THE IMPACT OF CROSS-BORDER LISTING ON STOCK RETURNS
Evidence from the Nairobi Securities Exchange

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D61/61767/2010

Research Project submitted in partial fulfillment of the requirements for the degree of Masters in Business Administration
DECLARATION

Declaration by Student

I declare that this research project is my own work and has not been submitted before for any degree or examination in any other University. I would also like to confirm that the content herein is my own work and all sources used have been referenced.

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Acknowledgement

I would like to thank my supervisor, Dr. Josiah Aduda for his guidance, insight and interest in my research work. It has been a pleasure and an honour to work with such a dedicated and reputable academic.

I would also like to thank the staff of the NSE and Sterling Investment Bank for the kind and unwavering assistance they accorded me when I required the information that made this study possible.

Lastly, I would like to thank my friends and family for the support and encouragement they gave me throughout this process. I would also like to thank God for giving me the strength I required to complete this project.
Abstract

This paper examined the impact of cross-border listing on stock returns. The objective of the study was to establish the impact of cross-border listing on stock returns in the Nairobi Securities Exchange. This paper further examined the impact of cross-border listing on risk. The period covered was between 2001 and 2011.

The sample consisted of seven Kenyan firms which had cross-listed in the neighbouring stock exchanges between 2001 and 2011. Event study methodology was used to analyze the impact of cross-border listing on stock returns. The study finds positive average abnormal returns around the date of the cross-border listing. The study also finds insignificant positive cumulative average abnormal returns around the cross-border listing date. The impact of cross-border listing on risk was found to be varied across the different sampled stocks.

There are several other benefits associated with cross-border listing other than an increase in stock returns hence it should be encouraged in the region. Therefore, policy makers for both the country of primary listing (home country) and secondary listing (host country) need to come up with the right policies to encourage cross-border listing in the region. Some of these policies include: provision of incentives to companies wishing to cross-list, introduction of policy measures that encourage shareholder protection and transparency, improvement of the regional flow of information and coordination and communication infrastructure to facilitate cross-listings and harmonization of listing rules, accounting laws and disclosure requirements across the region.
ABBREVIATIONS

ADR  American Depository Receipts
CAPM Capital Asset Pricing Model
DR  Depository Receipts
DSE Dare salaam Stock Exchange
EABL East African Breweries Limited
EAC East African Community
EMH Efficient Market Hypothesis
NASDAQ National Association of Securities Dealers Automated Quotations
NMG Nation Media Group
NSE Nairobi Securities Exchange
NYSE New York Stock Exchange
RSE Rwanda Stock Exchange
SSA Sub-Saharan Africa
USA United States of America
USE Uganda Stock Exchange
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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

1.1.1. Cross-Border Listing

Onyuma et al (2012) define cross-border listing as the listing of ordinary shares of a firm on a different exchange other than its home stock exchange. Usually a company’s primary listing is in the domestic stock exchange while the secondary listing is in the foreign stock exchange. There are two types of cross-border listing, the ordinary listing, whereby a company lists its ordinary shares for trading in a foreign country and the depository receipts, these are negotiable bank issued securities that allow investors to own shares in a foreign company without necessarily having to travel to that country, Onyuma (2012). In the East African region and also SSA we only have the ordinary listing. Depository receipts are common in Europe and the USA for instance the ADRs (American Depository Receipts).

Mwanza (2006), states that the main motivation for cross-border listing is to access new and different investors. Here the company aims to increase its shareholder base. Both the home country and the company enjoy several benefits from cross-border listing. These include (i) greater access to lower cost equity finance from a wider investor base; (ii) enhanced business reputations through openness and more stringent financial disclosure; (iii) a reduction in transaction costs for investors through gains in market liquidity as a result of cross-listings; (iv) mitigation of market segmentation through a reduction in barriers to foreign investors that arise from regulation and lack of information; and (v) addressing of information asymmetries and enhanced corporate governance, Claessens et al. (2002).
Both theoretical and empirical evidence suggest that the value of a listed firm increases in the domestic market after cross-border listing. The effect on the value of a firm as a result of cross-border listing has been documented through the reaction of a company's share price after the cross listing announcement or date. The valuation benefits of cross-border listing have been linked to market segmentation. If markets are segmented, trading in a foreign market makes the company's stock available to more investors and consequently increases the shareholder base and risk sharing, which results in higher valuation (Foerster and Karolyvi (1999). The valuation benefits associated with cross-border listing have also been explained through the signaling theory by Cantale (1996), Fuerst (1998) and Moel (1999), which states that firms cross list to send a signal to the financial market that they are a high value firm.

Cross-border listing leads to increased liquidity of the firm. This implies that cross-border listing might solve the cash flow problems of the firm since the firm is able to access more cash (from financial activities i.e. issue of shares). Liquidity effects also come from the reduction of trading costs through listing in a more “liquid” exchange and through intermarket competition as well as from order flow migration (Domowitz, Glenn and Madhavan (1998).

Cross-border listing can lead to increased foreign sales as the prospective customers for the firm’s product abroad become more aware of its products since the company’s shares are being traded in their stock exchange. Cross-border listing in this case can serve as a means of advertising a company’s products abroad. Firms that list abroad tend to be large and export oriented and they increase foreign sales soon after cross-border listing, Pagano et al. (2002). This is because listing allows the companies to capitalize on the market reputation and therefore increase their sales abroad. Pagano et al also summarized the reasons why firms decide to list in the U.S. The reasons were that: the listing induces higher analyst coverage, markets in the United States are more liquid, and the listing allows them to capitalize on their product market reputation and then expand their sales.
There are however, several costs associated with cross-border listing but the major ones are the costs incurred to ensure compliance with foreign reporting standards or guidelines, Karolyi, (1998). Companies end up suffering additional costs to reconcile their financial statement to international standards. Other costs include legal fees, exposure to legal liabilities, taxes and various trading frictions, registration (admission) fees and listing fees paid on an ongoing basis.

1.1.2. Stock Returns

Markowitz (1952) defines stock returns as the percentage change in stock prices over a given time duration. Stock return is calculated as the difference in prices between two trading periods divided by the initial price. In other words, stock returns represent the capital gains investors get from investing in a given company at a given time period. The returns could be calculated daily, monthly or annually. According to Markowitz, the risk or volatility of returns is the standard deviation of the returns. The standard deviation is calculated as the square root of the variance of returns. Factors affecting stock returns include: firm-specific microeconomic variables such as market beta, firm size, earnings-price ratio, leverage ratio and book-to-market equity, Fama and French (1992). Chen, et al. (1986), identify factors such as: industrial production, inflation, risk premium, term structure, market index, consumption and oil prices as affecting stock prices.

1.1.3. Cross-Border Listing in The East African Region

Cross-border listing has gained significance in the East African region over the past few years since the signing of the Treaty for the Establishment of the East African Community in 1999. Article 85 (Banking and Capital Market Development) of the Treaty states that the Partner States must undertake to implement within the East African Community (EAC), a capital market development program to be determined by the Council for the purpose of creating a conducive environment for the movement of capital within the EAC. Furthermore the Partner were specifically tasked with promoting co-
operation among the stock-exchanges and the capital markets and securities regulators in
the EAC. This included establishing within the EAC a mechanism for cross-listing
stocks, a rating system of listed companies and an index of trading performance to
facilitate the negotiation and sale of shares within and external to the EAC, Mwanza

Onyuma et al (2012) state that the NSE is the most developed capital market in the East
Africa region and it is the fourth largest bourse in Sub-Saharan Africa. Currently the
number of listed companies in the NSE is fifty nine. The DSE has nine listed companies;
USE has ten while RSE has only five. To date, seven Kenyan companies have already
cross listed in the stock exchange markets of Uganda, Rwanda and Tanzania. These
companies include: EABL (listed in both the DSE and USE), Jubilee Holdings (USE and
DSE), Kenya Airways (DSE and USE), Equity Bank (USE), KCB (USE and RSE), NMG
(listed in all) and Centum Investments Limited (USE). As a result it is necessary to
analyze the benefits associated with this cross listing. However, there is no company
from Kenyan neighbours that is cross listed in the Stock Exchanges of the other East
African member states.

Adelegan (2009), states that cross-border 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. Almost all the firms
that are cross-listed (about 98 percent or 42 out of 43) have set up operations in the host
countries. For example, East African Breweries, with Kenya as the home country, has a
subsidiary Uganda Breweries Ltd in Uganda, its host country of cross-listing. Jubilee
Insurance of Kenya has subsidiaries in Uganda and Tanzania; Kenya Airways owns 49
percent of Precision Air of Tanzania; Ecobank Transnational has operations in the Cote
D’voire the home country and in Ghana and Nigeria, the host countries; Investec and
Ellerine have operations in South Africa and Botswana; and the 28 firms that are cross­
listed in South Africa and Namibia have an operational base in both countries. Cross­
listing in SSA has been generally accompanied by an initial public offering and/or secondary market listing.

This paper seeks to test the hypothesis that the returns to shareholders increases after cross listing by analyzing the impact of cross-border listing on the share prices of Kenyan cross listed companies. The impact on the returns will be analyzed by looking at the change in the market prices of the shares of the listed companies in the NSE and not the foreign exchanges. The study goes further by analyzing the volatility/variability of returns soon after the cross listing event.

1.2. Statement of the Problem

Theoretical and empirical evidence on the subject suggests that the market value of a firm's shares increases after cross listing. This therefore implies that the shareholder returns will also increase. The effect of cross-border listing on the value of the firm's shares has been documented by analyzing the change in the market value of the firm's shares soon after the cross listing announcement or the cross listing date. In most cases, the share price has been found to increase in the domestic stock exchange. Most researchers on the subject have found positive abnormal returns around the listing date.

However, studies on international cross listing provide conflicting results. For example, Yu-Shan Wang et al (2008) found no significant impact of cross-border listing on returns for Asian companies. In contrast, Jayaraman et al. (1993) positive significant abnormal daily returns for the sample of firms from Japan, United Kingdom, Australia, France, Germany, Italy and Sweden. Studies on the impact of cross-border listing on risk also provide conflicting results for instance Jayaraman et al. (1993) found that the variability of returns increases soon after the cross listing while Yu-Shan Wang et al (2008) found that cross-border listing has no significant impact on the pattern of risk. As a result of the conflicting findings, it is important to conduct such a study in Kenya to find out how the market reacts to cross listing.
In Kenya, the most recent study on the impact of cross-border listing was by Onyuma, Mugo and Karuiva (2012). They studied the impact of cross-border listing on financial performance and found that firms benefit from cross listing in terms of increased liquidity and investor confidence but they did not find any significant impact on profitability. Another study was by Waweru, Pokhariyal and Mwaura (2012) who studied the impact of cross-border listing on dividend policy. They found that cross listed firms had a higher dividend payout than their uncross listed counter parts. Adelegan (2009) studied the impact of regional cross-listing of stocks on firm value in Sub-Saharan Africa. Using event study methodology, she found significant positive abnormal returns around the date of the regional cross-listing of stocks. However, she didn’t analyze the impact of cross-border listing on risk. This paper goes further to analyze the impact of cross-border listing on risk.

1.3. Objective of the Study

The objective of the study was to establish the impact of cross-border listing on stock returns in the Nairobi Securities Exchange.

1.4. Significance of the Study

This study will be useful to different stakeholders in the following ways:

Investors
The study will be useful to prospective and current investors of a firm wishing to cross list as it will help them in determining whether the cross listing will be beneficial to them in the form of increased returns. It will also assist shareholders in establishing whether there returns will be more volatile as a result of the cross listing.
Companies wishing to cross list
The study will also be useful to companies wishing to cross list their shares since increased returns lead to valuation benefits for the firm.

Scholars
This paper seeks to contribute to existing literature on the subject by analyzing the impact of international cross listing on returns by providing evidence from share price reactions in a less developed capital market (Kenya). This is because there is very limited research on the subject in less developed capital markets while there exists a lot of studies on the same in developed capital markets.
The study will also contribute to existing literature by analyzing the impact of cross-border listing on risk (the variability of returns).
CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction

This chapter discusses both theoretical and empirical literature on cross-border listing. It covers a review of studies done both in the Sub Saharan region and globally.

2.2. Theoretical Literature Review

2.2.1. The Investor Recognition Hypothesis

Merton (1987) developed the investor recognition hypothesis whereby he challenged the CAPM assumption that all investors have access to identical and complete information. In practice, not all investors have the access to complete information hence they tend to invest in companies which they are familiar with. Cross listing in a foreign exchange ensures that foreign investors become more familiar with a particular company and this will make it easier for them to invest in it. This leads to an increase in the number of foreign investors. Consequently, there will be an increase in shareholder base leading to a decline in the required rate of return hence increasing the firm’s value. Therefore the average abnormal returns before and after the cross listing dates are caused by changes in shareholder base.

Merton’s (1987) model focuses specifically on the size of the firm’s investor base under incomplete information relative to the total investor base for the complete information case when all investors are aware of the security. It is difficult to directly observe, however, how many potential investors are aware of each firm.

There are empirical studies which support this hypothesis. For instance, Lehavy and Sloan (2005) find that corporate events such as exchange listings increase investor recognition of a firm. They document a positive association between investor recognition
and contemporaneous stock returns. Bradshaw et al. (2006) report similar valuation benefits using analyst data. They find that analysts set higher prices for firms raising new financing, an event that increases investors' recognition and is also analogous to cross-listing.

2.2.2. The Market Segmentation Hypothesis

According to Moffett et al. (2003), a national capital market is a segment if the required rate of return on securities in that market differs from the required rate of return on securities of comparable expected return and risk that are traded on other national securities market. Segmentation is a market imperfection and occurs because of information asymmetry, taxes, high securities transactions costs, foreign exchange risks, political risks and regulatory barriers. The degree of market segmentation has an influence on a firm's marginal cost of capital and therefore affects the decision on the location of shares listings. For instance, if the required rate of return in the foreign market is lower than the domestic market, due to segmentation, then the cost of capital for the company will be reduced hence an increase in valuation.

The market segmentation hypothesis is the traditional argument for the rationale behind cross listing. If markets are segmented, listing in a foreign market makes the company stock available to more investors, and consequently increases the shareholder base and risk sharing, which results in higher valuations, Miller (1999). Stapleton and Subrahmanyan (1977) suggest that cross listing abroad can circumvent market segmentation, and thereby lower the cost of capital and increase firm value. However, according to this hypothesis the valuation benefits to the firm will depend on the extent to which the firm is integrated in the global or regional market.
2.2.3. The Bonding and Monitoring Hypothesis

The bonding and monitoring hypothesis, Coffee (1999, 2002), Stulz (1999), Reese and Weisbach (2002), is also used to explain the valuation benefits of cross-border listing. According to this hypothesis, a cross listed company is subject to more media coverage and monitoring. There will be increased disclosure requirements for the cross listed company in both the local and foreign stock exchanges. As a result, shareholders will incur less agency costs in monitoring the activities of management. Consequently, the required rate of return by shareholders will be lower. This therefore explains the increase returns as a result of cross listing.

Coffee (1999, 2002) and Stulz (1999) also suggest that a foreign firm from a jurisdiction featuring potentially weaker investor protection can increase its valuation by bonding itself to the U.S. securities regime through cross-listing. The hypothesis suggests that companies with poor protection of minority shareholders signal their desire to respect the rights of shareholders by listing in a jurisdiction with higher scrutiny by reputational intermediaries, tougher regulation, and better enforcement. Better investor protection is seen as one of the factors that explain the increase in stock returns following cross-listing, as U.S. and home-country investors are more willing to invest in a foreign firm that has tied its hands in this way. Doidge (2004) finds empirical results that support the bonding hypothesis. He tests this relationship using a sample of firms with dual-class shares from 20 countries that cross-list on a U.S. exchange. While studies by Lins and Miller (2004) focus on country-level bonding due to increased legal protection of shareholders, Doidge, Karolyi, and Stulz (2004) develop a firm-level theory of bonding that examines the incentives facing controlling shareholders.

2.2.4. The Signaling Theory

Valuation benefits of cross-border listing have also been explained by the signaling theory. This theory is associated with Cantale (1996), Fuerst (1998), and Moel (1999). The theory states that firms cross list to signal that they are a high value firm. Since investors will in turn view the firm as a high value firm, the demand for the firm's shares


will increase. An increase in demand will in turn push up the share prices. As a result the stock returns will also increase. Stulz (1999) and Coffee (2002) suggest that companies from countries with poor legal standards can signal quality by listing on more strictly regulated markets, reducing the information cost and agency cost of external financing.

2.3. Empirical Literature Review

The majority of the empirical studies on international listings addressed the share price reactions around a firm’s listing decision. Some of these event studies employed monthly returns using a two-year event window, while others studied daily returns using a more conventional two month window. Some studies focus on the listing dates while others study price reactions around the cross listing announcement period. Most of the studies below examine the impact of cross-border listing in the domestic stock exchange as opposed to the foreign stock exchange.

One of the first empirical evidence on the impact of cross-border listing was found by Alexander et al. (1988). They separated their data into Canadian and Non-Canadian companies. They analyzed monthly data starting 36 months before the first month of trading and ending 36 months after the first trading month to assess changes in expected returns. Their empirical results indicated that non-Canadian companies experienced an expected return decline after a cross listing, while the result for Canadian companies was not significant. This could indicate that non-Canadian companies are based in partially segmented markets and that the Canadian market is more or less integrated with the American market.

Jayaraman et al. (1993) found that there was an increase in returns variance after the cross-listing date. They also supported the positive significant abnormal daily returns for the sample of firms from Japan, United Kingdom, Australia, France, Germany, Italy and Sweden.
Yu-Shan Wang et al (2008) examined the impact on returns and risks of several Asian companies that had issued ADRs in 1990. They found no significant abnormal returns for the companies from the four tigers, four dragons and Japan that had issued ADRs. They found no significant impact on the pattern of risk after the cross listing. Their findings therefore don't support the market segmentation hypothesis, investor recognition hypothesis, bonding and monitoring hypothesis and the signaling theory.

Foerster and Karolyi (1999) study employed weekly abnormal returns for the two years around the listing dates for 183 ordinary and ADR listings. They noted that the cross-listed firms in their sample show positive abnormal returns during the year prior to the actual listing followed by negative abnormal returns in the years following a listing. Given the focus of their study is on the short-term effects, Foerster and Karolyi (1999) do not explain this longer-horizon pattern but suggest it may be due to changes in levels of investor recognition or liquidity.

Miller (1999) used an event study methodology and found a positive 1.15 percent average abnormal return for 183 American Depository Receipt (ADR) initiating announcement dates between 1985 and 1995. Miller found that average abnormal returns are higher for firms that list in the major US exchanges such as the NYSE or NASDAQ. Taking into account both institutional and geographical differences in DR programmes, he also found significant differences in the stock prices that are related to barriers to capital flows. There was a positive relationship between limited or lack of barriers on capital flows and positive returns. Ironically he also found that, firms located in Chile (where legal barriers to capital flows are prevalent) had extremely large positive abnormal returns.

Domowitz et al. (1998) examined the impact of cross-border listing where investors acquire costly information and highlight the importance of intermarket information linkages using data from the Mexican stock market. Findings from the home countries show that (i) the impact of cross-listing reflects the costs of order flow fragmentation and the benefits of increased competition; and (ii) cross-listing is associated with positive excess returns that accrue largely to stocks open to foreign investors prior to cross listing.
Smirnova (2004) studied the impact of cross-border listing on local returns in Russia. She examined the effect of ADRs listings on the returns of the underlying Russian stocks for a sample of 16 Russian companies that announced their first ADR programme between 1995 and 2001. The findings were that there was a significant negative abnormal local market return on an ADR listing date. Eleven out of the sampled sixteen companies experienced increased volatility of returns after the cross listing.

Olatundun Janet Adelegan (2009) studied the impact of cross-border listing of stocks on firm value in Sub-Saharan Africa. She used a sample of Sub-Saharan companies which have cross listed in foreign stock exchanges between 1992 and 2008; EABL was one the companies sampled. Using event study methodology, she found significant positive abnormal returns around the date of the regional cross-listing of stocks. She noted that the positive announcement period effect, together with the normal post cross listing performance shows that regional cross-listing increases the firm's value.

Nicola Cetorelli and Stavros Peristiani (2010) studied the valuation effects of cross listing in a more or less prestigious stock exchange than its domestic market. They used net work analysis to derive broad market-based measures of prestige for forty-five countries or regional stock exchange destinations between 1990 and 2006. They found that firms cross listing in a more prestigious market enjoy significant valuation gains over the five year period following the listing. The reverse was found for firms cross listing in a less prestigious market (i.e. there was a decline in valuation). Accordingly, their view was that cross listing in a more prestigious market enhances a firm's visibility, strengthens corporate governance and lowers informational frictions and capital costs.

Howe and Kelm (1987) examined the impacts of cross-border listing on the price of the shares on the domestic market using the standard event-time methodology. First, they measured the impact of a firm's first, second and third overseas listings. Second, they segregated the sample by listing location in order to discover whether or not listings on different exchanges have different price effects. The event day taken in this research was the actual listing date. The time between application and approval ranged from one to
nineteen days with an average of 7.5 days. The time between approval and actual listing date ranged between three and eighty three days with an average of 11.7 days. According to their results, a firm’s first overseas listing appears to be harmful to shareholder wealth. The cumulative abnormal returns appeared to be negative 58 days prior to the actual listing date and remained negative forty days after the event. The results from examining the listings on individual exchanges showed also negative effects. The cumulative average residual over the 131 day period was about -5.5%.

Insup Lee published in 1991 a study on 141 American companies with a listing on the London Stock Exchange and the Toronto Stock Exchange. The event period taken in this study was the same as the study of Howe and Kelm. The results found by Lee were in contrast to the findings of Howe and Kelm. Firms listed on the LSE had small and statistically insignificant losses in the event period. The firms listed on the TSE show negative abnormal returns in the event period, although it was not statistically significant. Insup Lee (1992) further studied a sample of 16 UK firms listed on the Tokyo Stock Exchange (TSE) and 9 Japanese firms listed on the LSE in the period from 1962 up to 1989. The results showed that the market response was positive for Japanese companies and negative for UK firms, but neither was statistically significant. Lee concluded that the absence of significant long-term valuations effects reported in the study reject the hypothesis that markets are segmented.

Peng et al (2007) studied the long term valuation effect for Taiwan companies issuing depositary receipts in the international capital markets. Their sample contained 56 initial depositary receipt offerings by Taiwan companies in the period 1992-2003. Both matching firm returns and market index returns were used as the benchmark to compute the buy and hold abnormal return for depositary receipt issuing firms. In comparison, the cross listing firms were found to be more high tech oriented with higher market value, higher growth potential, higher profitability, and lower financial risk. Their empirical result indicated that cross listing firms experience significant buy and hold abnormal returns. The average buy and hold abnormal returns in the entire 73 month period
sampled was 194.06% and 208.21% respectively when measured relative to the control sample firms and the market index return. Cross sectional regression analysis indicated that sample firms with larger firm size, higher returns on assets, and higher market to book value ratios were associated with higher buy and hold abnormal returns, especially in the post listing period.

Roosenboom and van Dijk (2009) studied how the market reacts to cross listing. They analyzed 526 cross listings from 44 different countries on eight major stock exchanges. Their findings were significant average announcement returns in for cross listing on the US, London and Continental Europe exchanges. The average returns were 1.3%, 1.1% and 0.6% for the three exchanges respectively. However, they found insignificant average announcement returns (0.50%) for cross listings on the Tokyo stock exchange. Their finding support the bonding and monitoring hypothesis and the market segmentation theory. They made a major contribution to literature by highlighting the role of the destination market in value creation around cross listing.

Melvin and Valero (2004) studied the impact of cross-border listing on rival firms in the domestic market. They focused on the stock price impact of firms' U.S. cross-listing on home-market rival firms. They used both listing dates and announcement dates of forthcoming ADR programs. They employed event study methodology to analyze the impact on the home market price of the rival firm around the dates of listing and announcement of listing. They found negative cumulative average abnormal returns for the rival firms around the announcement and listing dates. Their evidence suggests that investors see rival firms as having poorer growth prospects relative to the listing firm. The cross listed firms therefore are viewed by investors as having better growth prospects. Their findings therefore support the signaling theory.

Edison and Warnock (2003) conducted a study on cross listing, capital controls and equity flows to emerging markets. They found that, the cross-listing of an emerging market firm on a U.S. exchange is an important but short-lived capital flows event, suggesting that the cross-listed stock is in effect a new security that U.S. investors
quickly bring into their portfolios. They also found that the effect of financial liberalization on capital flows is more nuanced than is suggested by event studies: A reduction in capital controls results in increased inflows only when the controls are binding.

Onyuma, Mago and Karuiya (2012) conducted a study to find out if cross-border listing affects a firm’s financial performance. They used financial data spanning three years before and after cross listing for three Kenyan firms (EABL, Kenya Airways and Jubilee Insurance Company) listed in the neighbouring stock exchanges between 2001 and 2011. The calculated the following financial ratios for the three companies: Liquidity, profitability, gearing and investor ratio. Their findings showed a low positive financial performance in terms of liquidity and an insignificant increase in profitability and gearing. However, they found that the P/E ratio improved after cross listing. This implies that regional cross listing may improve investors’ confidence in the firm. The last finding supports the investor recognition hypothesis.

Waweru, Pokhariyal and Mwaura (2012) studied the impact of cross-border listing on dividend policy in the East Africa region. They used a sample of both cross listed and un cross listed firms in the NSE. The period covered was, 1998 to 2010. Their findings were that firms which cross list tended to have a higher payout ratio that firms which hadn’t cross listed. They concluded that the cross listed firms pay high dividends voluntarily to protect their investors and protect their reputation. These findings contradict Merton’s investor recognition hypothesis.

Stock returns are however influenced by several factors, for instance, Butt et al (2010) studied the impact of economic factors on stock returns in Pakistan. They selected firms in the banking and textile sector on the basis of data availability, profitability and performance in the Karachi stock exchange. They used the GARCH model to analyze risk and returns relationship. They found that macroeconomic and industry related variables have an impact on stock returns. They also found that economic exposure is
higher at industry level than firm level stock returns. Stock returns of different firms behave differently in similar economic conditions.

Fifield, Power and Sinclair (2002) studied how local and global economic factors influence stock returns in emerging markets. The local economic variables included in the study were GDP, inflation, money and interest rates while the global variables included world industrial production and world inflation. They used regression analysis to explain the index returns of 13 emerging stock markets between 1987-1996. The results indicate that both world and local economic factors play an important role in explaining stock returns.

Event studies have been the primary methodology used to assess the effect that the occurrence of an event has on the returns of a firm's common stock price since the seminal works of Ball and Brown (1968) and Fama, Fisher, Jenson, and Roll (1969). Binder (1998) discusses the event study methodology, including hypothesis testing, the use of different benchmarks for the normal rate of return, the power of the methodology in different applications and the modeling of abnormal returns as coefficients in a (multivariate) regression framework. He also discusses the frequently encountered statistical problems in event studies and their solutions. He concludes that the market model works well as a measure of the benchmark rate of return (normal return). He also finds that while a variety of important statistical issues concerning the variability and covariability of the abnormal return estimators have been pointed out over time, researchers in this area have developed a number of simple solutions to these problems, leading ultimately to unbiased and powerful tests of hypotheses about the average effect of the event on the sample firms for instance Collins and Dent (1984).

Seiler, (2000) studies the efficacy of event study methodology. He notes that despite several identified hazards associated with event-induced variance, event studies continue to ignore the problem. His study demonstrated that the most commonly used abnormal return detection methods reject the null hypothesis of zero abnormal returns too often. This causes researchers to conclude the detection of abnormal performance when none is
Event-induced variance occurs when the variance during the event window exceeds the variance over the estimation period. Several papers have confirmed this effect Beaver (1968), Patell and Wolfson (1979), Dann (1981), Kalay and Lowenstein (1985), Rosenstein and Wyatt (1990), while others have proposed methods to control for it Charest (1978), Collins and Dent (1984). Ball and Torous (1988), Corrado (1989), and Boehmer, Musumeci, and Poulsen (1991).

Financial academics have long-debated whether financial markets are truly efficient. Keown, Martin, Petty, and Scott (2008) defined efficient markets as those in which the values of all assets and securities at any instant in time fully reflect all available information. Campbell et al. (1997) provided an interesting view on this subject and discussed the relationship between efficient returns and randomness and that the two are not diametrically opposed, as explained by the Law of Iterated Expectations. J. Y. Campbell et al. (1997) took a view that, although the proof of the efficient market hypothesis is empirically undecidable, they believe that the EMH should be viewed through a lens of measuring relative efficiency rather than determining whether or not markets can ever be perfectly efficient. This idea leads directly into the notion and purpose of the conduct of event studies. This also raises the issue of whether or not financial asset prices are predictable.

Barine (2011) studied the efficiency of capital markets in Africa with an aim to undertake a comparative analysis of the levels of efficiencies in capital markets in Africa. He analyzed data on country and regional averages of the value of traded shares as a percentage of market capitalization (stock turnover ratio) from Nigeria, Ghana, Kenya, South Africa (Sub-Saharan Africa), Egypt and Tunisia (North Africa) grouped into it two sample groups: Sub-Sahara and North Africa. The data showed that the capital markets of these countries evidence efficiency with each country differing from the other on the degree of efficiency. His findings showed that the South African capital market is more efficient than the Egyptian capital market, itself more efficient than the Nigerian capital market which itself also more efficient than the capital markets of Tunisia, Ghana and
Kenya. To improve on the efficiencies of these markets, capital market policy makers in each country should minimize stock transaction costs to increase stock market activity and stock turnover.

2.4. Conclusion

Most researchers seem to agree that cross-border listing has an impact on the returns of a company's shares. However, some researchers find that it has a negative impact on returns and some find positive abnormal returns. For instance, Smirnova (2004) found a significant negative abnormal local market return on an ADR listing date while Adelegan (2009) found significant positive abnormal returns around the cross listing date.

Findings by different researchers on the impact of cross-border listing on volatility seem to contradict. Most seem to agree that there is a significant increase in volatility of returns after the cross listing date or announcement, for example, Jayaraman et al. (1993). However, Yu-Shan Wang et al. (2008) found that cross listing has no significant impact on the volatility of returns.

Most researchers also seem to use the same methodology to analyze the impact of cross-border listing on returns. This is the event study methodology whereby the share prices are analyzed for a specified period either around the listing date or the announcement date. Studies not only look at the impact of cross-border listing on returns but also on financial performance (profitability, liquidity, gearing, investor confidence) Onyuma, Mugo and Karuiya (2012), on dividend policy Waweru, Pokhariyal and Mwaura (2012) and on the returns of rival firms in the domestic market, Melvin and Valero (2004). Others modify their studies to include factors such as the level of restrictions in a given market. Miller (1999) and the level of development (prestige) of the foreign market, Nicola Cetorelli and Stavros Peristiani (2010), to analyze the impact of cross-border listing.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the methodology, procedures and modalities that will be used in data collection. It also covers the sample size, sources of data, data collection method and analysis.

3.2. Research Design

The study adopted an event study methodology to analyze the impact of cross-border listing on returns. Event study methodology measures the impact of a specific event on the value of a firm. It has been used extensively in Finance to analyze how a firm is affected by activities in the market and it is highly dependent on the efficiency of the market. In most cases, the market will be assumed to be efficient, i.e. the stock prices reflect all the available information, Adelegan (2009). The advantage of using event study methodology is that the expected effects of the event will be fully reflected in the stock prices, assuming the market is efficient.

The following steps are usually followed: the event is defined (in this case it is the cross listing date), the numbers of firms are selected (all seven firms will be analyzed), the normal returns will be estimated, then the abnormal returns will be estimated and finally the abnormal returns will be tested for statistical significance, MacKinlay, (1997). The event date was the listing date and not the announcement date because according to Lau, Diltz and Apilado (1994) the application and acceptance dates or even the announcement dates do not have significant effect on excess stock return. The reason is that not many investors may know this information as it is not highlighted in special magazines or newspapers. Therefore it is better to use the listing date.
3.3 Population

The numbers of firms in Kenya which have cross listed within the East African region form the population for the study. Therefore, the population consisted of the seven companies which have cross-listed in the neighbouring exchanges. The seven companies are listed in the appendix, table 1.

3.4 Sources of Data

The study used secondary sources of data from the Nairobi Securities Exchange, daily price list. The share prices for the sampled companies were determined (60 days before the cross listing and 30 days after the cross listing). The dates vary depending on the cross listing dates of the respective companies.

3.5 Data Collection Method

The study used secondary data by going through daily reports on the share prices of the selected firms for the sample period. This was obtained directly from the NSE after determining the cross listing dates of the selected companies.

3.6 Data Analysis

The study adopted a model similar to Foerster and Karolyi (1999) to analyze the impact of cross-border listing on returns. The event date was defined as t=0, while the estimation period was 30 days starting from 60 days before listing to 30 days after listing. The total period covered was 90 days.

This study adopted the market model, which provides a linear specification of the return of the given stock to the return of the market portfolio. This model is preferable because it reduces the variance of abnormal returns by removing the portion of the stock return that is related to variation in the market return, Adelegan, (2009). The market model is specified as:
\( R_t = a_t + b_t R_{mt} + e_{it} \) (1)

Where: \( R_i \) and \( R_{mt} \) are the returns on stock i and the market respectively at time period t. \( e_{it} \) is the error term.

Equation (1) is estimated over a period of 60 days (approximately 2 months) before the event to estimate the normal returns.

The abnormal return is obtained as:

\[ \text{AR}_t = R_{it} - (a_t + b_t R_{mt}) \]

Abnormal returns are averaged across the observations for period t for all events N using:

\[ \text{AR}_t = \frac{1}{N} \sum \text{AR}_t \]

The period for calculating the abnormal returns was 30 days before the cross listing to 30 days after the cross listing.

The abnormal returns were tested for significance using the t tables. The following formula was used to calculate the t-value for the average abnormal returns:

\[ t = \frac{\text{AR}_t}{s_{it}} \]

Where: \( s_{it} \) is the standard deviation of the daily abnormal returns.

To measure the variability of returns before and after cross listing, the variance and standard deviation of returns were calculated before and after the cross listing using the same periods used in estimating the normal and abnormal returns.

\[ \text{Variance} = \frac{1}{N} \sum (R_t - E(R_t))^2 \]

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Where:

\( R_t \) is the return on a given day (percentage change in stock price)

\( E(R) \) is the expected return (being the average daily returns)

\( N \) is the number of days.

The standard deviation, which measures risk, will be the square root of the variance.
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1. Introduction

This chapter discusses the findings in detail. It outlines the data analysis and presentation through tables.

4.2. Data Analysis

The study analyzed data for the event window of 91 days. These were 60 days before the event date and 30 days after the event date. The equation for the normal returns was calculated using the market model (as shown in chapter 3) then the average abnormal returns were calculated using the equation provided in chapter 3. The event date used was the listing date as opposed to the announcement date since it was difficult to establish the announcement date for some companies. For a firm to be included in the study there had to be a known listing date. For all the firms under study, the listing date was known. There was however some missing data for Nation Media’s first and third listing and Jubilee’s second. These have not been included in the data analysis.

The study utilized daily price lists as provided by the NSE for the period under study (a total of 910 days). The daily share prices together with the daily NSE 20 share index were used to calculate the returns. The daily returns, 60 days before the event, were used to calculate the equation for normal returns. Table 1 below shows the equations for the normal returns:
Table 1

<table>
<thead>
<tr>
<th>Company</th>
<th>Bourse</th>
<th>Time Period</th>
<th>Equation</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>EABL</td>
<td>USE</td>
<td>26/01/01-26/03/01</td>
<td>( R_i = 0.0011 + 0.3747R_{mt} )</td>
<td>3.38%</td>
</tr>
<tr>
<td>EABL</td>
<td>DSE</td>
<td>30/04/05-28/06/05</td>
<td>( R_i = 0.0054 - 0.0024R_{mt} )</td>
<td>9.06%</td>
</tr>
<tr>
<td>KQ</td>
<td>USE</td>
<td>27/01/02-27/03/02</td>
<td>( R_i = -0.0089 - 0.0022R_{mt} )</td>
<td>2.64%</td>
</tr>
<tr>
<td>KQ</td>
<td>DSE</td>
<td>02/08/04-30/09/05</td>
<td>( R_i = -0.0026 - 0.0009R_{mt} )</td>
<td>2.26%</td>
</tr>
<tr>
<td>JUBILEE</td>
<td>DSE</td>
<td>28/04/06-28/06/06</td>
<td>( R_i = 0.0005 + 0.0113R_{mt} )</td>
<td>0.71%</td>
</tr>
<tr>
<td>KCB</td>
<td>USE</td>
<td>30/09/08-28/11/08</td>
<td>( R_i = -0.0130 + 0.0038R_{mt} )</td>
<td>74.80%</td>
</tr>
<tr>
<td>KCB</td>
<td>RSE</td>
<td>09/04/09-07/06/09</td>
<td>( R_i = 0.0006 - 0.0046R_{mt} )</td>
<td>9.96%</td>
</tr>
<tr>
<td>EQUITY BANK</td>
<td>USE</td>
<td>19/04/09-17/06/09</td>
<td>( R_i = -0.0043 + 0.0053R_{mt} )</td>
<td>2.45%</td>
</tr>
<tr>
<td>CENTUM</td>
<td>USE</td>
<td>13/12/09-10/02/10</td>
<td>( R_i = -0.0020 + 0.0039R_{mt} )</td>
<td>24.99%</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>USE</td>
<td>20/08/10-18/10/10</td>
<td>( R_i = -0.0026 - 0.0013R_{mt} )</td>
<td>9.15%</td>
</tr>
</tbody>
</table>

The above equations were estimated using regression analysis. According to the market model, the returns of a particular stock are dependent on the return on the market portfolio which in this case is represented by the percentage change in the NSE 20 share index. \( R^2 \) is the coefficient of determination which in this case measures the extent to which changes in the individual stock returns are explained by changes in the market return. In other words, \( R^2 \) measures the extent to which future outcomes can be accurately predicted by the model.

For instance, \( R^2 \) was at 74.80% for KCB's first cross listing in 2008, this implies that changes in KCB's stock prices during this period were caused by changes in the NSE 20 share index 74.80% of the time and 25.20% by other factors. This implies that there was a very strong relationship between KCB's stock returns and changes in the market return (% change in the NSE 20 share index) during this first listing. Therefore changes in the market return had a very strong impact on the stock returns of KCB during this period. The model shows that a unit change in the NSE 20 share index leads to a 0.0038 increase in KCB's stock returns.
On the other hand, for Jubilee's cross listing in 2006, the results showed that changes in the market return had a very weak impact on its stock returns. This is because $R^2$ is only at 0.71%, which is very low. The model shows that a unit change in the market return will lead to a 0.0113 increase in the stock returns of Jubilee. $R^2$ is very low for all the other cross-listings; this implies that changes in the market return have a very weak impact on the stock returns. Most changes are therefore caused by several other factors.

The equations in table 1 were then used to come up with the daily abnormal returns. These were estimated 30 days before the listing event and 30 days after (+1 month and -1 month). They were then averaged for the respective periods to come up with the average abnormal returns. The average abnormal returns are shown in table 2 below:

**Table 2**

<table>
<thead>
<tr>
<th>Company</th>
<th>Bourse</th>
<th>Event Date</th>
<th>Average AR -30 Days</th>
<th>0 (Return on Event Date)</th>
<th>Average AR +30 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>EABL</td>
<td>USE</td>
<td>27-Mar-01</td>
<td>-0.01%</td>
<td>1.22%</td>
<td>-0.02%</td>
</tr>
<tr>
<td>EABL</td>
<td>DSE</td>
<td>29-Jun-05</td>
<td>-0.44%</td>
<td>-0.23%</td>
<td>0.00%</td>
</tr>
<tr>
<td>KQ</td>
<td>USE</td>
<td>28-Mar-02</td>
<td>0.28%</td>
<td>-2.61%</td>
<td>-0.03%</td>
</tr>
<tr>
<td>KQ</td>
<td>DSE</td>
<td>1-Oct-04</td>
<td>-0.29%</td>
<td>0.57%</td>
<td>0.34%</td>
</tr>
<tr>
<td>JUBILEE</td>
<td>DSE</td>
<td>27-Jun-06</td>
<td>-0.15%</td>
<td>0.37%</td>
<td>0.26%</td>
</tr>
<tr>
<td>KCB *</td>
<td>USE</td>
<td>29-Nov-08</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.06%</td>
</tr>
<tr>
<td>KCB</td>
<td>RSE</td>
<td>8-Jun-09</td>
<td>-0.25%</td>
<td>0.19%</td>
<td>0.56%</td>
</tr>
<tr>
<td>EQUITY BANK</td>
<td>USE</td>
<td>18-Jun-09</td>
<td>-0.22%</td>
<td>2.76%</td>
<td>0.49%</td>
</tr>
<tr>
<td>CENTUM</td>
<td>USE</td>
<td>11-Feb-10</td>
<td>0.17%</td>
<td>0.02%</td>
<td>-0.49%</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>USE</td>
<td>19-Oct-10</td>
<td>-0.09%</td>
<td>-0.97%</td>
<td>0.03%</td>
</tr>
</tbody>
</table>

KCB * the event date was on a Saturday hence the average return was at 0%.
The abnormal returns represented the error term in the market model. The results varied across the different periods. The average abnormal returns were negative 70% of the time 30 days before cross listing. This implies that most companies experienced negative returns 30 days before the event; hence the returns were lower than what was expected. For instance, the average abnormal returns for Equity was at -0.22% (0.22% lower than what was expected) 30 days before the event while it was at -0.29% (0.29% lower than what was expected) for Kenya Airway’s 2nd listing in 2004 30 days before the event. However, it was positive for Centum (0.17%) and Kenya Airways’ first listing (0.28%), showing that it was higher than expected on these particular days.

On the event date the average abnormal returns was positive for most of the companies (70% of the time). This implies that most companies had higher returns than what was expected as per the equation for the normal returns. For example, Equity bank had the highest positive abnormal return on the listing date at 2.76%. This implies that the stock return for Equity on this date was 2.76% more than what was expected. However, Kenya Airways had a very high negative return on the listing date (at 2.61%) during its first cross-border listing. This implied that its returns were 2.61% below what was expected.

The results indicated that most companies experienced positive average abnormal returns after the listing date; this is experienced 70% of the time. This implies that for most of the companies, cross-border listing had a positive impact on the stock returns since the returns were higher than expected. For example, Kenya Airways (2nd cross-border listing) had an average abnormal return of 0.84% 30 days after cross listing implying that the returns were on average 0.84% more than what was expected. The same applied to Equity whose returns were 0.49% more than what was expected 30 days after the cross-border listing.

The average abnormal returns before and after the listing dates were then used to estimate the cumulative average abnormal returns (CAARs). The CAARs formed the basis for the final analysis of the impact of cross-border listing on stock returns. The table below provides a summary of the CAARs for each company:
Table 3

<table>
<thead>
<tr>
<th>Company</th>
<th>Bourse</th>
<th>Event Date</th>
<th>Average AR -30 Days</th>
<th>0 (AR on Event Date)</th>
<th>Average AR +30 Days</th>
<th>CAAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EABL</td>
<td>USE</td>
<td>27-Mar-01</td>
<td>-0.01%</td>
<td>1.22%</td>
<td>-0.02%</td>
<td>1.20%</td>
</tr>
<tr>
<td>EABL</td>
<td>DSE</td>
<td>29-Jun-05</td>
<td>-0.44%</td>
<td>-0.23%</td>
<td>0.00%</td>
<td>-0.68%</td>
</tr>
<tr>
<td>KQ</td>
<td>USE</td>
<td>28-Mar-02</td>
<td>0.28%</td>
<td>-2.61%</td>
<td>-0.03%</td>
<td>-2.35%</td>
</tr>
<tr>
<td>KQ</td>
<td>DSE</td>
<td>1-Oct-04</td>
<td>-0.29%</td>
<td>0.57%</td>
<td>0.84%</td>
<td>1.12%</td>
</tr>
<tr>
<td>JUBILEE</td>
<td>DSE</td>
<td>27-Jun-06</td>
<td>-0.15%</td>
<td>0.37%</td>
<td>0.26%</td>
<td>0.48%</td>
</tr>
<tr>
<td>KCB *</td>
<td>USE</td>
<td>29-Nov-08</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.06%</td>
<td>0.05%</td>
</tr>
<tr>
<td>KCB</td>
<td>RSE</td>
<td>8-Jun-09</td>
<td>-0.25%</td>
<td>0.19%</td>
<td>0.56%</td>
<td>0.49%</td>
</tr>
<tr>
<td>EQUITY BANK</td>
<td>USE</td>
<td>18-Jun-09</td>
<td>-0.22%</td>
<td>2.76%</td>
<td>0.49%</td>
<td>3.02%</td>
</tr>
<tr>
<td>CENTUM</td>
<td>USE</td>
<td>11-Feb-10</td>
<td>0.17%</td>
<td>0.02%</td>
<td>-0.49%</td>
<td>-0.30%</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>USE</td>
<td>19-Oct-10</td>
<td>-0.09%</td>
<td>-0.97%</td>
<td>0.03%</td>
<td>-1.03%</td>
</tr>
</tbody>
</table>

The above table shows that the CAAR for most companies was positive (60% of the time). A positive CAAR shows that the stock returns for the sampled companies was generally higher than what was expected during the period under study. The total CAAR was at 2% showing that, on average, the returns were 2% more than what was expected after the companies cross listed. Equity bank had the highest CAAR at 3.02% implying that cross-border listing had a positive impact on its stock returns. Cumulatively, Equity’s returns were 3.02% more than expected as a result of cross-border listing.

Kenya Airways on the other hand had very different results (during its first listing). The CAARs were negative at 2.35%. This implied that cross-border listing had a negative impact on the stock returns. The stock returns were on average 2.35% lower than expected hence the returns to shareholders in form of capital gains dropped after the cross-border listing event. This contradicts the signaling theory, Cantale (1996) and the bonding and monitoring hypothesis, Coffee et al (1999, 2002).
The abnormal returns were then tested for significance using t-tables. The t-statistic was computed using the formula provided in chapter 3. The abnormal returns were then tested for significance at the 5% level and also the 10% level. The table below shows the t-statistic computed for each cross-border listing event:

### Table 4

<table>
<thead>
<tr>
<th>Company</th>
<th>Bourse</th>
<th>Event Date</th>
<th>AR&lt;sub&gt;t&lt;/sub&gt;</th>
<th>Standard Deviation</th>
<th>t-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>EABL</td>
<td>USE</td>
<td>27-Mar-01</td>
<td>0.02%</td>
<td>0.84%</td>
<td>0.0184</td>
</tr>
<tr>
<td>EABL</td>
<td>DSE</td>
<td>29-Jun-05</td>
<td>-0.22%</td>
<td>1.75%</td>
<td>-0.1255</td>
</tr>
<tr>
<td>KQ</td>
<td>USE</td>
<td>28-Mar-02</td>
<td>0.07%</td>
<td>1.36%</td>
<td>0.0543</td>
</tr>
<tr>
<td>KQ</td>
<td>DSE</td>
<td>1-Oct-04</td>
<td>0.27%</td>
<td>2.37%</td>
<td>0.1137</td>
</tr>
<tr>
<td>JUBILEE</td>
<td>DSE</td>
<td>27-Jun-06</td>
<td>0.08%</td>
<td>1.56%</td>
<td>0.0499</td>
</tr>
<tr>
<td>KCB</td>
<td>USE</td>
<td>29-Nov-08</td>
<td>0.02%</td>
<td>1.80%</td>
<td>0.0135</td>
</tr>
<tr>
<td>KCB</td>
<td>RSE</td>
<td>8-Jun-09</td>
<td>0.18%</td>
<td>1.67%</td>
<td>0.1087</td>
</tr>
<tr>
<td>EQUITY BANK</td>
<td>USE</td>
<td>18-Jun-09</td>
<td>0.19%</td>
<td>1.86%</td>
<td>0.1048</td>
</tr>
<tr>
<td>CENTUM</td>
<td>USE</td>
<td>11-Feb-10</td>
<td>-0.15%</td>
<td>2.37%</td>
<td>-0.0621</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>USE</td>
<td>19-Oct-10</td>
<td>-0.05%</td>
<td>1.06%</td>
<td>-0.0511</td>
</tr>
</tbody>
</table>

AR<sub>t</sub> is the average abnormal return computed 30 days before and 30 days after the cross-border listing (61 days). For the entire period covered the t-statistic showed that cross-border listing had a statistically insignificant impact on stock returns at both the 5% and 10% level of significance. This implies that although cross-border listing has a positive impact on stock returns the impact is statistically insignificant.

The study also analyzed the impact of cross-border listing on risk. To find out the impact of cross-border listing on risk, the standard deviation of the returns was calculated 60 days before and 30 days after the event. The percentage increase or decline was then analyzed. The table below shows the findings on the impact of cross-border listing on risk:
The findings showed that cross-border listing has an impact on risk. The impact was positive in some cases while it was negative in others. For instance, the variability of returns increased by 165.80% when Kenya Airways cross listed in the DSE and by 115.84% when Equity cross-listed in the USE. This is negative because according to the bird in hand theory (Gordon and Lintner) shareholders prefer certain returns as opposed to fluctuating returns. On the other hand, the variability of returns reduced by 49.57% when Kenya Airways cross-listed in the USE and by 44.55% when Centum cross-listed in the USE.

Cross-border listing had a very strong impact on the variability of returns for the following companies: Kenya Airways (2nd cross-listing), Equity Bank and KCB. This is because these companies recorded the highest percentage increase or decline in the variability of its stock returns. However, for EABL and Jubilee cross-border listing had a very weak impact on the variability of stock returns. This was given by the low percentage change in risk after the cross-border listing event.
4.3. Summary and Interpretation of findings

4.3.1. The impact of cross-border listing on returns

The results showed that cross-border listing has a positive impact on stock returns. This was illustrated by the cumulative average abnormal returns which were positive in most cases (60% of the time). A positive cumulative average abnormal return implies that the stock returns were higher than what was expected. In this case, therefore, cross-border listing is beneficial to shareholders.

The finding that cross-border listing has a positive impact on stock returns confirms the signaling theory, Cantale (1996) which states that a firm cross-lists to signal that it is a high value firm. In turn investors also view it as a high value firm leading to an increase in the demand for its shares. An increase in demand pushes the prices of its shares up leading to increased returns to shareholders in the form of increased capital gains. For companies which had positive cumulative abnormal returns, the implication is that most investors viewed it as a high value firm leading to increased demand for its shares thus pushing up the prices. For instance, Equity experienced an increase in its share prices soon after cross-listing in the USE.

The findings also confirm the bonding and monitoring hypothesis, Coffee et al (1999, 2002). According to the hypothesis a company that cross-lists is subject to more scrutiny through more restrictions and regulations. The degree of regulations is different in the East African stock exchanges. Investors may feel that they will enjoy more protection if their company cross-lists in a foreign exchange. This in turn leads to increased investor confidence hence they will be more willing to invest more in such a company. This leads to an increase in the demand for the shares of the company thus leading to an increase in its share prices hence an increase in stock returns.

However, despite finding that cross-border listing has a positive impact on stock returns, the findings also show that the impact is statistically insignificant. This contradicts findings by Adelegan (2009) who found that cross-border listing has a positive and
significant impact on stock returns. The findings may contradict hers because of the difference in the event window and the measurement of stock returns. Adelegan's equation for normal returns was estimated 18 months to 4 months prior to the event while her abnormal returns were estimated 2 months before the event to 2 months after. To calculate the stock returns she used both dividends and share prices. This may therefore explain the difference in findings.

The findings are in agreement with those of Wang et al (2008) who found a positive but statistically insignificant impact of cross-border listing on stock returns. This is despite the difference in sample size and the area where the study was conducted. Yu-Shan Wang et al (2008) examined the impact on returns and risks of several Asian companies that had issued ADRs in 1990. They found no significant abnormal returns for the companies from the four tigers, four dragons and Japan that had issued ADRs. They found also no significant impact on the pattern of risk after the cross listing.

4.3.2. The impact of cross-border listing on risk

The study found that cross-border listing has an impact on risk (variability of returns). This was illustrated by the percentage increase or decline in risk after the cross-border listing event. However, the strength of the impact varied across the stocks sampled. In some cases it was weak while in some it was strong. Cross-border listing was found to have a very strong impact on the variability of returns for the following companies: Kenya Airways (2nd cross-listing), Equity Bank and KCB. This is because these companies recorded the highest percentage increase or decline in the variability of its stock returns. However, for EABL and Jubilee cross-border listing had a very weak impact on the variability of stock returns. This is given by the low percentage change in risk after the cross-border listing event.

The implication of this finding depends on the type of shareholders for a particular company. For instance, if most of Equity's shareholders are risk seekers, cross-border
listing is very beneficial to them as an increase in risk implies an increase in returns for them. However, if they are risk averse, then they would prefer certain returns hence cross-border listing would not be beneficial to them.

10. Appendix and Conclusion

The results indicate that there was generally an increase in stock returns as a result of the cross-border listing. The study was based on the cross-border listings of 100 companies in the 2000's and the average abnormal returns were positive for the entire period of the stocks sampled (76% of them). 30 days after the listing, average abnormal returns were still positive for 70% of the companies. However, the highest average abnormal returns in the cross-border case, for some companies, had the highest positive abnormal returns on the first day of trading. The result is that the stock returns for firms in this data was 7.7% above their mean.

The cumulative abnormal returns were also computed for the entire period and the results showed that the cumulative abnormal returns and the event period are included in the analysis. The results also indicate that there was a positive, statistically significant return as an event of the cross-border listing. Most of the stocks sampled had positive cumulative average abnormal returns which implied that the average returns were higher than their mean.

The study also presents evidence suggesting that the positive impact of cross-border stock returns is statistically significant at both the 5% and 1% levels. Therefore, cross-border listing has a positive but statistically significant impact on stock returns. The findings confirm the findings of Adegoke (2009) who showed that the positive and significant impact on stock returns in developed markets. The study confirms the findings of Wang et al. (2008) who showed that cross-border listing had no statistically significant impact on stock returns.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary and Conclusion

The results indicate that there was generally an increase in stock returns as result of cross-border listing i.e. the share prices increased as a result of the cross-border listing. On the event date (cross-border listing), the average abnormal return was found to be positive for most of the stocks sampled (70% of them). 30 days after the event (one month), the average abnormal returns were still positive for 70% of the sampled stocks. Some stocks exhibited high average abnormal returns at the cross listing date, for instance, Equity bank had the highest positive abnormal return on the listing date at 2.76%. This implies that the stock return for Equity on this date was 2.76% more than what was expected.

The cumulative average abnormal returns were also computed for the entire period so as to track the abnormal returns over the event period. Graphs showing the relationship between the cumulative abnormal returns and the event period are included in the appendix. The results also indicate that there was a positive cumulative average abnormal return as a result of the cross-border listing. Most of the stocks sampled (60%) exhibited positive cumulative average abnormal returns which implied that cross-border listing impacted the share prices in a positive manner.

However, the study also presents evidence suggesting that the positive impact of cross-border listing on stock returns is statistically insignificant at both the 5% and 10% levels of significance. Therefore, cross-border listing has a positive but statistically insignificant impact on stock returns. The finding contradicts that of Adelegan (2009) who found that cross-border listing has a positive and significant impact on stock returns in Sub-Saharan Africa. However, the study confirms the findings of Wang et al (2008) who found that cross-border listing has no significant impact on stock returns.
The impact of cross-border listing on risk was varied across the sampled stocks. For some the change in risk after cross-border listing was positive while for some it was negative. The magnitude of the change was also different for instance; Kenya Airways (2\textsuperscript{nd} cross-listing), Equity Bank and KCB recorded the highest percentage increase or decline in the variability of its stock returns. However, for EABL and Jubilee cross-border listing had a very weak impact on the variability of stock returns. This was given by the low percentage change in risk after the cross-border listing event.

5.2. Conclusion

The study found that cross-border listing has a positive impact on stock returns. This was illustrated by the cumulative average abnormal returns which were positive in most cases (60\% of the time). The finding that cross-border listing has a positive impact on stock returns confirms the signaling theory, Cantale (1996) which states that a firm cross-lists to signal that it is a high value firm. In turn investors also view it as a high value firm leading to an increase in the demand for its shares. An increase in demand pushes the prices of its shares up leading to increased returns to shareholders in the form of increased capital gains. For companies which had positive cumulative abnormal returns, the implication is that most investors viewed it as a high value firm leading to increased demand for its shares thus pushing up the prices.

However, the findings also show that the impact is statistically insignificant. This contradicts findings by Adelegan (2009) who found that cross-border listing has a positive and significant impact on stock returns. The findings may contradict hers because of the difference in the event window and the measurement of stock returns. Adelegan’s equation for normal returns was estimated 18 months to 4 months prior to the event while her abnormal returns were estimated 2 months before the event to 2 months after. To calculate the stock returns she used both dividends and share prices. This may therefore explain the difference in findings.
The findings are in agreement with those of Wang et al (2008) who found a positive but statistically insignificant impact of cross-border listing on stock returns. This is despite the difference in sample size and the area where the study was conducted. Yu-Shan Wang et al (2008) examined the impact on returns and risks of several Asian companies that had issued ADRs in 1990. They found no significant abnormal returns for the companies from the four tigers, four dragons and Japan that had issued ADRs. They found also no significant impact on the pattern of risk after the cross listing.

The impact cross-border listing on risk was found to vary across the stocks sampled. Cross-border listing was found to have a very strong impact on the variability of returns for the following companies: Kenya Airways (2nd cross-listing), Equity Bank and KCB. This is because these companies recorded the highest percentage increase or decline in the variability of its stock returns. However, for EABL and Jubilee cross-border listing had a very weak impact on the variability of stock returns. This is given by the low percentage change in risk after the cross-border listing event.

5.3. Policy Recommendations

Despite the finding that cross-border listing has an insignificant impact on stock returns, it should be encouraged as there are other several advantages that have been associated with it such as: an increase in the level of investor confidence and liquidity, Onyuma et al. (2012), an increase in the shareholder base, Mwanza (2006), enhanced business reputations through openness and more stringent financial disclosure, a reduction in transaction costs for investors through gains in market liquidity as a result of cross-listings, mitigation of market segmentation through a reduction in barriers to foreign investors that arise from regulation and lack of information, Claessens et al, (2002). To encourage cross-border listing in the region, the East African governments can adopt any of the policies listed in below:
Provide incentives to companies wishing to cross-list. Incentives act as encouragement for companies wishing to cross-list. These incentives should include reductions in the transaction and approval costs of regional cross-listing and relaxation of stringent cross-listing requirements. Most companies may avoid cross-listing because of high transaction costs and stringent rules in the foreign exchange. To encourage cross-border listing, these need to be reduced.

Introduce policy measures that encourage shareholder protection and transparency. Strong investor protection and transparency are prerequisites for capital inflows this is because it leads to increased investor confidence thus encouraging participation in the market. Such measures are important if the stock markets are to make external capital available to firms with growth prospects and lower the cost of capital, Adelegan (2009).

Improve the regional flow of information and coordination and communication infrastructure to facilitate cross-listings. The exchange of information between stock exchanges should be facilitated as regional cross-listing deepens. Efforts should be made towards improvement of communication infrastructure in East Africa. Information about the stock market should be disseminated on a daily basis as is done by the developed markets.

Harmonize listing rules, accounting laws and disclosure requirements across the region. Common listing requirements and rules will facilitate cross-border listings. Transparency and accountability could be improved through moving to a common financial reporting system and accounting framework. A common accounting framework can lower the cost of maintaining multiple accounting frameworks for firms listed in, or obtaining financing from, different countries within the region, Adelegan (2009).
5.4. Limitations of the study

Missing data for the announcement dates provided a major limitation for the study. The event date for the cross-border listing could have been either the announcement date or the actual listing date. During the actual listing date, the information was already in the market hence the abnormal returns could have been understated by using the actual listing date as the event date. However, since data on the announcement dates wasn’t available the study used the actual listing date as the event date.

Time taken for data collection and analysis was also another limitation. The study required daily price lists for the entire event period for different companies. In total, the data collected was for 910 days since each stock was to be analyzed within a period of 91 days. This was very time consuming given the tight deadline for completing the project.

5.5. Recommendations for further studies

The study used the actual listing date as the event date as opposed to the announcement date. This was because data on the announcement date was unavailable for most of the companies. This led to the use of the listing date so as to achieve uniformity. The study can be modified to include the announcement date as the event date. This can produce different results from the one gotten by using the actual listing date.

The market model was used to estimate the equation for the normal returns. According to this model, stock returns are dependent on the market return. However, $R^2$ was found to be very low in most cases, which challenges the ability of the model in accurately predicting the future relationship between stock returns and the market return. The study can be modified by using a different model to estimate the equation for normal returns, for instance, the arbitrage pricing model.
Stock returns were measured as the percentage change in daily stock prices. Stock returns can be in the form of both dividends and capital gains (increase in share prices). The study utilized share prices only. It can be modified to include dividends in calculating stock returns as opposed to using share prices only. Adelegan (2009) used both dividends and stock prices to calculate stock returns.

The quantum of shares listed in the foreign exchanges for the different companies was not established. This could have been a determinant of the varying results. The study can be modified to include the quantum of shares listed in the foreign exchanges.
REFERENCES


<table>
<thead>
<tr>
<th>Name of Cross Listed Companies</th>
<th>Date of Cross Listing</th>
<th>Bourse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safaricom</td>
<td>31-Jan-01</td>
<td>USE</td>
</tr>
<tr>
<td>KenGen</td>
<td>31-Jan-05</td>
<td>DSE</td>
</tr>
<tr>
<td>Equity Bank</td>
<td>24-Dec-04</td>
<td>USE</td>
</tr>
<tr>
<td>Equity Bank</td>
<td>27-Jan-06</td>
<td>DSE</td>
</tr>
<tr>
<td>Equity Bank</td>
<td>21-Nov-08</td>
<td>USE</td>
</tr>
<tr>
<td>Equity Bank</td>
<td>27-Feb-09</td>
<td>DSE</td>
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<tr>
<td>Equity Bank</td>
<td>18-Feb-09</td>
<td>SSE</td>
</tr>
<tr>
<td>DCM Bank</td>
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<tr>
<td>Equity Bank</td>
<td>23-Nov-10</td>
<td>SSE</td>
</tr>
<tr>
<td>Equity Bank</td>
<td>19-Oct-10</td>
<td>USE</td>
</tr>
<tr>
<td>Equity Bank</td>
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<td>DSE</td>
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APPENDIX

Table 6

List of Cross Listed Companies with the respective listing dates

<table>
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<tr>
<th>Company</th>
<th>Date of cross listing</th>
<th>BOURSE</th>
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<td>EABL</td>
<td>27-Mar-01</td>
<td>USE</td>
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<tr>
<td>EABL</td>
<td>29-Jun-05</td>
<td>DSE</td>
</tr>
<tr>
<td>KENYA AIRWAYS</td>
<td>28-Mar-02</td>
<td>USE</td>
</tr>
<tr>
<td>KENYA AIRWAYS</td>
<td>1-Oct-04</td>
<td>DSE</td>
</tr>
<tr>
<td>JUBILEE</td>
<td>14-Feb-06</td>
<td>USE</td>
</tr>
<tr>
<td>JUBILEE</td>
<td>27-Jun-06</td>
<td>DSE</td>
</tr>
<tr>
<td>KCB</td>
<td>29-Nov-08</td>
<td>USE</td>
</tr>
<tr>
<td>KCB</td>
<td>8-Jun-09</td>
<td>RSE</td>
</tr>
<tr>
<td>EQUITY BANK</td>
<td>18-Jun-09</td>
<td>USE</td>
</tr>
<tr>
<td>CENTUM</td>
<td>11-Feb-10</td>
<td>USE</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>2-Nov-10</td>
<td>RSE</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>19-Oct-10</td>
<td>USE</td>
</tr>
<tr>
<td>NATION MEDIA</td>
<td>21-Feb-11</td>
<td>DSE</td>
</tr>
</tbody>
</table>
Graphs

**EABL-1**
Graph Showing CARs Against Event Period

```
Graph

-30 Days | 0 | +30 Days
```

**EABL-2**
Graph Showing CARs Against Event Period

```
Graph

-30 Days | 0 | +30 Days
```
**KQ1**
Graph Showing CARs Against Event Period

**KQ2**
Graph Showing CARs Against Event Period
KCB 1
Graph Showing CARs Against Event Period

KCB 2
Graph Showing CARs Against Event Period
JUBILEE

Graph Showing CARs against event Period

EQUITY

Graph Showing CARs against event period
CENTUM

Graph Showing CARs against event period

![Graph of CARs against event period for CENTUM](image1)

NATION MEDIA GROUP

Graph Showing CARs against event period

![Graph of CARs against event period for NATION MEDIA GROUP](image2)