise these exchanges receive little political support. As a result of these factors, (including others that may not have been mentioned), SSA stock markets are generally institutionally weak, suffer from miserably low levels of liquidity, and are generally small and market capitalisation (Afego, 2017; Ojah and Kodongo, 2015).

1.2.2 Cross-listing in Africa

Regional cross-listings in sub-Saharan Africa have been associated with expansion and the setting-up of operations in the host countries. In almost all cases, firms are large with a strong base in their home countries, and they first established operations in their host countries before deciding to cross-list. Many cross-listings are undertaken to expand operations in the host countries. Based on the company websites, almost all the firms that are cross-listed (about 94% or 35 out of 37) have set up operations in the host countries (Adelegan, 2018).

The JSE of South Africa blazed the regional cross-border listing trail when it cross-listed on the Namibia Stock Exchange (NSX) on the first day of trading of the NSX in October 1992. Subsequently, South Africa has cross-listed 28 firms on the NSX to date. There has also been regional cross-listing between stock markets in Botswana and South Africa since 1997; Malawi and South Africa in 1999; Nigeria and South Africa first in 2001 and later in 2006 (MNET/Super Sport, a JSE primary listed company was cross-listed on the Nigerian Stock Exchange in 2001 and delisted in 2003); Zambia and South Africa in 2003; and Ghana and South Africa in 2004. The triple listing of stocks has also

commenced, with the three East African Exchanges of Kenya, Uganda and Tanzania in 2004; and Ghana, Nigeria, and WAEMU (Bourse Regionale des Valeurs Mobilieres) exchanges in 2006 (Onyuma, *et al.,* 2012).

As of August 2020, there were 15 JSE listed companies that are cross-listed on the Namibian Stock Exchange, 3 cross-listed on the Botswana Stock Exchange, 1 on the Nairobi Stock Exchange, 1 on the Ghanaian Stock Exchange, 3 on the Malawian Stock Exchange, 1 on the Zambian Stock Exchange and I on the Zimbabwean Stock Exchange. These are the cross-listings along with other African cross-listings that have taken place on the continent (Adelegan, 2018).

There have been other agreements to cross-list among stock markets in the African region. The JSE has signed MOUs with Botswana, Egypt, Ghana, Kenya, Namibia, Nigeria, and Uganda exchanges. The Nigerian stock exchange has signed MOUs with Ghana and WAEMU, while the Nairobi Securities Exchange has signed MOUs with the Dar-es-Salaam Stock Exchange and Uganda Securities Exchange to form the East African Securities Exchange Association (Onyuma, *et al.,* 2012).

Regional cross-listings in SSA have either been policy driven or market driven. Examples of government policy induced regional cross-listings are the cross-listings between the JSE and the Namibian Stock Exchange and among the East African Stock Exchanges (Nairobi Stock Exchange, Ugandan Stock Exchange and Dar es Salaam Stock Exchange) (Games, 2014).

The cross-listing of many JSE companies listed on the Namibia Stock Exchange has been motivated by the imposition of capital controls on portfolio flows and by the domestic investment requirements set by the Namibian authorities in an attempt to keep the large surplus of the country's pension and insurance funds invested in Namibia. By

cross-listing, South African firms were able to qualify as Namibian investments. Similarly, the cross-listing of East African Breweries on the Ugandan and Tanzanian exchanges was linked to ensuring market access for beer trade throughout the East African Community (Adelegan, 2018). Examples of market driven cross-listings are the West African triple cross-listing of Ecobank on the BRVM, the Nigerian Stock Exchange, and the Ghana Stock Exchange; the cross-listing of Oando PLC on the Nigerian Stock Exchange and the JSE; and the cross-listing of Shoprite on the JSE and Lusaka Stock Exchange.

Irrespective of the reason for the regional cross-listing, it is beneficial to both the host and home countries (Adelegan, 2018). In general, the more developed African stock markets like those in South Africa, Kenya, and Nigeria have helped to prop up emerging stock markets in their localities by supplying cross-listing entities. South Africa feeds Namibia, Botswana, Zimbabwe, Zambia and Malawi; Kenya feeds Tanzania, Uganda and Rwanda; and Nigeria feeds Ghana (Mataen, 2012).

1.2.3 Johannesburg Stock Exchange (JSE)

The Johannesburg Stock Exchange (JSE) stands out in Africa as by far the continent's largest, most liquid and best-regulated market and is ranked in the top 20 of global exchanges as well as being rated as number one regulated stock exchange by the World Economic Forum Competitiveness in 2011 (ASEA Yearbook, 2014). It is home to some of the continent's largest and most sophisticated companies with a number of these companies being able to compete on a global scale. For over seven decades now, South African companies have sought and listed on the top stock exchanges in the world such as the London Stock Exchange (LSE), and the New York Stock Exchange (NYSE). For

instance, AECI Limited listed on the LSE as far back as 1938. Stilfontein Gold Mining and Tongaat Hulett also listed on the LSE the following year (Games, 2014).

1.2.4 The Namibian Stock Exchange (NSX)

Namibia officially launched its own stock exchange on 30 September 1992. The Namibian Stock Exchange (NSX) is part of the financial services industry. The NSX is the only licensed stock exchange in Namibia in terms of the Stock Exchanges Control Act (No.I of 1985). It is a computerised marketplace for the secondary trading of financial securities such as equities and bonds. It oversees and regulates the activities and trading of its member stockbrokers, sponsors and listed companies and publishes information about trading and general information about stock exchanges. The Namibia Financial Institutions Supervisory Authority (NAMFISA) in terms of the Stock Exchanges Control Act of 1985 licenses the NSX annually. NAMFISA has the responsibility for overseeing all non-banking financial institutions in Namibia.

The main function of the NSX is to establish and develop the capital market as one of the key contributors to Namibia's economic growth, development, and prosperity. The NSX assists listed companies to raise capital, whilst providing a trading platform in these shares after listing with transparent price discovery, in a regulated environment where best practice corporate governance is prescribed and enforced, which encourages investors to buy equities / shares in the first place.

1.3 The Research Problem

Previous studies investigated the impact of cross-listing on liquidity. Wang, Brooks, Lu, & Holzhauer (2014) found a decline in trading volume in the home market after cross-

listing for emerging countries. Dobbs & Goedhart (2018) reported a decrease in turnover ratio post-cross-listing for cross-listed companies from emerging companies. However, these studies only focused on the impact cross-listing had on liquidity and trade turnover, and none were conducted to analyse the effects of cross-listing on the return on firm value.

Moreover, Musamira & Safari (2008) observed that African stock exchanges were hindered from growth by several challenges including lack of liquidity, low market capitalisation, high transaction costs, and lack of public awareness. As such, the liquidity of stocks on the NSX critically depends on the cross-listings from cross-listings from the South African JSE. While a study by Dabengwa (2017) found no evidence to indicate that firms in the JSE benefited by cross-listing in other Sub-Saharan Africa Exchanges, including the NSX.

There have been no studies identified by the researcher that have focused on cross-listing on the NSX, and its impact on the return on firm value from the perspective of the NSX listed companies. Studies conducted in Namibia by Matongela & Karodia (2015), and Claassen (2016) only focused on the impact of being listed on the NSX on stakeholder value creation. Therefore, there is a need to determine whether being cross listed has an impact on both liquidity and the return on shareholder funds, focusing on the return on firm value of the JSE cross-listed firms on the NSX stock exchange.

1.4 Research Aim

The research seeks to analyse the accumulated asset value, liquidity, and profitability of locally listed and cross-listed assets on the NSX. The specific objectives ofthis research are:

- To examine the possible benefits ofcross-listing on the JSE and the NSX.
- To analyse the firm value appreciation or depreciation on return earnings ofNSX stocks;
- To determine the effects ofcross-listing on the performance ofthe company.
- To evaluate the comparative differences in the accumulated asset value, liquidity, and profitability oflocally listed and cross-listed assets on the NSX.

1.5 Research Hypotheses

Hypothesis 1 (Asset Value):

- Ho^{1}: There are no differences in asset values oflocally-listed and cross-listed firms on the NSX;
- $H1^{1}$: There are statistically significant differences in asset values of locally-listed and cross-listed firms on the NSX;

Hypothesis 2 (Liquidity):

- Ho^{2}: There are no differences in the liquidity oflocally-listed and cross-listed firms on the NSX;
- Hi^{2}: There are statistically significant differences in the liquidity of locally-listed and cross-listed firms on the NSX.

Hypothesis 3 (Profitability):

- Ho^{3}: There are no differences in the profitability of locally-listed and cross-listed firms on the NSX;
- $H1^{3}$: There are statistically significant differences in the profitability of locally-listed and cross-listed firms on the NSX;

1.6 Significance of the study

The study will contribute to a better overall appreciation of the NSX and the associated benefits and challenges of cross-listing, while promoting a deeper understanding of why it becomes important to cross list on the exchange. This study is further expected to provide the board of the NSX information needed to improve the listing environment for prospective companies interested in cross-listing. The findings of the study, will also help provide local firms intending to use cross-listing, as a strategy for increasing shareholder value, with a clear progression of the benefits to expect by listing and cross-listing the NSX and JSE respectively. The study recommendations will highlight the key policy direction that the government of Namibia and NAMFISA as the regulator should take towards developing a beneficial framework for using cross-listing to further deepen the Namibian Financial Markets.

1.7 Limitations

Due to the COVID-19 pandemic, it is anticipated that there might be challenges in data collection especially with regards to interviews. Therefore, the researcher used various electronic social platforms such as Zoom, WhatsApp video calls, and mobile/telephone to conduct interviews.

1.8 Delimitations

This study is limited in its focus on secondary data from 2019 to 2021 and only looks at cross-listing of NSX listed companies from the Namibian context. The study involved all 39 companies currently listed on the NSX and companies delisted in the period 2019 to 2021 were excluded, while the new listings in the same period were included in the study. The companies included in the study were also limited by the availability of publicly available financial information and indicators.

1.9 Organisation of the study

There are five chapters in this study. The study's introduction, context background, and motivation are all covered in Chapter 1. Chapter 2 includes a brief overview of the potential benefits of cross-listing on the Namibia Stock Exchange, as well as a review of relevant theoretical and empirical research. The methods used in the study are detailed in Chapter 3. The results are presented in Chapter 4 along with a discussion of the findings with respect to the literature. The conclusions, and recommendations for future research and policymakers are presented in Chapter 5.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

There is a need to understand whether being cross listed on the Namibian Stock Exchange and Johannesburg Stock Exchange creates value for stakeholders. This chapter reviews literature in relation to the research objectives. There is limited information on whether cross-listing of firms is beneficial for emerging markets and whether investment strategies could be developed from the price disparity phenomenon between dual-listed shares (Maina, 2019). Companies from emerging markets may derive some benefits from cross-listing, though there is no conclusive evidence (Dabengwa, 2017). The assertion by Dabengwa is the one that has motivated the researcher to investigate the actual quantitative benefits of cross-listing of companies. However, some studies state that cross-listing shares does not create any value and that this strategy no longer appears to make sense.

2.4 Theoretical Review

A theoretical review provides a strategy for the study and interpretation of findings. Through the examination of previously seasoned understanding of variables involved, a theoretical review gives a summary of theory regarding a particular problem.

2.4.1. Market Segmentation Theory

Culbertson (1957) and Modigliani & Sutch (1966) developed the theory of Market Segmentation. It argues that markets are segmented in terms of the length of maturities of securities. Shareholders have dissimilar maturity needs and this leads them to invest in securities that meet their unique maturity needs. The investors prefer either short, medium or long - term securities and they are unlikely to change their maturity

preference even when there is an expectation that interest rates will change. The theory asserts investors have very strong maturity preferences and are not willing to invest in securities that do not align with their preference to enjoy yield disparities. Various factors cause investors to confine to their preferred segments including the business environment, legal and regulatory limitations. Due to the investor's preferences, the short and long-term markets fall into two distinct categories and the demand and supply forces in each segment determine the yields of the different segments (Amihud and Mendelson, 1989).

Alexander, Eun, and Janakiramanan (1988) explain the theory of market segmentation further. They argue that when stocks from segmented markets are cross-listed in other jurisdictions, the price of the stock is most likely going to rise due to the reduced country-specific risk. These will lead to a subsequent decrease in the cost of equity. The cost is likely to reduce due to different tax laws in the different jurisdictions, inflation and exchange rate differential and differences in reporting standards and regulatory requirements. It is therefore anticipated that before cross-listing, the market capitalisation of a firm will increase and there will be a subsequent increase in the firm's assets after cross-listing (Waweru *et al.,* 2012).

Merton (1987) further explains that to allow for more efficient diversification there is need for market integration by removing barriers to investments across-borders, regulatory restrictions and free flow of information. This theory envisages that share prices will increase in the home country, which translates to a decrease in the cost of capital in response to cross-listing. There have been far-reaching empirical studies testing this proposition. Each of these studies are consistent with this proposition. The theory is relevant to the present study as it highlights the fact that firms listed in

Southern African Securities Exchanges may opt to list in other markets to enjoy the benefits of market integration (Waweru *et al.,* 2012).

2.4.2. Liquidity Preference Theory

According to Keynes (1936) investors require a higher return for holding securities with longer maturities. The lengthier the maturity period of a security, the greater the risk and therefore investors will prefer to hold cash, which has the lowest risk unless they are adequately, compensated (Dillard, 1948). It is easy to sell a liquid security quickly without any substantial loss in value compared to a less liquid security. Since Interest rates are more unpredictable in the short-run compared to the long-run, investors require greater premiums for holding short- and medium-term securities compared to the medium and long - term securities.

The same view explains why firms cross list. Investors prefer securities that can be easily sold compared to those that they have to hold for longer periods due to lack of an available market. Amihud and Mendelson (1989) explain that investors require compensation for holding fewer liquid stocks. This is due to increased transactional costs. Investors presume that lower trading costs lead to greater participation and risk-sharing among the investor community. The theory however does not speak to the fact that at any given point in time there are different interest rates prevailing in the market. The prevailing interest rate at any point in time is determined by various factors including those that affect demand and supply of loanable funds, liquidity is certainly not the only factor. According to this theory, firms listed in the Namibia Securities Exchanges may decide to cross list to increase the liquidity of their shares and enjoy positive valuation effects.

2.4.3. Investor Recognition Hypothesis

Merton (1987) proposed this theory. It is based on the asset-pricing model with imperfect information. According to Merton (1897) in the capital markets, investors do not have visibility of all information that informs their investment decisions. They therefore limit their investment selection to a few numbers of securities, as the information gathering costs are prohibitive. They also prefer investing in securities that they are familiar with, as this will reduce the information gathering costs. Cross-listing enables the stock of a company to become more visible to investors and makes information about the firm more available, this will increase the investor base, which in tum increases the value of the firm (Waweru *et al.,* 2012)

Investors avoid investing in securities, which requires high cost to access firm specific information and therefore such stocks trade at a discount. When the investors become more aware of such a stock because of cross-listing, they become more welcoming in including them in their portfolios. According to Merton (1987) if investors refrain from certain securities, their portfolios will not be adequately spread and will call for additional returns for taking on non-systematic risk. The required return on the stock will then increase leading to reduced firm value.

The investor recognition hypothesis also explains the fact that due to limited availability of information concerning certain firms, only a few investors may be aware of certain securities. It further explains that if the visibility of a certain security increases among the potential investor's community, then the shareholder base is most likely to increase (Waweru *et al.,* 2012). The increase in shareholder base will cause the cost of raising capital to reduce, which translates to increased firm value. Merton (1987) adds that, changes in investor base will have an impact on financing and investment activities of a

firm. In order to increase the visibility of the firms' securities by investors, there should be an improvement in the quality of information disclosure. This theory is pertinent to this study as it seeks to expound the fact that firms in Namibia, in an aim to improve their visibility to investors, cross list (Dillard, 1948).

2.4.4. Bonding Hypothesis

Coffee (1999) and Stulz (1999) put forward the bonding hypothesis. The hypothesis proposes that organizations in jurisdictions with less stringent frameworks for protecting their investors can increase value by bonding with jurisdictions with better investor protection frameworks through cross-listing. The hypothesis goes on to propose that cross-listing in jurisdictions with more advanced investor protection frameworks acts as a gesture of a firm's desire to respect the interests of minority stockholders. This attracts a wide range of investors who feel that their interest will be protected causing the share price to rise (Waweru *et al.,* 2012).

Chisadza (2013) states the cross-listing can help encourage good corporate governance and protection of minority shareholders by reducing agency costs related to monitoring shareholders. Doidge (2013) suggests that there are low private benefits to controlling shareholders in companies that cross list in jurisdictions with more stringent investor protection requirements. Minority shareholders in such firms will feel more protected as the controlling shareholders will not make decisions to their detriment. According to Miller (1999), there are positive abnormal return following cross-listing announcements to a more regulated jurisdiction when it comes to matters corporate governance. An explanation for the move is the perception of investors of a firm's willingness to improve their corporate governance framework by such a move (Doidge (2013).

This theory is relevant to this study as it describes why firms in Southern Africa cross-list in markets where there is enhanced investor protection like Namibia.

2.2 Potential Benefits of Cross-listing

Based on Chisadza (2013) the following are the main reasons why a company would consider cross-listing:

2.2.1 Expand Investor Base

Cross-listings in a foreign market allows a company greater access to investors and consequently increases the shareholder base and risk sharing, which results in higher valuations. Cross-listings help to draw the interest of new investors and encourage them to start trading in both foreign and local markets. The interest may come not only from the larger scope of corporate information available after listing overseas, but also from a signal of commitment to higher governance standards which a company sends when deciding to enter foreign markets. Furthermore, by cross-listing, a company could expand its potential investor base more easily than if it is traded on a single market, as cross-listings bring foreign securities closer to potential investors, and they increase investor awareness of the securities (Chisadza, 2013).

2.2.3 Liquidity

Cross-listing on deeper and more liquid equity markets leads to an increase in the liquidity of the stock and a decrease in the cost of capital. Cross-listings lead to an increase in liquidity due to a pick-up in trading volumes in both the home and foreign stock market. As a result of cross-listing, the home market and the host market will compete for order flows for the cross-listed stocks and order flows will shift to the market with lower trading costs (Onyuma, *et al.,* 2012). It has also been noted that the cross-listing of a company from an emerging stock market to a developed stock market

increases domestic prices by enhancing the ability of the domestic stocks to provide diversification and liquidity, and transfers a segmented local equity market to an integrated market with high liquidity and market capitalisation. However, cross-listings may not always enhance liquidity, due to the potentially offsetting impact of market fragmentation. It is argued that liquidity may suffer in both the domestic and the foreign market if inter-market information linkages are poor (Chisadza, 2013).

2.2.4 Increase Visibility

Increasing visibility of stock exchanges is the principal reason that drives domestic markets to participate in cross-listings. The putative benefits of increased visibility in the host country go well beyond the expected increase in shareholder base. Increased visibility can also boost local stock market, marketing efforts, by broadening product identification among investors and consumers in the host country. Therefore, firms and domestic markets participate in cross-listings in the quest for increasing visibility of stock exchanges and firms (Chisadza, 2013).

2.2.5 Financial Gain

Firms participate in cross-listings for financial gam motives. If cross-listing is accompanied by an initial public offering, the financing of the firm is increased and its cost of capital is reduced as equity increases. An optimal gearing level of equity and debt will result in the lowest weighted average cost of capital (Onyuma, 2012). Thus, cross-listing is regarded as a means for lowering a market's cost of capital, that is, for enabling markets to get more money from investors when they offer their stock to the public (Chisadza, 2013).

2.2.6 ***Marketing***

Another reason that pushes firms to participate m cross-listings is marketing motivations. It is claimed that cross-listings create greater market demand for the company's products as well as its securities. Companies cross-list their security issues as a tool to signal their transparency and private information; hence, they also try to deliver a positive signal of their value to outside investors that they are high-value or high-growth companies. Cross-listings attract positive publicity in the foreign market and it is therefore evident that the drive for marketing motivations is one of the reason firms participate in cross-listings (Chisadza, 2013).

2.2.7 ***Bonding***

Cross-listing in a foreign market acts as a bonding mechanism used by firms that are incorporated in a jurisdiction with poor investor protection and enforcement systems to commit themselves voluntarily to higher standards of corporate governance. In this way, firms attract investors who would otherwise be reluctant to invest. The bonding hypothesis suggests that cross-listings help companies to improve their corporate governance and protect minority shareholder interests by reducing the agency costs of controlling shareholders (Chisadza, 2013).

Looking at the above list of potential reasons, increased visibility, marketing and a larger investor base would most likely be the key motivating factors that drive South African companies to cross-list on the relatively less developed exchanges in the rest of Africa (Onyuma, *et al.,* 2012). In terms of liquidity, although it has been stated above that cross-listing on deeper and more liquid equity markets may lead to an increase in the liquidity of the stock, it could also be argued that a cross-listing firm can still realise better liquidity by cross-listing in comparatively less liquid (in aggregate) markets.

A security that is cross-listed in another exchange (even of a lower aggregate liquidity) may increase the number of traders participating in the market for that security at a given point and hence increase the security's turnover (Odongo, 2015). However, it is unlikely that the bonding hypothesis would be considered a key motivating factor since the JSE is one of the best regulated stock exchanges in the world, having been voted the number one regulated stock exchange in 2010 and 201 l by the World Economic Forum Competitiveness Report. Regarding financial gain, the paper seeks to determine if this would also be a motivating factor for South African companies to list on other African exchanges (Onyuma, *et al.,* 2012).

Outside of these reasons, there are however, proponents of cross-listings who have argued that regional integration can bring greater efficiency, synergies, and economies of scale; attract the foreign flow of funds; foster risk sharing and portfolio diversification; give impetus to financial sector reforms, thereby broadening the competitiveness of regional financial systems and minimising the risks of financial instability; facilitate capital market development; and lead to economic growth (Adelegan, 2018). Theoretical asset pricing models have also predicted an increase in stock prices upon cross-listing. If regional cross-listing is beneficial to the firms and to the countries of both primary listing and secondary listing, then policy makers of the countries of primary and secondary listings need the right policy handles to encourage, facilitate and steer regional cross-listing efforts by firms. Through complementary policy-based efforts, policy makers can set the stage for the regional cross-listing of stocks and harness the numerous benefits that are associated with it (Onyuma, *et al.,* 2012).

2.3 Possible Effects of Cross-listing in Sub-Saharan Africa

The main goal of management is to increase shareholder wealth and therefore, when a firm decides to cross-list, it should ensure that it is fulfilling the goal of increasing or maximising shareholder wealth. An increase in the valuation of a company after it cross-lists would therefore indicate an increase in shareholder wealth (Adelegan, 2018).

In international findings on cross-listing, one of Roosenboom, Matthijs and van Dijk, (2009) the key finding was that the destination market matters in the valuation effects of cross-listings. Cross-listings on more developed markets created more value for shareholders. The average cumulative abnormal return around the announcement date of the cross-listing was higher for US exchanges than for the London exchange. Their findings also suggested that abnormal returns for continental European markets and Tokyo were lower than US exchanges (Roosenboom *et al.,* 2019).

Cetorelli *et al.* (2010)'s findings on the impact of cross-listing and market prestige are consistent with Roosenboom *et al.* (2019) as they show that firms cross-listing in a more prestigious market enjoy significant valuation gains over the five-year period following the listing, while firms cross-listing in less prestigious markets suffer a significant decline in valuation over this same five-year post-listing period (Cetorelli and Peristiani, 2010).

In Doidge, Karolyi, and Stulz (2014)'s paper they show that firms from around the world that cross-list their shares in the U.S. have higher valuations than other firms from their respective countries that do not cross-list. Their explanation for this result is that the controlling shareholders of firms that cross-list have more incentives to limit their consumption of private benefits from control. They further explain that these incentives arise when firms have valuable growth opportunities that cannot be exploited without

raising external funds. If controlling shareholders do not have such incentives, they are unlikely to let the firm list in the U.S. because a listing threatens their ability to extract private benefits from the firm (Doidge *et al.* 2014).

According to Inder *et al.* (2016) who assessed whether cross-listing leads to a higher firm growth, firms that were externally financed grew following cross-listing. They found that cross-listed firms exhibited a greater level of externally financed firm growth in comparison to a matched sample of non-cross-listed firms. After cross-listing, cross-listed firms experienced higher externally financed growth rates than the matched sample of non-cross-listed firms (Onyuma, *et al.,* 2012).

In studies focused more on Sub-Saharan Africa, Adelegan (2018) argues that the performance of a firm's share around the time of cross-listing could be used as a measure of the information contained in both the announcement and the actual cross-listing. Based on her findings, she notes that studies in SSA on stock price reactions to events are scanty but diverse and this includes price reactions to earnings announcements, dividend announcements, stock splits, board changes, political succession, and connections. She further notes that most results find that statistically significant abnormal returns are earned on the market around the events studied; however, there is no study of market reactions to regional cross-listing of stocks on SSA stock markets. In her examination of the effect of cross-listing on stock returns and stock market development in Sub-Saharan Africa, she found positive abnormal returns around the announcement date, and leading to stock market development. This suggests that firms benefit from the regional cross-listing of stocks outside their home country (Onyuma, *et al.,* 2012).

Based on Waweru, Pokhariyal & Mwaura (2012)'s study of cross-listing and valuation effects from the Nairobi Stock Exchange, results indicate that the Tobin's Q of cross-listed firms in East Africa increases two years prior to cross-listing and continues to increase two years after cross-listing. The market-to-book ratios also show an increase two years prior to cross-listing up to one year after cross-listing, then decrease in the second year after cross-listing (Onyuma, *et al.,* 2012).

Kuria (2018) determined the short-term and long-term effects of cross-border listing announcements on companies listed at the NSE and their post listing performance, and reported that cross-listing announcements have statistically significant negative effects on stock returns. In fact, the non-cross-listed firms had higher daily turnover ratios than cross-listed firms, an indicator of increased activity, hence liquidity. Moreover, Mugo (2010) and Mugo *et al.* (2011) have reported that cross-listing "may" affect firm liquidity and P/E ratios. However, a closer look at these findings reveals fatal interpretational errors as the changes were never tested for significance (Waweru *et al.,* 2012).

In Onyuma, *et al.* (2012)' s study of whether cross-border listing improves the firm's financial performance in Eastern Africa, it was shown that cross-listing leads to improvement in a variety of firm fundamentals as it is associated with improved liquidity, earnings and price to earnings ratio. It was also reported that firms benefit less from cross-listing of shares outside their home market. The analysis also uncovered no clear evidence of material value creation to the shareholders of cross-listed companies. The study neither found anything suggesting that cross-listing has a significant impact on their financial performance nor any systematically lower borrowing for asset investment. Nonetheless, the study did uncover positive findings only relating to

improved market confidence as shown by positive changes in the price-to-earnings ratios for all the cross-listed firms (Onyuma, *et al.,* 2012).

This study will therefore focus on analysing the financial effect of cross-listing for all the NSX listed companies that have cross-listed on the JSE.

2.5 Empirical Studies

Various studies have been conducted both globally and locally on cross-listing. Globally, Inder *et al.* (2014) did a research to determine the relationship between cross-listing and 20 firms' growth. They studied 215 companies across 22 different countries that had listed at home and in the US around 1994-2002. From the study, it was evident that cross-listed firms show greater growth from external financing compared to their non - cross-listed counterparts. From the study, they concluded that cross-listing reduces a company's restrictions in terms of access to financing. The study sought to answer the question as to whether cross-listing had any impact on a firm's growth. The study employed the regression model, t-statistics and Pearson's correlation to test the variables. The study established that firms that list in other jurisdictions, having their primary listing in a more established financial market exhibited greater growth from external financing compared to their non-cross-listed counterparts.

Bums and Bill (2016) examined the relationship between cross-listing and legal bonding. The objective of the study was to explain whether cross boarder listing provides far-reaching legal bonding or whether US investors are still keen on the reputational connection and the safeguarding of minority shareholders' interests in the jurisdiction of the cross-listing firm. From the study, it was established that US investors pay close attention to the shareholder protection framework of the cross-listed firm and therefore were unlikely to invest in stocks of firms from jurisdictions that do not

emphasise on the protection of minority shareholders. Bacidore and Sofianos (2012) assessed the relationship between cross-listing and financial performance. The study employed a longitudinal survey of 45 sampled firms in Europe. By use of descriptive statistics, data sources for a period of 10 years were analysed. The study exhibited a positive relationship between cross-listing and financial performance of firms.

Ndubuisi (2013) employed events study research design to test for irregular returns after the pronouncement of cross-listing of Canadian mining firms in the Frankfurt stock exchange. Data was collected from 31 Canadian firms that have cross-listed in Frankfurt. The cumulative abnormal returns around the cross-listing period were used for the test. The study divulged that in the short run, the Canadian stocks react negatively to cross-listing in Frankfurt, however in the long run, cross-listing in Frankfurt showed a declining negative reaction.

A study conducted by Omayo (2016) concluded that liquidity of shares, financial performance, price of shares and transaction costs had a huge impact on the precariousness of shares of cross-listed firms. Focusing his study on firms that have cross-listed in East Africa, a sample of seven cross-listed companies at the NSE was selected and questionnaires were used to collect data. The study employed the descriptive research design. It was also apparent from the study that cross boarder listing reduces the unsystematic risk of a stock translating to reduced cost of capital.

A study by Aluoch (2012) investigated the impact of cross-border listing on stock returns between 2001 and 2011. Seven Kenyan companies cross-listed in the other East African bourses formed the sample of the study. Event study methodology was employed for the purposes of this study. It was concluded that there were positive

abnormal returns around the cross-listing period. The cumulative average abnormal returns around the cross-listing period were also positive but statistically insignificant.

Onyuma *et al.* (2012) examined whether cross-listing had any impact on the financial performance of East African firms. Financial information three years before and after cross-listing was collated for the sampled population of cross-listed firms. From the study, it was established that there is a low positive effect of cross-listing on liquidity of the cross-listed shares. The price-earnings ratio of the cross-listed firms also improves indicating better investor confidence.

Odhiambo (2013) studied the effects of cross-border mergers and acquisitions on firm value. The population for the study included the Kenyan firms that had undertaken cross-border acquisitions within the East African region. Abnormal performance following cross-listing was evaluated by use of an event study methodology. The study concluded that firms engaging in cross-border mergers and acquisitions exhibit better financial performance.

Another study by Odhiambo (2017) investigated the benefits of cross-listing on East African firms. The study discovered that there was no significant evidence to indicate a change in dividend pay-outs upon cross-listing for the cross-listed firms. However, when the non-cross listed firms were included in the analysis, the results indicate that cross listed firms have significantly higher dividend pay-outs compared to non-cross listed firms (Abdallah and Maina, 2019).

A study by Wanjiru (2013) concluded that cross-listing leads to an increase in the volume of shares traded and the capitalisation of the affected bourses. All cross-listed firms in East Africa formed the population of the study. Event study research design was employed for purposes of the study and by use of the analytical regression model; the

volume of daily traded shares 6 months before and after cross-listing was tested. The study however did not establish any significant increase in the liquidity of the cross-listed shares.

2.6 Summary

The chapter presented an overview of the potential benefits of cross-listing and the possible effects of cross-listing in Sub-Saharan Africa and Namibia. Many of the cross-listings in literature were undertaken to expand operations in the host countries. Accordingly, the study analyses the performance of JSE cross-listed companies on the **NSX,** to better appreciate the associated benefits and challenges of cross-listing. The chapter discussed theories applied in literature on the potential benefits of cross-listing, which included the market segmentation theory, liquidity preference theory, investor recognition hypothesis and the bonding hypothesis. These theories and related empirical research discussed to enhance our knowledge of the possible benefits of cross-listing **in** the context of Namibia. Similar studies on the NSX and JSE Cross listing were discussed, the review show inconclusive on how firms in the JSE benefited by cross-listing in other Sub-Saharan Africa Exchanges. Thus, this study contributes to this gap by applying the market segmentation approach to cross listings by looking at inward or NSX focused cross listing versus outward or JSE cross listing in small economies like Namibia. The next chapter presents the Research Methodology.

CHAPTER3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methods available to researchers and also gives a summary of research methodology theory and concepts. It further explains the research methodology used in this study and the reasons the researcher chose the methodology. The methodology focuses on the research process and the tools used to collect data. This includes the data collection procedures in terms of the research population, as well as the sampling strategy and procedures.

3.2 Research Design

The study adopted a Quantitative Content Analysis (QCA) design that utilises a variety of tools and methods to study media content. Content analysis is a research technique for describing the manifest content of communication in an objective, systematic, and quantitative manner (Yin, 2014). According to Creswell (2014) content analysis refers to any technique for making inferences by consistently and objectively identifying specific properties of texts.

In this study, content analysis was used to explore the financial indicator data derived from empirical literature and aligned to the study's hypothesis. These financial indicators were then extracted from historical financial reports of firms listed on the NSX. In order to comparatively assess the performance of locally listed and cross listed firms listed on the NSX. The QCA approach was considered appropriate due to the nature of data on the NSX listed firms. Therefore, QCA provided an appropriate method of studying and analysing financial information on the NSX firms, in a systematic, objective, and quantitative manner for the purpose of measuring variables.

3.3 Data Sources

The study used secondary data, sourced from publicly available databases of the Namibian Stock Exchange (NSX) website (http://n .com.na) and the ShareData™ Stock Exchange Profiles (http://www.sharedata.co.za). The study adopted the financial indicators calculated on the ShareData™ website to ensure consistency and reliability of the data. The data covers a period of 3 years (2019 to 2021) because the updated financial reports for the companies were reported at varying times in this period. For each stock, the latest reporting date was used giving a sample of 12 financial indicators from 39 NSX listed companies. The choice of variables used was guided by literature on asset value, liquidity and profitability.

3.4 Study Context

The section presents the general information of cross-listing on the NSX. This study used secondary data of the most recent financial information of both cross-listed and locally listed companies on the NSX. The rationale for using all the companies was based on the fact that the NSX has experienced a number of changes in the period 2019 to 2021, which has seen five de-listings and a corresponding five new listings. The period has also seen the listing of seven new Exchange Traded Funds (ETFs); however, the ETFs were excluded from the sample. Table 3.1 presents a summary of the findings.

Table 3 1 : GeneraJI nfiormafion on Cross-(jstini?On the NSX

De/Listing date	Name	Stock Code	Listing type	Board	Status
2021-01-19	African Oxygen Limited	AOX	Cross listed	Main	Delisted

2020-02-28	Trevo Capital Ltd	TRVP	Cross listed	Main	Delisted
2020-02-18	Astoria Investments Ltd	ARO	Cross listed	Main	Delisted
2019-10-15	Clover Industries Ltd	CLN	Cross listed	Main	Delisted
2019-06-11	Bidvest Namibia	BVN	Primary listed	Main	Delisted
2020-07-31	MCUBE One Investment Ltd	MQA	Primary listed	DevX (CPC)	New listing
2020-07-31	Omajowa Properties Ltd	OMJ	Primary listed	DevX (CPC)	New listing
2019-11-15	SBN Holdings Ltd	SNO	Primary listed	Main	New listing
2019-09-12	Alpha Namibia Industries Renewable Energy Power Ltd "ANIREP"	ANE	Primary listed	DevX (CPC)	New listing
2020-07-31	Omajowa Properties Ltd	OMJ	Primary listed	DevX (CPC)	New listing
2019-11-26	7 New ETF Funds	Tracking international markets	Cross listed	ETF	New listing

Source:

Table 3.1 indicates the nature of listings and de-listings on the NSX in the last two years. The findings indicated that the general trend has seen cross-listed firms listed on both the JSE and the NSX delisting. The reasons could be tied to a slowdown in global economic growth and the general low returns that have been experienced on the JSE in recent years. According to the NSX annual report (2019) the NSX has been experiencing a reduction in the cross listed assets. While, the regulatory reforms such as Regulation 13 of Pension Fund Act that prescribed 45% of total pension funds to be in domestic assets, has dominated the strategic direction and efforts of the NSX and its members (brokers) (NSX, 2019).

The Namibia Financial Institutions Supervisory Authority issued a circular in June 2017 revising guiding regulations, increasing the minimum domestic asset requirement from 35 percent to 45 percent, effective on the 15[1] of October 2018 (NSX, 2019). The Government Institutions Pension Fund (GIPF), a defined benefit fund for government employees, was granted an extension until March 31, 2021, despite the fact that the fund's domestic assets only amounted to 37% at the end of September 2019.

The NSX has seen a growth of locally listed assets to necessitate this compliance. Table 3.1 shows that localised products are being employed as a method to fill the hole left by the fall in dual-listed stock investments. According to the new regulations, the investments that will account for 45 percent of the total should not be cross-listed. As a result, the study examined how these changes have affected the firm value and performance of cross-listed assets in comparison to their localised counterparts.

3.5 Sampling and Data

To pursue the main objective of the study, which is to empirically analyse the impact of pension fund regulation changes on pension fund investments and capital market development in Namibia, the choice of explanatory variables and sampling time frame was informed by both the literature and data availability. The sample data consisted of 15 financial indicators from the 39 NSX stocks collated in Microsoft Excel 2019. The data cleaning exercise involved removing cases with incomplete data on key variables resulting in a reduced sample of 288 observations of 9 financial indicators for each of the 32 NSX stocks. The study adopted variables used in previous studies and defined on the ShareData™ investor glossary of indicators. The NSX companies that are currently listed and cross listed on other exchanges are shown in Table 3.I below:

Table 3.1: NSX listed Companies with Cross-listings on other exchanges

Compuoy	Sector	NSX Listing Y ar	Employees	NSX-Main-JSE	NSX-Main	NSX-DevX-ASX
Investec Limited	Financial Services	1992	8742	X		
Barloworld Ltd	Support Services	19%	12905	X		
Firstrand Ltd	Banks	1998	49233	X		
Standnrd Bank Group Ltd	Banks	1998	449%	X		
Tniwortl International Ltd	General Retailers	1998	10328	X		
Sanlam Limited	lnswance	1998	6177	X		
Sanlam Limited	Life lnswance	1998	6177	X		
Oceana Group Ltd	Food Producers	1998	4450	X		
Anglo American pie	Industrial Metals &. Mining	1999	28692	X		
Shopnlc Hokhnis Ltd	Food & Drug Retailer.;	2002	141452	X		
Nodbnnk Group Limited	Banks	2007	28324	X		
Vukilc Property Fund Limited	Real Estate Investment Tnists	2007	30	X		
TnlSlco Group I loldin!l,SLimited	Financial Services	2009	1015	X		
Momcotum Metropolitan HoldinjlS	Life lnswance	2012	16234	X		
Mediclinic International pie	Health Care Eqrnpmcm & Services	2014	33140	X		
PSG Konsult Limited	Financial Services	2014	2917	X		
Old Mutual Ltd	Life lnswance	2018	29861	X		
)NicnLl Holdings Limited	General Retailers	1992	444		X	
Nnmibio Breweries Limited	beverages	19%	827		X	
Fil,tRand Namibia Limited	Banks	1997	2287		X	
Namibia Asset Management Limited	Financial Services	1998	JO		X	
Oryx Properties Limited	Real Estate Investment Trusts	2002	28		X	
Stimulus Investments Limited	Financial Services	2004	0		X	
Palad.in Encri;y Limited	Industrial Metals & Mining	2008	0		X	
B2Gold Corporation	Industrial Metals &. Mining	2012	5392		X	
Cnpncom Group Limited	Banks	2013	2359		X	
Bravura Holdings Limited	Financial Services	2015	0		X	
Tadvest Limited	Financial Services	2016	0		X	
Pnrntu5 Nanubia Holdings Limited	Tclecommunicatons	2017	189		X	
Lc1Shego Flold,ngs (Num1b1al Limited	Financial Services	2017	\16		X	
SBN Holdings	Banks	2019	1700		X	
ANIREP	Alternative Electricity	2019	0		X	
Fors} Metals Corporation	Industrial Metals & Mining	2007	0			X
Bannennnn Resources Limited	Industrial Metals &. Mining	2008	0			X
Deep YeUow Limited	Industrial Metals &. Mining	2008	0			X
lVlnrcnicn Energy Limited	Industrial Metals &. tvlining	2009	0			X
Celsius Resources Limited	Industrial Metals&. Mining	2018	0			X

Source:

Additionally, the financial indicators include the year the stock was listed on the NSX, Sector, the NSX Board its listed on, Market Capitalisation, Issued Shares, Employees, Attributable Income, Ordinary Shareholder Interests, Three-year Beta, Return on Shareholder Funds, Price High, Price Low, Liquidity, Net Asset Value per share (NAVPS). The study also computed new combinations of proxy variables derived from

readily available data to identify and align with definitions of asset value, liquidity and profitability.

3.6 Data Analysis Procedure

The data was collected from sources the NSX website and the ShareData™ website manually. The data for 12 financial indicators from the 39 NSX stocks collated in Microsoft Excel 2019. The data cleaning exercise in Microsoft Excel 2019 involved the use of data transpose and pivot tables in structuring the data for analysis. Thereafter, the data was reduced to 9 financial indicators for 32 NSX stocks with complete and consistent data.

This cleaned dataset was then exported to IBM SPSS version 26 statistical software. To give statistical meaning to the analysis, cross tabulation of the grouped means was comparatively assessed to evaluate the firm value appreciation or depreciation on return earnings of NSX stocks; as well as, identify the nature of cross-listing on the NSX and to detect associations between the key variables, before carrying out the inferential analysis. Inferential and multivariate statistics are concerned with using samples to infer something about group distributions. The inferential analysis involved non-parametric group analysis of the constructs against the NSX listed firms' groupings. The study used the non-parametric Kruskal-Wallis test to compare two or more of the groups and the Mann-Whitney U test when there were two groups.

The study made inferences by testing for significance of mean differences between Locally listed and cross listed NSX stocks as defined by asset values, liquidity and profitability variables. This was done to evaluate the comparative differences in the

accumulated asset value, liquidity, and profitability of locally listed and cross-listed assets on the **NSX.**

3.7 Reliability and Validity

To establish the reliability and validity of the results, the research carried out a sequence of diagnostic steps, starting with the test for scale reliability using the Cronbach's Alpha statistic if an item is deleted to remove variables that had poor reliability. The Cronbach's Alpha test saw variables such as the Attributable Income, Ordinary Share Interest, and Employees being dropped due to their effects on the overall Cronbach's Alpha. The Cronbach's Alpha of the variables remaining was 0.731, which is above the recommended threshold for good reliability of 0.7. In order, to avoid spurious regression resulting from the trend movement of the financial indicator variables, the study employed the non-parametric Spearman rank correlation.

3.8 Research Ethics

This research was a quantitative desktop research, which involved rev1ewmg and analysing secondary data sources and literature. The secondary data used in the study is aggregated publicly available information from national and international databases and thus carries no identifying information to warrant any breach of ethical conduct in research.

3.9 Summary

This chapter discussed the research technique, the data used in the study, and its sources in order to meet the primary goal of this study, which was to analyse the return on firm value of the JSE cross-listed firms on the NSX stock exchange. Also exploring the trends and dynamics that influence the performance of cross listed firms on the NSX.

The following chapter presents, interprets, and discusses the empirical results of the study.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1. Introduction

This chapter presents the results of the analysis of data and the research findings of the study. The analysis of data aims to address the main research objectives, which were:

- To analyse the firm value appreciation or depreciation on return earnings ofNSX stocks;
- To determine the effects of cross-listing on the performance of the company
- To evaluate the comparative differences in the accumulated asset value, liquidity, and profitability of locally listed and cross-listed assets on the NSX over time

The chapter begins with the description of the data and the final sample used in the analysis. Secondly, the addresses the first objective by analysing the firm value appreciation or depreciation on return earnings of NSX stocks and the third objective of comparatively evaluating the differences in the accumulated asset value, liquidity. This was done through descriptive statistics and cross tabulations of the four key variables of NSX groupings, firm performance, and value indicators on the cross-listing categories. The last two sections on correlational matrix and the inferential statistics were used to determine the effects of cross-listing on the performance of the company. The inferential statistics discusses the significant difference between locally listed and cross-listed assets based on the latest financial performance. Finally, the last section presents the chapter summary.

4.2 Data and final sample

The study was done on thirty-two (32) of the thirty-nine (39) listed stocks on both the main board and developmental capital market (DevX). With assets such as MCUBE and Omajowa Properties excluded due to incomplete information on key financial indicators of interest to the study. The secondary data collected included the returns on shareholder funds, net asset value per share, high and low share prices, 3-year beta, market capitalisation and trade volume at the last reported and published financial statement. The study also looked at the years since listing to show the effect of time of the profitability, liquidity and value indicators.

The year since listing was also used as a variable for weighting the cases during analysis on the assumption that the time weighting will take account of any time effects. The study used Cronbach's alpha if an item is deleted to come up with the variables that had high consistency and reliability. The reliability of the data sample for the latest financial results in the period 2020 and 2021 was 0.731, which indicated good reliability (>0.7). Table 4.1 presents the descriptive and reliability statistics of the study variables.

Table 4.1 Descriptive and Reliability Statistics (N=32)

Factor	Variable	Mean	Std. Dev	Scale Mean if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Time	YearsListing	15.78	7.40	27991.91	0.346	0.737
Groupings	LocalListing	0.38	0.49	28007.32	-0.36	0.737
	Main	0.88	0.34	28006.82	0.072	0.737
	ListingGroup	2.38	0.71	28005.32	0.319	0.737
	Industry	3.19	1.87	28004.50	0.189	0.737
Asset Value	NAVPS (ZARc)	3174.00	4251.51	24833.69	0.333	0.719
	MktCap m millions	7070.50	12046.92	20937.19	0.755	0.647

	Volume m millions	775.41	1066.90	27232.28	0.072	0.736
Liquidity	Price High (ZARc)	8480.22	12142.95	19527.47	0.922	0.594
	Price Low (ZARc)	3827.13	5523.89	24180.57	0.742	0.667
	Liquidity (ZARc)	4653.09	8861.85	23354.60	0.706	0.653
Profitability	3 Yr. Beta	0.51	0.68	28007.18	0.352	0.737
	Ret on SH Fund(%)	4.24	24.46	28003.45	0.062	0.737

Table 4.1 presents the summary of the final data sample of 32 of the 39 stocks currently listed on the NSX. The variables are grouped into five factors which include: time, group categories, asset value, liquidity and profitability. The time variable refers to the time period in years from the asset's listing on the NSX to the year 2021. The study found that the average listing time on for stocks on the NSX was 15.78 years. While, the grouping categories that will be used to assess the differences between the cross listed and locally listed assets (Local Listings). As well as, listing board type (Main), industry or sector and the combined grouping identifying the exchange, listing board and nature of cross-listing (Listing grouping).

Table 4.1 shows the asset value factor comprising of Net Asset Value per share in South African Rand cents. In addition, the market capitalisation in millions of assets on the NSX (MktCap) and volume represent the variable of issued shares. The data sample indicated that the average Net Asset Value PS was 3,174 cents, while the average Market Capitalisation was N$ 7, 07 billion and average issued shares were at 775.41 million. The Table 4.1 also presents the liquidity indicators which includes the High and low prices for the latest financial year. Accordingly, the findings indicated that on

average the Price High was 8,480.22 cents, while the Price Low was 3,827.13 cents giving an average liquidity of the market of 4,653.09 cents. The higher the price differences between the Price High and Price Low indicates high liquidity.

Table 4.1 presented the profitability indicators which included the 3-Year Beta and the percentage return on shareholder funds. The average 3-Year beta of the sample was 0.51. By definition, the beta of a benchmark is 1.00 and a share with a beta of 1.50 tends to move 50% more than the market in the same direction; a share with a beta of 0.50 tends to move 50% less. The study used ShareDataTM beta levels which are were derived from weekly data for three years until the end of the corresponding reporting period. The findings suggest that the NSX stocks on average moves 49% less in the direction of JSE All share index.

Table 4.1 also presented the Return on shareholders' Funds (Ret on SH funds) which averaged 4.24% with a standard deviation of 24.46%. The findings indicate a mix of both poor performing high risk stocks and high performing low risk stocks on the NSX. The next sub-section present NSX grouping with Industry or sectors the companies operate in. The other sub-sections also will also present analysis of NSX groupings cross-tabulated with variables of asset value, liquidity, and profitability.

4.2.1 NSX Groupings by Industry

The profile of the listed assets on the NSX can be classified into four categorical groupings which includes local listing, board listed, exchange listed, industry or sector. The sample of 32 stocks were then grouped and summarised in Figure 4.1.

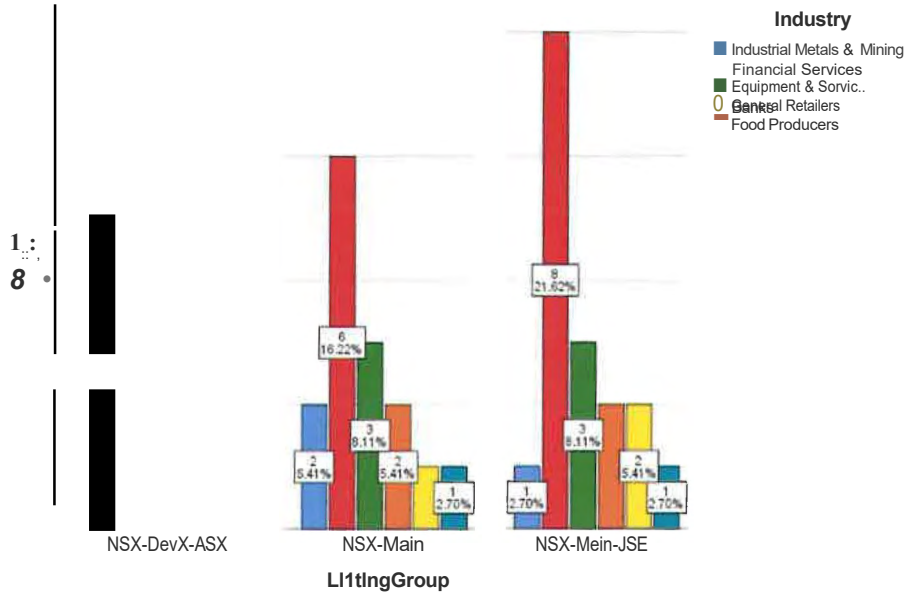


Figure 4.1 NSX Groupings

Figure 4.1 presents the categories used in grouping the NSX listed stocks for better comparative analysis. The findings indicated that the majority of stocks on the NSX are from financial services sector (n = 14), which are consistent with NSX strategy of increasing investment vehicles for Pension Funds in compliance with Regulation 13. Additionally, the regulator, NAMFISA has given concessions on the need for companies listed to have economic activity in Namibia for it to be listed on the NSX. Thus, providing credence to the increase in listings from the financial services sector, that are using the NSX, as a platform for raising capital by new companies without any employees or economic activity in Namibia.

Figure 4.1 also indicates that the stocks (n = 5) listed on the Development capital market (DevX), were also cross-listed on the Australian Stock Exchange (ASX). While, the majority of cross listed stocks are dual listed on the JSE (n =16). The findings indicate the widespread practices in Namibia's industrial and mining sectors, where DevX is used to obtain funds for mining projects. The promoters can raise development financing on

both the NSX and the ASX once the mining project is cross-listed. The DevX has been used by the majority of new mining listings to seek funding for the start-up and expansion of mining projects. However, DevX is not included in either of the NSX indices calculated by FTSE in London, according to the NSX Annual Report (2019).

4.2.2 Asset Values

This section presents asset value indicators which include market capitalisation, issued shares and the Net asset value per share (NAVPS). Market capitalisation, also known as market cap, is simply the total value of a company's shares and provides an indication of a company's size for comparisons with other companies. This concept can also illustrate the market as market capitalisation gauges the public is prepared to pay for the company's stock, as the company's future prospects are seen. The Net asset value per share (NA VPS) is an expression for net asset value that represents the value per share of a mutual fund. It is calculated by dividing the total net asset value of the fund or company by the number of shares outstanding and is also known as book value per share. The NA VPS is of interest to financial services assets with no economic activity in Namibia and are subject to market forces. As such, the NAVPS at any given time may diverge from the actual buying and selling prices of the assets. Table 4.2 presents the findings.

Table 4.2 Cross Tabulation of Groupings and Asset Values

Grouping	Variable	N	Column N%	MktCap (in Mil)	Volume (in Mil)	NAVPS (ZARc)
				Mean	Mean	Mean
Main	DevX	5	13.5%	414.00	410.79	91.15
	Main	32	86.5%	7107.31	902.67	3271.79
Listing Group	**NSX-DevX-ASX**	5	**13.5%**	**414.00**	**410.79**	**91.15**
	NSX-Main	**15**	**40.5%**	**2514.33**	**334.15**	**1081.26**
	NSX-Main-JSE	**17**	**45.9%**	**11159.94**	**1404.30**	**5204.61**

Industry	Banks	6	16.2%	5946.33	1505.84	6027.97
	Financial Services	14	37.8%	3189.29	988.13	2220.91
	General Retailers	3	8.1%	6666.33	362.55	1840.61
	Food Producers	2	5.4%	5079.50	171.03	2922.78
	Equipment & Services	4	10.8%	7906.50	253.89	5110.58
	Industrial Metals &. Mining	8	21.6%	10924.00	703.14	760.34

Table 4.2 shows the asset value indicators for the key groupings of interest to the study. The findings show that 86.5% of the stocks were listed on the NSX Main board, of which 45.9% are cross listed and 40.5% locally listed. The findings indicated that the cross listed stocks on the DevX had the lowest Market Capitalisation averaging N$414 million and NAVPS averaging 91.15 cents. While, the cross listed stocks on the main board and the JSE had the highest values of Market Capitalisation (Mean = N$ 11,1 billion), Issued shares (Mean = 1.404 billion) and NAVPS (Mean = 5204.61 cents. On the other hand, the main board assets listed domestically were better than the DevX assets but lower than the cross-listed JSE firms. The cross-listings and local listings of the firm numbers and the number of issued shares were comparable on the NSX main board. The results indicate that the average asset values of cross listed firms were at least 4.5 times the value of those locally listed.

The findings support Inder *et al.* (2014)'s study on the relationship between cross-listing and firm's growth, across 22 different countries that had listed at home and in the US around 1994-2002. Their study established that firms that list in other jurisdictions having its primary listing in a more established financial market exhibited greater growth from external financing compared to their non-cross-listed counterparts.

Similarly, the Namibian firms that are locally listed stand to gain by cross-listing on the JSE Development board, if they should seek greater potential growth.

Table 4.2 further decomposes the groups to sector comparisons which shows that high Market capitalisation in the Industrials Metals & Mining sector (Mean = N$10.92 billion), followed by the Equipment & Services support sector (Mean= N$ 7.66 billion) that also had the highest book value (NAVPS = 5110.58 cents). The financial services sector with 37.8% of the listed firms, indicated low market capitalisation (Mean =N$ 3, 189 billion) and modest NAVPS of 2220.9cents.

4.2.3 Liquidity

This section presents the liquidity indicators used in the study. Liquidity is usually calculated as the ratio Cash Flow to Total Debt, however, in the study liquidity was calculate from the differences between the high and low price of the given asset in the latest financial year. Since, market liquidity of assets affects their prices and expected returns. Theory and empirical evidence suggest that investors require higher return on assets with lower market liquidity to compensate them for the higher cost of trading these assets (Amihud & Noh, 2021). That is, for an asset with given cash flow, the higher its market liquidity, the higher its price and the lower is its expected return.

Table 4.3 Cross Tabulation of Groupings and Liquidity

Grouping	Variable	N	Column N%	Price High	Price Low	Liquidity
				Mean	Mean	Mean
Main	DevX	5	13.5%	8125	89	8036
	Main	32	86.5%	7340	3900	3439
Listing Group	NSX-DevX-ASX	5	13.5%	8125	89	8036
	NSX-Main	15	40.5%	2924	1686	1238
	NSX-Main-JSE	17	45.9%	11236	5854	5382

Industry	Banks	6	16.2%	8804	3988	4816
	Financial Services	14	37.8%	4748	3351	1397
	General Retailers	3	8.1%	7021	4511	2510
	Food Producers	2	5.4%	5501	3369	2132
	Equipment & Services	4	10.8%	4675	3294	1381
	Industrial Metals&. Mining	8	21.6%	13180	2621	10559

Table 4.3 indicates high liquidity levels in the DevX board (Mean = 8036 cents), which is attributed to the Industrial Metals & Mining sector (Mean = 10559 cents) which dominates the DevX board. On the main board the JSE cross-listed firms (Mean= 5382 cents) which is about 4 times that of locally listed main board firms (Mean = 1238 cents). The other industries with high liquidity include Banks (Mean= 4816 cents) and General retailers (Mean= 2510). For an asset with given cash flow, the higher its market liquidity, the higher its price and the lower is its expected return. Therefore, these findings imply that the cross listed DevX board listings with the highest liquidity and prices is expected to have the lowest returns. The findings are in line with Onyuma *et al* (2012) assertions that cross-listing had a low positive effect on liquidity of the cross-listed shares, with price earnings ratio of the cross-listed firms improving indicating better investor confidence. The next sub-section presents the profitability indicators.

4.2.4 Profitability

This section presents the profitability indicators used in the study, which includes returns on shareholder funds (Ret on SH funds) and 3-Year Beta. Ret on SH funds represent the sum of Attributable Income After Extraordinary Items and Outside Shareholders'

Interest divided by Total Shareholders' Interest) averaged over a financial period. This ratio measures the profitability of a business in relation to the capital which shareholders have invested in the business.

Beta is mostly employed in the CAPM and measures a volatility or systemic risk compared to the entire market of a security or portfolio. The 3 Yr. Beta values represent the stock risk assessment in relation to the JSE All Share index. The study used ShareData™ beta levels which are were derived from weekly data for three years until the end of the corresponding reporting period. Table 4.4 presents the results.

Table 4.4 Cross Tabulation of Groupin2s and Profitability

Grouping	Variable	N	Column N¾	3Yr. Beta	Reton SH Fund
				Mean	Mean
Main	DevX	5	13.5%	0.08	-11.51
	Main	32	86.5%	0.57	6.04
Listing Group	**NSX-DevX-ASX**	5	**13.5%**	**0.08**	**-11.51**
	NSX-Main	**15**	**40.5%**	**0.09**	**4.02**
	NSX-Main-JSE	**17**	**45.9%**	**0.93**	**7.83**
Industry	Banks	6	16.2%	0.72	11.46
	Financial Services	14	37.8%	0.47	6.44
	General Retailers	3	8.1%	0.55	20.89
	Food Producers	2	5.4%	0.47	16.22
	Equipment & Services	4	10.8%	0.56	1.06
	Industrial Metals &. Mining	8	21.6%	0.41	-15.3

Table 4.4 presented the profitability indicators which included the 3-Year Beta and the percentage return on shareholder funds for the groupings of interest. The average 3-Year

beta of the DevX stock sample was 0.08, while the NSX Main listed stocks averaged 0.57. The findings imply that the Main listed stocks are more likely to be influenced by the movement of the All JSE index than the DevX, which is linked to the ASX. By definition, the beta of a benchmark is 1.00 and a stock with a beta of 0.57 tends to move 43% less than the JSE. The findings further show close association between the NSX-Main-JSE stocks that average follows the JSE All share Index by only 7% less than the direction of JSE All share index. Additionally, the results show that the Banking sector which is dominated by South African banks also tracks the performance of the JSE All share index at 28% less.

Table 4.4 also presented the Return on shareholders' Funds (Ret on SH funds) which indicated a mix of both poor performing high risk stocks and high performing low risk stocks on the NSX. The findings show that the General Retailer stocks performing well with 20.89%, followed by Food producers (16.22%) and Banks (11.46%). Whereas, the Industrial and metal stocks which dominate the DevX board performed poorly at -15.3%. These poorly performing stocks will only move to the NSX main board when their performance improves.

The findings support the Investor Recognition Hypothesis, which premises that investors limit their investment selection due to the prohibitive costs of informational gathering. For instance, the DevX stocks includes mining companies that are still in the process of exploring their mining claims. The DevX affords investors in the Australian ASX, reduced information gathering costs, through the outward cross-listing on the NSX. At the same time, this inward cross-listing enables the stock of the mining companies to become more visible to local investors and makes information about the firm more

available. This serves the purpose of raising domestic funding and increasing investor base, which in tum increases the value of the firm (Waweru *et al.,* 2012).

4.3 Correlational Matrix

The study used correlational analysis to investigate the strength of a relationship between two continuous variables. The findings are presented in Table 4.5 on the next page.

Table 4.5 presents the Spearman's rank correlation results of the thirteen key variables. The correlational matrix was utilized in the study to determine the degree and direction of a monotonic link between two variables. The study relies on monotonicity which has fewer constraints than a linear relationship, as indicates the relationship's strength whether positive or negative. The findings indicated that the variable Listing groups had significant relationships with 10 out of the thirteen variables ranging from r = -0.400 to 0.648. On this basis, the Listing groups categories we then selected for use in testing the hypothesis and answering the research questions on the impact of cross-listing on firm value for JSE companies listed on NSX.

Table 4.5 Spearman's Correlational Matrix

Code	Variable	I	2	3	4	5	6	7	8	9	10	11	12
I	YearsListimi	1.00											
2	LocalListing	-0.19	LOO										
3	Main	0.17	.326	1.00									
4	Usting(Jroop	0.31	-.508"	.§48 "	1.00								
5	Industry	-0.IO	-0.IJ	-.557	-.-100	1.00							
6	Net Asset Value PS(ZARc)	.388•	**-0.27**	.526	.6"95"	.Q.	1.0 0						
7	MktCap	.426••	-02 9	.444••	.1>12··	-0.04	.807••	1.00					
8	Volume	-0.1 0	-.469	0.09	.459..	-0.19	0.1 0	0.2 3	1.00				
9	Price High	.405	-.356	0.2 3	.496 ·	-0.09	.729	.758	0.15	1.0 0			
IO	Price Low	.442••	,0.2 5	.511	.66 5	-.348•	.798••	.754	0.00	.765	1.0 0		
II	Liquidity	.433••	-.531	0.10	.522	-0.07	.667••	.720	.355	.921	.603	1.0 0	
12	3 Yr Beta	0.27	-.493	0.2 3	.59·	-0.0 4	0.34	.389	.634	.392	0.21	.548	1.00
13	Ret on SH Fund	0.27	0.18	.452	0.27	-.327	0.25	0.20	0.08	0.23	0.26	0.24	-0.02

•. Correlation is significant at the 0.05level (2-tailed).
••. Correlation is significant at the 0.01 level (2-tailed).

The Listing grouping has three categories, which includes: 1. NSX-DevX-ASX, 2. NSX-Main-local, 3. NSX-Main-JSE. The comparison will highlight the effect of cross-listing on the NSX's two boards (Main & DevX) and foreign exchanges (JSE & ASX). While, Local listing variable which separates the locally listed firms from the cross listed firms, has significant negative relationships with Listing group ($r = -0.508$, $p < 0.01$), liquidity ($r = -0.531$, $p < 0.01$), issued shares ($r = -0.469$, $p < 0.01$) and 3 Yr. beta ($r = -0.493$, $p < 0.01$).

With regards to Asset value and Liquidity, the findings in Table 4.5 indicate that the years spend on NSX is directly linked to Asset value and liquidity, with significant associations noted with NAVPS ($r = 0.388$, $p < 0.05$), Market cap ($r = 0.426$, $p < 0.01$) and liquidity ($r = 0.433$, $p < 0.05$). The findings implies that the longer the time an asset is listed on the NSX influences, the higher its levels of market capitalisation, liquidity and book value (NAVPS).

The findings further show liquidity having the significant associations with the all-key grouping variables like Listing grouping ($r = 0.522$, $p < 0.01$), asset values (ranging from 0.355 to 0.720), Price High ($r = 0.921$, $p < 0.05$) and the 3 Yr. Beta ($r = 0.548$, $p< 0.05$). The findings also indicated that the industry variable did not have a significant association to liquidity, instead the industry variable indicated significant negative associations to the main list board variable ($r = -0.557$, $p < 0.01$), Price Low ($r = -0.348$, $p < 0.01$) and Ret on SH Funds ($r = -0.327$, $p < 0.01$).

The findings show that the liquidity variable used in the study was highly influenced by the Price High of the asset in the current financial period. On the basis of these finding the study, focused its inferential statistical analysis on the following variables liquidity (Price low), asset values (MktCap and NAVPS) and profitability (3 Yr. Beta). The 3

Year Beta is found to be a better reflection of profitability than the Ret on SH Funds variable which had no significant associations with the variables of interest to this study. Accordingly, the relationships of inferential significance include:

- Liquidity (Price High - Price Low), as the dependent variable;
- The Listing grouping variable, as the independent factor;
- NAVPS, MktCap, and 3 Yr. Beta, as covariates to the liquidity variable.

Thus, the correlational matrix provided the general outline of key relationships that were used to come up with a regression equation of asset liquidity on the NSX in the current period.

4.4 Inferential Statistics

For in group difference analysis, the study used the Mann-Whitney U test, which is a nonparametric test of the null hypothesis that it is equally likely that a randomly selected value from one population will be less than or greater than a randomly selected value from a second population (Pallant, 2016). This test was used to investigate whether two groups from the categorical variables Main and Local listings were selected from populations having the same distribution. While, the Kruskal-Wallis test was used on the categorical variable involving three groups under the Listing groupings. The test is a non-parametric method for one-way analysis of variance (ANOVA), which tests whether the samples originate from the same distribution. A significant Kruskal-Wallis test indicates that at least one sample stochastically dominates one other sample. The test does not identify where this stochastic dominance occurs or for how many pairs of groups stochastic dominance obtains. Since it is a non-parametric method, the Kruskal-

Wallis test does not assume a normal distribution of the residuals, unlike the analogous one-way analysis of variance. The findings are presented in Table 4.6 on the next page. Table 4.6 provides a quick summary of the results of the non-parametric independent sample tests to determine the groups with the most significant impact on the performance of financial assets on the NSX. The findings indicated that among the three categorical variables, Main (Main vs DevX), Local Listing (Locally listed vs Cross listed) and Listing grouping (NSX-DevX-ASX vs NSX-Main vs NSX-Main-JSE). The findings consistently show that the Listing grouping variable with its three distinct groups have statistical significance for rejecting the null hypothesis of uniformity. In this case the Sig. value (which is our p value) has consistently remained less than 0.05.

Table 4.6 Non-Parametric Analysis of the Group differences effect on the Financial Indicators

Variable	**Null Hypothesis:** The distribution of variable is the same across categories of	**Test**	**Decision**	**Sig.**
Liquidity	Main	Mann-Whitney U Test	**Retain the null hypothesis.**	.56oa
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.001
	Local Listing	Mann-Whitney U Test	Reject the null hypothesis.	.00la
NAVPS	Main	Mann-Whitney U Test	Reject the null hypothesis.	.oooa
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.001
	Local Listing	Mann-Whitney U Test	**Retain the null hypothesis.**	.112a
MktCap	Main	Mann-Whitney U Test	Reject the null hypothesis.	.oosa
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.001
	Local Listing	Mann-Whitney U Test	**Retain the null hypothesis.**	.osoa
Volume	Main	Mann-Whitney U Test	**Retain the null hypothesis.**	**.62oa**

	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.006
	Local Listing	Mann-Whitney U Test	Reject the null hypothesis.	.004a
Price High	Main	Mann-Whitney U Test	**Retain the null hypothesis.**	.18P
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.009
	Local Listing	Mann-Whitney U Test	Reject the null hypothesis.	.033a
Price Low	Main	Mann-Whitney U Test	Reject the null hypothesis.	.00P
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.001
	Local Listing	Mann-Whitney U Test	**Retain the null hypothesis.**	.143a
3 Yr. Beta	Main	Mann-Whitney U Test	**Retain the null hypothesis.**	.23oa
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.002
	Local Listing	Mann-Whitney U Test	Reject the null hypothesis.	.005a
Reton SH Fund	Main	Mann-Whitney U Test	Reject the null hypothesis.	.004a
	Listing Group	Kruskal-Wallis Test	Reject the null hypothesis.	0.025
	Local Listing	Mann-Whitney U Test	**Retain the null hypothesis.**	**.290[8]**

Note: a. Asymptotic significances are displayed. The significance level is .050.

The findings presented in Table 4.6 are in line with the researcher's assumptions that in Namibia, the stock value progresses from locally listed firms on the development capital board (DevX) with less stringent requirements to those listed as a Local asset on the Main board, which then progresses towards outward cross-listing on the South African JSE. This progression has implications on how cross-listing a firm on the NSX to another country's stock exchange will influence the stock's value appreciation or depreciation.

The findings showed that for the groupings which considered both the cross listed market and the main board listings had consistent significant differences, which implies a statistically significant difference between the three groups of firms listed on the NSX. The next step in the analysis was to determine the direction of the difference between the groups and identifying which group is has higher values.

For this analysis, the study used the compare means option **in SPSS,** and the Mean Rank for each group was compared using a means plot for each of the variables of interest. The findings are shown **in** Figure 4.2 below:

Figure 4.2 Means Plot for NSX Listing Group

Findings in Figure 4.2 show that NSX-listed stocks can be grouped into three categories on the basis of which market it is cross listed on (ASX or JSE) and on the board in which the stock fall under on the NSX (Main or DevX). The descriptive statistics of these stocks were discussed in detail in the previous sections. The graphical plots show that the stocks on the Main board performed better than the DevX stocks. Moreover, the cross listed stocks on the JSE had the overall best performance when compared to the locally listed stocks and the cross listed DevX stocks. The findings suggest that cross-listing in the Namibian context can be grouped into two types: one which is inclined inwards and another one outward.

The inward cross-listing is when firm list on the NSX with the intention of raising local funds through the NSX, which is a common strategy employed by start-up mining companies that want to set up a mining operation in Namibia. While, the outward cross-listing is employed by firms looking to raise capital or increase their stock value by listing directly on the NSX Main Board. The outward cross-listing can also be done by local firms that want to expand and will list on the JSE Africa Development board. Accordingly, firms that will employ the outward cross-listing should have stable risk and financial performance, low liquidity, and a very high potential for growth and returns. While, the reverse is true for inward cross-listing companies.

The findings are consistent with literature on African cross listed firms which tend to perform better than their locally listed counterparts due to the improved depth of stock market and availability of quality accounting information (Adelegan, 2009). The performance of cross listed firms is often benchmarked against an industry standard which often push the cross listed firms to perform at a higher level. Moreover, the firms listed on the NSX are pioneers of cross-listing in Africa, which began when South

Africa's JSE cross listed its stocks on the Namibia Stock Exchange (NSX) in 1992. Since then, the JSE has cross-listed in more than twenty firms on the NSX, including the current 17 in this study.

Musamira & Safari (2008) observed that African stock exchanges were hindered from growth by a number of challenges including lack of liquidity, low market capitalisation, high transaction costs, and lack of public awareness. As such, the liquidity of stocks on the NSX critically depends on the cross-listings on both the DevX and the Main board as shown in Figure 4.2 above. These findings suggest that the NSX has benefitted immensely from cross-listings from the South African JSE. However, in contrast, Dabengwa (2017) found no evidence to indicate that firms in the JSE benefited by cross-listing in other Sub-Saharan Africa Exchanges, including the NSX.

4.5 Summary

The chapter presented the findings on the most recent financial information of both cross-listed and locally listed companies on the NSX. The chapter began with the rationale of the approach and the factors that influenced the data analysis approach and the final data sample used. The chapter also presented the general information on the nature and type of cross listed firms on the NSX, the analysis identified three distinct groupings of stocks listed on the NSX. This grouping was independent of the industry or sector of the firm listed. The study found that the NSX board that a stock is listed on and the foreign market it will be listed on was motived by inward and outward cross-listing factors. The chapter also presented cross-tabulations of firm performance and value indicators on the identified cross-listing categories of the NSX. The findings were further tested using non-parametric tests for group differences. The study found statistically significant differences between locally listed and cross-listed assets, with

respect to financial performance indicators like NAVPS, Market capitalisation, Ret on SH Funds and 3 Year Beta and liquidity. The next chapter presents the conclusions, and recommendations of the study and ends with recommendations for future research and policymakers.

CHAPTERS
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter brings the research to a close, addressing the research problem and objectives. Following the presentation and discussion of the empirical findings in the previous chapters, this chapter presents the study's conclusions and recommendations, as well as policy implications and recommendations for further research.

5.2 Summary of Findings

The study analysed the impact of cross-listing on firm value for JSE companies, listed on the Namibia stock exchange. The Johannesburg Stock Exchange (JSE) stands out in Africa as by far the continent's largest, most liquid and best-regulated market. Moreover, it is home to some of the continent's largest and most sophisticated companies, which have listed on the top stock exchanges in the world such as the London Stock Exchange (LSE), and the New York Stock Exchange (NYSE). On the other hand, the Namibian Stock Exchange (NSX) launched in 1992 to assist listed companies to raise capital, whilst providing a capital market that contributes to Namibia's economic growth, development, and prosperity.

The JSE pioneered cross-listing **in** Africa, when it cross-listed more than 10 assets on the **NSX in** 1992. Subsequently, South Africa has cross-listed 28 firms on the NSX over the years. In almost all cases, these firms are large with a strong base in their home country, and they first established operations in their host countries before deciding to cross-list. Many cross-listings are undertaken to expand operations in the host countries. The study analysed the performance of JSE cross-listed companies on the NSX, to better appreciate

the NSX and the associated benefits and challenges of cross-listing, while promoting a deeper understanding of why it becomes important to cross-list on the exchange.

This study discussed theories applied in literature on the potential benefits of cross-listing. These included the market segmentation theory, liquidity preference theory, investor recognition hypothesis and the bonding hypothesis. In the context of Namibia, these theories and related empirical research were employed to improve our knowledge of the possible benefits of cross-listing. Also discussed were the dimensions of inward and outward cross-listings in the literature, contextualising the raising of domestic and foreign funds and expanding the investor base, which in tum raises the firm's worth.

The study used a Quantitative Content Analysis (QCA) design, which examines media content using a variety of tools and methods to investigate financial indicator data from NSX-listed companies. In order to compare the performance of NSX-listed companies that are both locally and cross-listed. To ensure consistency and dependability of the data, the study used financial indicators derived on the ShareData™ website. Since the updated financial reports for the companies were reported at different periods over this period, the data covers a three-year period (2019 to 2021).

The study further discussed the general information and nature of cross-listing on the Namibian Stock Exchange (NSX) companies. Additionally, the study discusses the significant differences between locally listed and cross-listed assets on the basis of the latest financial performance. The study also looked at key policy directions that the government of Namibia and NAMFISA, as the regulator should take towards developing a beneficial framework for using cross-listing to further deepen the Namibian Financial Markets.

5.3 Conclusions and Recommendations

The research sought to analyse the accumulated asset value, liquidity, and profitability of locally listed and cross-listed assets on the NSX. The specific hypothesis of this research are concluded as follows:

5.3.1 Hypothesis 1 (Asset Value)

- *The study concludes that there were statistically significant differences in asset values (NAVPS) and Market Capitalisation of locally listed and cross-listed firms on the NSX*

The study sought to analyse the return on firm value of the JSE cross-listed firms on the NSX stock exchange. The study found that the average listing time for stocks on the NSX was 15.78 years. The findings show that 86.5% of the stocks were listed on the NSX Main board, of which 45.9% are cross listed and 40.5% locally listed. The findings indicated that the cross listed stocks on the DevX had the lowest Market Capitalisation averaging N$414 million and NAVPS averaging 91.15 cents. The study concludes that there has been firm value appreciation over time, with firms listed on the NSX longer having better asset value. While the cross listed stocks on the main board and the JSE had the highest values of Market Capitalisation (Mean = N$ 11,1 billion), Issued shares (Mean= 1.404 billion) and NAVPS (Mean= 5,204.61 cents).

The study concludes that the main board assets listed domestically were better than the DevX assets but lower than the cross listed JSE firms. Additionally, the cross-listings and local listings of the firm numbers and the number of issued shares were comparable on the NSX main board. The results indicated that the average asset values of cross

listed firms were at least 4.5 times the value of those locally listed. On the basis of the study findings, the majority of cross listed stocks were dual listed on the JSE (n =16). However, in recent years there has been a decline in the inward cross-listings due to regulatory reforms. Moreover, NAMFISA, the regulator, has made concessions on the requirement that companies listed on the NSX should have economic activity in Namibia. As a result, a rise in financial services sector listings, which use NSX as a platform for raising capital by new companies with no workers or economic activities in Namibia, is gaining traction; thus, opening opportunities for Namibian local companies with prospects for outward cross-listing on the JSE and other foreign markets.

The study concludes that the Namibian industrial and mining sectors rely on the DevX to obtain funds for starting up projects, with the promoters able to raise development financing by cross-listing on both the NSX and the ASX. The study recommends that promoters and policy makers should make use of DevX to drive the development of other sectors like fishing, agriculture, and manufacturing.

5.3.2 Hypothesis 2 (Liquidity)

- *There are statistically significant differences in the liquidity of locally listed and cross-listed firms on the NSX*

The study also found statistically significant differences between locally listed and cross-listed assets, with respect to liquidity. The study concluded that cross-listing in the Namibian context can be grouped into two types, one which is inclined inwards and another one outward. The inward cross-listing is recommended for those companies

seeking to raise local funds through the NSX, while, the outward cross-listing is recommended for local firms looking to raise capital or increase their stock value by listing on the JSE Africa Development board. Accordingly, firms that will employ the outward cross-listing should have stable risk and financial performance, low liquidity, and a very high potential for growth and returns. Meanwhile, the reverse is true for inward cross-listing companies. In addition, the study found that liquidity of stocks on the NSX critically depends on the cross-listings on both the DevX and the Main board.

5.3.3 Hypothesis 3 (Profitability)

- *There were no statistically significant differences in the profitability (3 Year Beta) of locally listed and cross-listed firms on the NSX*

The study found that 3-Year Beta was a better reflection of profitability than the Ret on SH Funds variable which had no significant associations with the variables of interest to this study. The study also found statistically significant differences between locally listed and cross-listed assets, with respect to profitability, measured through the 3 Year Beta. Moreover, the cross listed stocks on the JSE had the overall best performance when compared to the locally listed stocks and the cross listed DevX stocks. The findings are consistent with literature on African cross-listed firms which tend to perform better than their locally listed counterparts due to the improved depth of stock market and availability of quality accounting information.

The performance of cross listed firms is often benchmarked against an industry standard which often push the cross listed firms to perform at a higher level. Based on these findings, the study concludes that the NSX has benefitted immensely from cross-listings

from the South African JSE. However, in contrast to Dabengwa (2017) who found no evidence to indicate that firms in the JSE benefited by cross-listing in other Sub-Saharan Africa Exchanges, the study confirms positive and statistically significant evidence on the benefits of cross listing on the NSX.

5.4 Areas for Further Research

The study recommends further research on the same topic covering a longer time period. The assessment can be done at the sector level averages, since the firms listed have been changing over time. In addition, there is need for research into developing sectoral indices for the NSX based on the cross-listing categories presented in this study

REFERENCES

Adelegan, 0. (2009). The Impat of the Regional Cross-Listing of Stocks on Firm Value in Sub-SaharaAfrica. *IMF Policy Discussion Paper (WP/09/99) ,)Monetary and Capital Markets Department.*

Adeleye, B. N. (2018, March 24). *Time Series Analysis (Lecture 4 Part 1): Johansen Cointegration Test in EViews.* Retrieved August 10, 2019, from https://cruncheconometrix.blogspot.com/2018/03/time-series-analysis-lecture-4-part-1.html

Afego, P., (2011). Market Efficiency in Developing African Stock Markets: A Survey and Review of Literature. Available at **SSRN** 1909732.

African Securities Exchanges Association, (2014) Yearbook, 2014, Retrieved from: http://www.african-exchanges.org/wp-content/uploads/2014/10/ASEA_Yearbook_2014.pdf

Alexander, G.J., Eun C. S., & Janakiramanan, S. (1987). Asset pricing and dual listing on foreign capital markets: A note. Journal of Finance, 42(1), 151-158.

Alonso, J., Arellano, A., & Tuesta, D. (2016, November). Factors that impact on pension fund investments in infrastructure under the current global financial regulation. *16/19 Working Paper.*

Aluoch, M. A. (2012). The impact of cross-border listing on stock returns evidence from the Nairobi Securities Exchange, Unpublished MBA Project, University of Nairobi.

Amihud, Y. & Mendelson, H. (1989). The effects of beta, bid-ask spread, residual risk, and size on stock returns. The Journal of Finance, 44, 479-486.

Amihud, Y., & Noh, J. (2021). Illiquidity and Stock Returns II: Cross-section and Time-series Effects. *The Review of Financial Studies, 34(4),* 2101-2123.

Bacidore, J., & Sofianos, G. (2012). Liquidity provision and specialist trading in NYSE-listed non- U.S. stocks, Journal of Financial Economics, 63 (1)1,33-58.

Bums, N. & Bill, F. (2016). Cross listing and Legal Bonding: Evidence from mergers and acquisitions, University of Georgia. New York.

Cetorelli, N. and Peristiani, S., (2010). Firm value and cross-listings: The impact of stock market prestige. FRB of New York Staff Report, (474).

Chen, N. F. & Ingersoll, E. (1983). Exact Pricing in Linear Factor Models with Finitely Many Assets: A Note. Journal of Finance. 38 (3): 985-988.

Chisadza, **M.W.,** (2013). The role of cross-listings in establishing a Southern African Development Community regional stock exchange.

Classen, A. (2016). Measuring the Impact of Being Listed on the Namibian Stock Exchange on Stakeholder Value Creation. Masters Thesis. University of Namibia.

Coffee, J.C. (1999).The Future as History: The Prospects for Global Convergence in Corporate Governance and Its Implications. Northwestern University Law Review 93(3): 641-708.

Creswell, J. W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA: Sage.

Culbertson, J. (1957). The Term Structure of Interest Rates. Quarterly Journal of Economics, 71, 485-517.

Dabengwa, V. N. (2017). The financial effect of cross listing on Sub-Saharan African exchanges for Johannesburg Stock Exchange,(JSE), listed companies (Doctoral dissertation).

Dillard, D. (1948). The Economics of John Maynard Keynes: The Theory of Monetary Economy (p. 384). Prentice-Hall.

Dobbs, R., & Goedhart, M.H. (2018). Why cross-listing shares doesn't create value. Retrieved from: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/why-cross-listing-shares-doesnt-create-value.

Doidge, C., Karolyi, G.A. and Stulz, R.M., (2014). Why are foreign firms listed in the US worth more?. Journal of financial economics, 71(2), pp.205-238

Donald, D. (2020). Research Hand Book on Asian Financial Law. Edward Elgar Publishing.

EY Attractiveness Survey Africa (2014). Executing Growth, Retrieved from: http://www.ey.com/Publication/vwLUAssets/EY-attractiveness-africa2014/$FILE/EY-attractiveness-africa-2014.pdf

Games, D., (2014). The experience of South African firms doing business in Africa. South African Institute of International Affairs.

Hundal, S., Eskola, A., & Tuan, D. (2019). Risk-return relationship in the Finnish stock market in the light of Capital Asset Pricing Model (CAPM). Journal of Transnational Management, 24(4), 305-322.

Inder, K., Khurana, I., Pereira, R., & Xiumin, M. (2016). Does cross-listing lead to a higher firm growth? Columbia, University of Missouri.

Iiyambula, E. (2014). The reaction of stock prices to dividedannouncement and market efficiency in Namibia. Doctoral dissertation.

JSE, (2020). Johannesburg Stick Exchange. retrieved from https://web.jse.co.za/

Kenton, W. & Mansa, J. (2020). Capital Asset Pricing Model. Retrieved from https://www.investopedia.com/terms/c/capm.asp

Keynes, J.M (1936). The General Theory of Employment, Interest, and Money. The Collected Writings of John Maynard Keynes, 7, 1883-1946.

Levine, **R.,** & Schmukler, S. L. (2006). Internationalization and stock market liquidity. Review of Finance, 10(1), 153-187.

MacKinly, A. (1997). Event studies in economics and finance. Journal of Economic Literature, 35(1).

Maina, P. (2019). Effect of cross listing on stock liquidity in East Africa security exchanges (Doctoral dissertation, Strathmore University).

Mataen, D., 2012. Africa-the Ultimate Frontier Market: A Guide to the Business and Investment Opportunities in Emerging Africa. Harriman House Limited.

Matongela, M. A. & Karodia, M.A. (2015). An Evaluation of Factors Contributing to the Stock Market Liquidity Constraints or Companies Listed on the Namibian Stock Exchange. International Journal of Accounting Research (UAR), 42(2441), 1-36.

Merton, C. (1987), A Simple Model of Capital Market Equilibrium with incomplete Information, Journal of Finance, 42: 483-510.

Modigliani, F. & Sutch, R. (1966) Innovations in Interest-Rate Policy. Interest-Rate Policy. American Economic Review, 56, 178-197.

Moleko, N., & Ikhide, S. (2017). Have Pension funds boosted National Savings in South Africa? Retrieved from http://intemational-pension-workshop.com/wp-content/uploads/2017/05/Moleko2.pdf

Ndubuisi, A. C. (2013). The Impact of Cross Listing on Shareholder's Return: An Empirical study of Canadian Mining Companies Cross-listed on the Frankfurt Stock Exchange. Unpublished Master of Finance Project, St. Mary's University.

Ntim, C.G., 2012. Why African stock markets should formally harmonise and integrate their operations. African Review of Economics and Finance, 4(1), pp.53-72.

Odhiambo, G.H. (2013). Effects of cross border mergers and acquisitions on the value of the firms listed at the Nairobi securities exchange, Unpublished MBA Project, University ofNairobi.

Ojah, K. and Kodongo, 0., (2015). Financial Markets Development in Africa. The Oxford Handbook of Africa and Economics: 2: Policies and Practices, p.40

Omayo, V.O. (2016). The effects of Cross Boarder Listing on Volatility of Returns on Shares of Companies Cross-Listed within East Africa. International Journal of Innovative Development, 5(3), 154-166.

Onyuma, S.O., Mugo, R.K. and Kamiya, J.K., (2012). Does Cross-Border Listing (Still) Improve Firm Financial Performance in Eastern Africa?. Journal of Business Economics and Finance, 1(1), pp.92-109.

Roosenboom, P. and Van Dijk, M.A., 2009. The market reaction to cross-listings: Does the destination market matter?. Journal of banking & finance, 33(10), pp.1898-1908.

Pallant, J. (2016). SPSS survival manual: A step by step guide to data analysis using SPSS. England: Open University Press.

Sabitova, K. (2018, December 16). Impact of cross-listing on compaies valuations: Evidence from Emerging Markets. Retrieved from https://www.researchgate.net/publication/331356599

Strong, N. (1992). Modelling abnormal returns: Journal of Business, Finance and Accounting. Journal of Business, Finance and Accounting, 19(4).

Wang, J., Brooks, R., Lu, X., & Holzhauer, H.M. (2014). Growth/Value, Market Cap, and Momentum. The Journal of Investing, 1, 33-42.

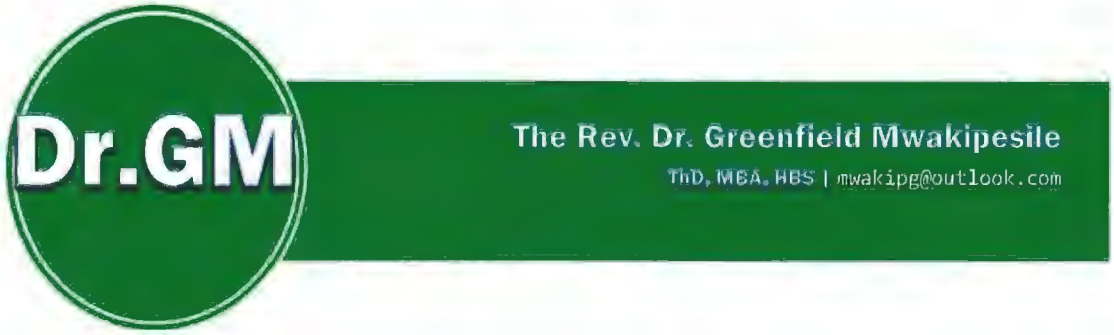
Wanjiru, C. K. (2013). The Relationship Between Cross Listing and Liquidity. Unpublished Msc. Finance project, University of Nairobi.

Waweru, K.M., Pokhariyal, G.P. and Mwaura, M.F., (2012). The Key Reasons for Cross-Listing in East African Stock Exchanges by Firms Listed in the Nairobi Securities Exchange. International Journal of Business and Management, 7(16), p.118.

Yin, R. K. (2014). Case Study Research Design and Methods (5 ed.). Los Angeles: SAGE Publications.

APPENDICES

APPENDIX 1: LANGUAGE EDITING CERTIFICATE



CONT CT

PO Box 99539,
UNAM,
Namibia

LANGUAGE & COPY-EDITING CERTIFICATE

lPJulylOll

JIE: LBN'OU.I.OE, CX.PIEDltllnJ ARD PROOI"ltE&DIRO OF **KONRAD NDAPOPI MB&ROUL&'• 'I'BEIIS FOR 'I'BE MDTEll** OF **BUSlllDS JIDMlllllll'fttll'nON DEGREE** OF**I'BE IUMIBU. B'IIIIINEIS SCIIOOL** OF **rm, UNIVERSITY** OF IUMIIIII.

Thill certificate serve, to confirm that I copyedited andproofreadll:ONR&D **NDAPOPI MJI&NOUL&'•** Thesill for the MIITDI OF **BUIIN'EII ADMINJSft&TION** DEGREE entitled: **&IULDDfO 'IIIE IMP&CT** OF **CIIOIS-LIS'I'INO** ON I'DIM 'DLUE **FOR JOll.lllNEIBURO ffOCII:** DCIUNOE COMP.I.NIES IDTED ON **'IBE IUMIBU ffOCXDCIIANOE**

I declaze that I profeuionally copyedited and proofread the them and removed mistake• and errors in epelling, grammar, and punctuation. In some caee1, I improved eentence construction without changing the content provided by the 1tudent. I al10 removed 10me typographical errom from the thesill and formatted the **thesis 10** that it complie1with the University of Namibia's guideline1.

I **am a** trained language and copy editor and have edited many Postgraduate Diploma, Muter11' **Thelli.11,** Dilllertatione and Doctoral Dillllertatio1111 for lltudenta studying with univenitie1 in Namibia, Zimbabwe, Elwatini, South Africa and abroad. I **have a1eo** copy-edited company documanta for companies in the region andabroad.

Pleue feel free to contact me should the need arile.

Youn Sincerely,

ffi.-e.i,-Jl.A...,
The Rev. Dr. G:reenfi.eldMwakipellile

1r11nfl1l ,m11blAllllll lm11blAl +264813801701 Rr,llratnflll MllblAllllll