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The Effect of Cross Border Listing on Volatility of Returns on Shares of Companies Cross - Listed within East Africa

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Abstract:

This study's main objective was to establish the effect of cross border listing on volatility of returns on shares of companies cross - listed within east Africa. The study aimed at looking at effect of financial performance on volatility of returns on shares of companies cross - listed within east Africa, to ascertain the effect of price of shares on volatility of returns on shares of companies cross - listed within east Africa, to establish the effect of liquidity of shares on the volatility of returns on shares of companies cross - listed within east Africa and to determine the effects of transactions cost on the volatility of returns on shares of companies cross-listed within east Africa. Descriptive research design was used which included questionnaires being distributed and filled with various employees of the listed firms. The Target populations in this research were all the 66 cross listed companies in East Africa. The exact sample size consisted of top management and staff members from the investment departments of each of the 7 (seven) companies that are listed in Kenya and cross listed in the East African Bourse. The findings of the study revealed that financial performance, price of shares, liquidity of shares and transactions cost greatly affect the volatility of shares in cross listed firms. The data findings analyzed also shows that taking all other independent variables at zero; a unit increases in financial performance will lead to a 0.918 increase in volatility of returns; A unit increase in Price of shares will lead to a 0.320 increase in volatility of returns; a unit decrease in transactions cost will lead to a -0.657 decrease in volatility of returns; a unit increase in liquidity of shares will lead to a 0.416 increase in volatility of returns. This therefore implies that four variables have a positive relationship with volatility of returns on shares of companies cross - listed within east Africa. The volatility of shares in cross listed firms is a sign that business is booming in Stock exchanges. Stock Inter-listing has allowed firms to reduce the cost of their equity capital by reducing the risks associated with their shares. The study recommends that Cross listed firms should embrace competition to causes exchanges thus continuously improving their trading processes in order to enhance market quality and maintain and attract order flow. Cross listed firms should also diversify their portfolio to help businesses attract international capital thus leading to growth. Governments should have well planned and workable policies to help cross-listed firms attract international finances. Policies should be developed with the help of stock specialists and collaboration with potential investors. Foreign broker in a foreign country can also be a perfect way to enable investors place orders directly through telephone or internet or other means of communication. Finally, cross listed firms should employ the use of modern technologies such as computers and other communication tools to communicate and carry out marketing, information sharing and transactions thus reducing on transaction costs and prevent or eliminate delays.

Keywords: Cross border Listing, Returns on Share

1. Introduction

1.1. Background of the Study

Onyuma, Mugo & Karuiya (2012) posit that corporations require resources to enable them serve the needs of their customers effectively. This implies that their owners have to go an extra mile to find the funds necessary to sustain their customers. Most common types of long-term financing for firms include long term debt, common stock, preferred stock and retained earnings. Equity or debts are the only options at their disposal yet most prefer to use equity because it forms a permanent source of funding that cannot be easily cancelled. When firms raise equity they may raise it within their own boundaries, or beyond their national boundaries to raise the required resources. The former is referred to as listing, while the latter is known as cross-border listing. Adelegan (2009) defines cross-border listing as the listing of ordinary shares of a firm on a different exchange other than its home stock exchange. Cross-border listings have gained in importance over the past few decades as many companies have become more international in their orientation. As well, technological progress and the liberalization of capital flows have fostered considerable competition among global stock exchanges for equity listings and trades.

Regional cross border listing has gained significance over the past few years since the signing of the East Africa Community treaty in 1999. The development of cross listing across national stock markets in Tanzania, Kenya, Uganda and Rwanda is a milestone in the EAC's drive for regional integration. Waweru, Pokhariyal & Mwaura (2012) established that for firms that have cross-listed in East Africa, the decision to cross-list is not driven by the desire to protect investors but by the desire to exploit growth opportunities. Warnock & Ostry (2003) on the other hand assert that when firms decide to cross-list, there are certain things they need to have ready. First, there must be a presence of an independent board of directors; secondly, the firm must receive certification from the capital markets; thirdly, there has to be a legal protection of the minority shareholders and lastly, the firm must abide by the stringent disclosure requirements.

1.1.1. Cross Border Listing in East Africa

The East African Securities Exchanges Association (EASEA) came into being in 2004, following the signing of a Memorandum of Understanding between the Dar-es-Salaam Stock Exchange (DSE), the Uganda Securities Exchange (USE) and the Nairobi Securities Exchange (NSE). The East African Community (EAC) is the regional intergovernmental organization of the Republics of Burundi, Kenya, Rwanda, the United Republic of Tanzania, and the Republic of Uganda, with its headquarters in Arusha, Tanzania (Makau, Onyuma & Okumu, 2015). Of the five East African countries, only Burundi does not have a securities exchange to date. In 1954 the Nairobi Securities Exchange was constituted as a voluntary association of 20 stockbrokers registered under the Societies Act. It is the most developed exchange in the region. The Uganda Securities Exchange (USE) was licensed to operate as an approved Stock Exchange in June 1997 by the Capital Markets Authority of Uganda. The Dar Es Salaam Stock Exchange (DSE) was incorporated in 1996 and commenced its operations in 1998 with a listing and trading of its first equity. The Rwanda Stock Exchange Limited was incorporated on 7th October 2005 with the objective of carrying out stock market operations.

Makau, Onyuma & Okumu (2015) further states that East Africa has plans to merge the exchanges in line with a program of economic integration meant to open borders and ease commerce between the five member states of the EAC. The region kicked off its common market which entailed dismantling trade barriers across borders in 2010, with the goal of establishing a fully free regional market by 2015. The East African Stock Exchanges, namely Nairobi securities Exchange (NSE), Uganda Securities Exchange (USE) Dares Salaam Stock Exchange (DSE), and the Rwanda Stock Exchange have established a working relationship among them in the spirit of integrating and developing capital markets in the East African Community (EAC). The firms cross listed in the East African Securities Exchanges include East African Breweries Limited, Equity Bank Limited, Jubilee Holdings Limited, Umeme Limited, Centum Investments Limited, Kenya Airways Limited, Kenya Commercial Bank Limited and Nation Media Group Limited. From historical records, it can be established that Kenyan based companies that have undertaken cross-border listing have strong financial base.

1.2. Statement of the Problem

Cross border listing brings the opportunity to enhance corporate image, advertise trademarks and products, get better local press coverage, and become more familiar with the local financial community (Waweru, Pokhariyal & Mwaura, 2012). This enables cross-listed firms to raise working capital locally, establish a secondary market for shares used to acquire other firms in the host markets and it is considerably more attractive if those shares have a liquid secondary market. Adelegan (2008) posits further that the process also brings significant benefits such as the financing of corporate and development needs of stock markets, the provision of wealth diversification, greater efficiency, the lowering of the cost of capital, increased market access for small stock markets, and the potential to mitigate the effects of foreign investment outflows in shallow markets as well as increasing the liquidity of the shares and the market in general

With Kenya having weak investor protection laws, Kenyan firms will cross list in markets that have better investor protection such as Rwanda which has better regulations in terms of investor protection in the region. Onyuma et al. (2012) posits that in addition to increasing stock market liquidity, cross listing also provides an avenue for portfolio diversification for a wider investor base and improves employment levels through gains from the expansion in operations in the country of secondary listing. From a foregoing discussion, most studies concentrate on the effect of cross border listing on the general performance of the cross listed firms. It is therefore evident that there is a study gap on the effect of cross border listing on volatility of returns on shares of companies cross - listed within east Africa. This study therefore sought to answer the question: 'What is the effect of cross border listing on volatility of returns on shares of companies cross - listed within East Africa?'

1.3. Objectives of the Study

1.3.1. General Objective

To establish the effect of cross border listing on volatility of returns on shares of companies cross - listed within east Africa

1.3.2. Specific Objectives

- i. To determine the effect of financial performance on volatility of returns on shares of companies cross - listed within east Africa
- ii. To ascertain the effect of price of shares on volatility of returns on shares of companies cross - listed within east Africa
- iii. To establish the effect of liquidity of shares on the volatility of returns on shares of companies cross - listed within east Africa

- iv. To determine the effects of transactions cost on the volatility of returns on shares of companies cross-listed within east Africa.

1.4. Research Questions

- i. How does financial performance affect the on volatility of returns on shares of companies cross - listed within east Africa?
- ii. How does price of shares affect the volatility of returns on shares of companies cross - listed within east Africa
- iii. How does liquidity of shares affect the volatility of returns on shares of companies cross - listed within east Africa.
- iv. How do transactions cost affect volatility of returns on shares of companies cross-listed within east Africa?

1.5. Justifications of the Study

The study will offer valuable contribution to theory, practice and policy. First the study will add value to the body of corporate financial management discipline especially in the more demanding concerns stock market efficiency and will form the basis of further research by identifying the knowledge gap that arises from this study. Further, this is an emerging finance issue and being a developing economy, this trend is being embraced in Kenya. Because cross listing is a relatively new term in region, this study will bridge the knowledge gap on the effects of cross listing on volatility of returns of firms cross-listed on the East African Bourse.

In practice, the study is necessary to obtain this knowledge and use it to enlighten Kenyan public, company CEO's and scholars to embrace it. The results of the study will assist Kenyan investing public, company CEOs, and scholars. Scholars will have a deep understanding by knowing this emerging global trend. This will also add value to the academic field since little research has been done locally on cross listing. They will use the knowledge from the study to act as catalysts in their various fields of specialization. They will dispose knowledge to the entire country and it will have a multiplier effect on the Kenyan economy.

Finally, based on the findings of this study, policy makers and stock market authorities in EAC would find the need to provide incentives to encourage corporate firms to cross-listing since it may just promote the integration of the regions capital markets. Cross border listings are the building blocks for the construction of regional markets. As such, full integration of capital markets requires harmonization of laws, and unification of currency, which in turn help standardize of stocks, and reduce investors transaction and information costs when forming regional portfolio allocation. Fast track policies aimed at integrating the markets, harmonizing trading practices, and trading engines, improving governance structures and attracting foreign investors and listing. To foster an increase in regional cross-listings therefore, appropriate and complementary strategies are needed by exchanges, listed firms, and policy makers. For firms to pursue regional cross-listings that are market driven, they need to improve on corporate governance, minimize information asymmetry, increase their net worth and harmonize their accounting and reporting format with international standards. The study would give policy makers insights on the need to give due consideration to taking the necessary steps to further integrate EAC stock markets. This would enable easy access of regional capital markets by firms, and not necessarily consider cross-listing.

1.6. Scope of the Study

With Kenya having weak investor protection laws, Kenyan firms will cross list in markets that have better investor protection such as Rwanda which has better regulations in terms of investor protection in the region. Onyuma et al. (2012) posits that in addition to increasing stock market liquidity, cross listing also provides an avenue for portfolio diversification for a wider investor base and improves employment levels through gains from the expansion in operations in the country of secondary listing. It also enhances both the business reputation of the cross listed firm and other national listed firms, reduces spreads on interest rates and debt securities by increasing the number of investors in the stock market. This study will however take an insight look at how cross border listing affects the volatility of returns in shares cross traded in the East Africa Bourse.

The population of interest for this study comprised of corporations that have been listed in Kenyan Bourse, and have undertaken cross listing within the East African Stock Markets, and those that are in similar sub-sectors of the economy that are listed in the NSE but have not undertaken cross listing. The number of companies that have been cross listed are very few and therefore this would be a census study. The companies that are currently cross listed include, NMG, Jubilee holdings ltd, Equity bank ltd, Umeme ltd, Kenya airways, EABL, KCB and Centum investments.

2. Literature Review

This study is anchored on the discussion of the various concepts and theories that provide explanations regarding the concept of cross border listing and market efficiency, studies that have been done that are relevant to this study and finally an identification of research gaps.

2.1. Market Segmentation Theory

Trafimovich (2006) state that the theory argues that the market is segmented and different institutional investors have different maturity needs that lead them to confine their security selection to specific maturity segments. The investors focus on short, medium and long term securities and will not change from their particular market segments even if there are forecasts of likely future interest rate changes. Therefore, the shape of the yield curve ultimately is a function of the investment policies of major financial institutions. Major financial institutions tend to structure their investment policies in line with factors like tax liability, types of maturity structure of their liabilities and the level of earnings demanded by their depositors.

The theory holds that the maturity preferences of investors and borrowers are so strong that investors never purchase securities outside their preferred maturity range to take advantage of yield differentials. By this theory, each maturity represents a separate distinct market (Corrado & Bradford, 2002). Segmentation in respect to debt simply states that interest rates corresponding to each maturity are determined separately by supply and demand conditions in each market segment. This same scenario applies to firms when they are raising capital from offshore markets.

2.2. *Efficient Market Hypothesis (EMH)*

Allen, Brealey & Myers (2011) defined a market as efficient when it was not possible to earn a return higher than the market return. The value of shares reflects the fair value of the company and is equal to the future cash flows discounted by an alternative cost of capital. Eakins & Mishkin (2012) argued that an efficient market was a market where asset prices fully reflected all information available. Generally, the essence of an efficient market is built on two pillars; in efficient markets, available information is already incorporated in stock prices and in efficient markets, investors cannot earn a risk-weighted excess return. A market is informally efficient if prices at each moment incorporate all available information about future values. The present capital market efficiency is primarily associated with the cost efficiency, while other markets are often analyzed from the perspective of the allocation efficiency (Blume & Durlauf, 2008). In general, an efficient stock market is a market where stock prices reflect fundamental information about companies. In such a case, the market value of the company changes in a way very similar to that of the intrinsic value of a company. The differences in investor awareness and uneven transaction costs prevent fundamental changes in value to be completely and immediately reflected in market prices (Goedhart, Koller & Wessels, 2010).

Considering the information reflected in market prices, market efficiency is usually broken down into three levels. Weak, semi-strong, and strong forms of market efficiency are distinguished. In weakly-efficient stock markets, the current stock price reflects all information related to the stock price changes in the past. Such information includes data on previous prices and trading volume. In semi-strongly efficient markets, current stock prices reflect not only information about historical prices but also all current publicly available information including announcements of acquisitions, dividend pay-outs, changes in accounting policy and possible cross listing. Finally, in strongly efficient markets, current stock prices reflect all possible information which does not necessarily have to be public. This form of market efficiency implies that it is impossible to earn excess profit while trading on insider information which seems to be unlikely (Malkiel, 2011). Cross listing is therefore a signal that may be incorporated in the share prices.

2.3. *Signaling Theory*

Akoto & Gatsi (2010) assert that it is a theory which is built on the presumption that managers have superior information than the stakeholders on the activities of the firm, and for that matter managers could increase the leverage component. However, in contrast to market timing, where securities offerings are seen as an attempt to raise “cheap” capital, the signaling model assumes that financing decisions are designed basically to convey managers’ confidence in the firm’s future prospects to outside investors (Barclay & Smith, 2005). Most often, this is done to raise the value of shares when managers think they are undervalued. Debt mandates firms to make a fixed set of cash payments to debt-holders over the term of the debt security. Firms could be forced into bankruptcy if they default in honoring their debt obligations. Also, bankruptcy is costly to managers as they could lose their jobs.

Akorsu (2014) posit that firms will signal only if there is an economic advantage to be gained from signaling and if information asymmetry in the market negatively impacts on their value. Signaling is essentially a unique strategic communication tool used by the firms to bridge an undesirable communication gap. Cross-border listing in a prestigious market enhances a firm’s visibility, strengthens corporate governance, and lowers informational frictions and capital costs. This can signal future prospects that can further have a positive influence on the prices of the company shares.

2.4. *Conceptual Framework*

Mugenda (2003) asserts that a conceptual framework gives an explanation of how the researcher perceives the relationship between variables deemed to be important in a study. In this study, cross border listing will be treated as the independent variable. Cross listing provides a firm with an opportunity to improve its corporate governance. It is a vehicle through which a firm’s management can ‘bond’ themselves to a legal system with more protections against management self-dealing or excessive consumption of private benefits of control (Burns & Bill, 2006). Cross listing, helps improve on corporate governance. This is true for firms that originate from relatively less-developed country with weaker institutions.

Volatility of returns on shares will be treated as the dependent variable. Bollerslev, Xu & Zhou (2012) assert that when share markets are experiencing a stellar run, the price of shares in individual companies and across the board goes up and down all the time, this is called volatility. Shares tend to be more volatile than some other investments. Many investors have therefore experienced abnormal levels of investment performance volatility during various periods of the market cycle. This affects the capital gains on those shares hence the concept of returns volatility. The study will therefore be guided by the following conceptual framework.

2.4.1. Conceptual Framework

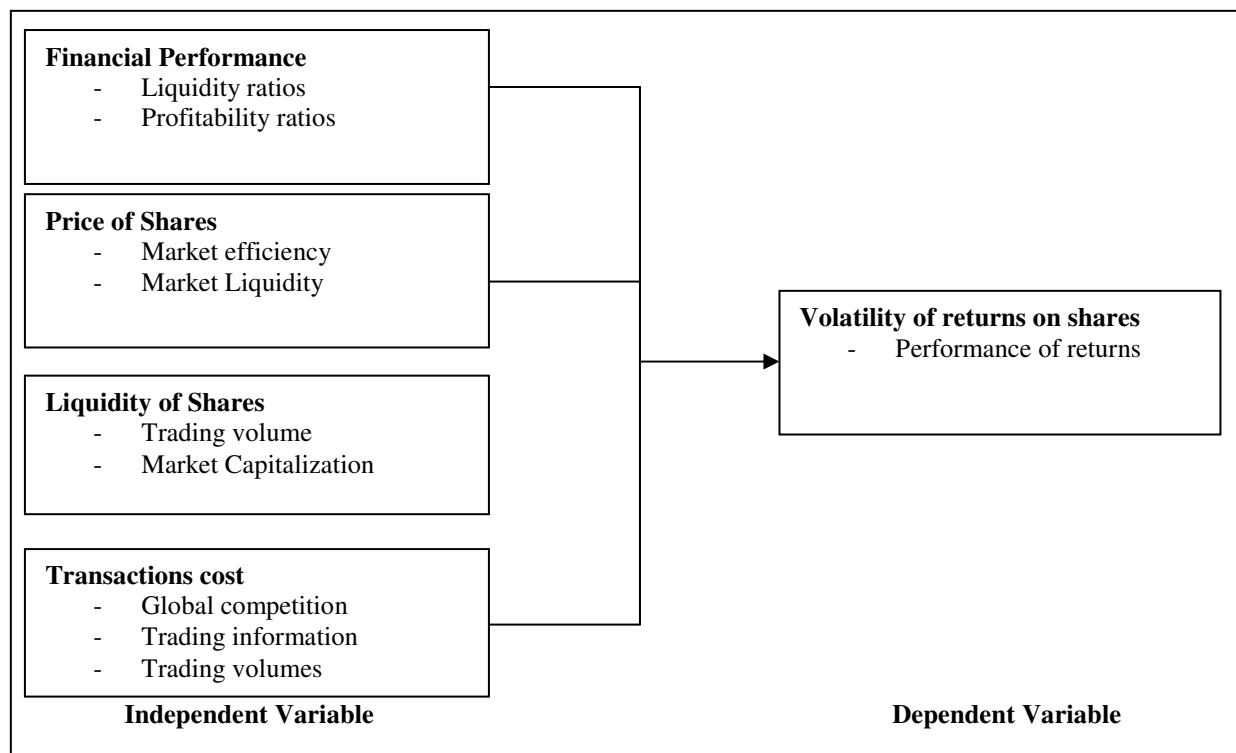


Figure 1: Conceptual Framework

Source: Researcher

2.5. Review of Variables

2.5.1. Financial Performance

Adelegan (2008) assert that the financial performance of firms is normally evaluated in terms of profitability ratios, liquidity ratios, Equity-related and Gearing Ratios. Every firm must be keen on how these ratios can be improved. A firm may decide to cross-list to improve these ratios. Other factors may include; High transaction costs, imperfect information in the domestic markets, need to improve the firm's current market share, and static demand and supply of the firm's securities are among hardships faced by firms. They also need more capital, which may not be readily available in their home country. These necessitate the firms to go off shore and raise extra capital with the aim of eliminating these constraints. This study will measure performance in terms of profitability using profit before interest and tax for each firm before and after cross listing announcement. Mody, Ashoka, Murshid & Panini (2011) further posit that cross-listing of companies is also expected to improve firms' profitability since more market access in cross listed country is likely to bring in more revenue. They are also likely to borrow less because they have access to another pool of capital. Again, this will depend on the cost structure of the company and the cost of doing business in that country, in addition to the intended use of the capital raised.

Onyuma, Mugo & Karuiya (2012) noted that financial performance of a firm is expected to improve after cross listing. In their study, they found although profitability and gearing ratios improve in absolute terms; this improvement is not statistically significant. Overall their findings provide some evidence that firms may benefit from cross listing in terms of liquidity and investor confidence. Michael et al (2004) further argues that cross listing will provide a firm with an opportunity to improve its corporate governance which is vital for good financial performance. They assert that cross listing is a vehicle through which a firm's management can 'bond' themselves to a legal system with more protections against management self-dealing or excessive consumption of private benefits of control.

2.5.2. Price of Shares

Bollerslev, Xu & Zhou (2012) assert that when share markets are experiencing a stellar run, the price of shares in individual companies and across the board goes up and down all the time, this is called volatility. Shares tend to be more volatile than some other investments. Many investors have therefore experienced abnormal levels of investment performance volatility during various periods of the market cycle. This affects the capital gains on those shares hence the concept of returns volatility. Balli, Basher & Balli (2013) posit that risk captured by the volatility in returns, is one of the pillars of investors' risk-return profiles underlying their investment decisions.

Event studies produce useful evidence on how stock prices respond to information. The post-listing price performance, however, varies widely across companies and for many stocks the initial increase in price dissipates over the next year (Mittoo, 2003). Evidence regarding the direction and magnitude of the post-listing price effect of cross-border listings is mixed and has come up with

inconclusive results. The disparity on the post-listing price performance for different markets makes further research potentially useful to establish the case for Kenya.

2.5.3. Liquidity of Shares

Schmukler, Yeyati & Horen (2007) define a liquid market as one where market participants can promptly execute large volume transactions without significant price impact. Liquidity is the ease at which securities can be bought and sold in the market without significantly affecting the stock price. Liquidity is an essential characteristic to the success of any exchange. As the liquidity of a stock (or the market) increases, the greater the access available to investors; this increased visibility can be exhibited through a tightening/reduction in the bid-ask spread or an increase in turnover (or a combination of both). Liquidity is a fundamental aspect of stock market development. A deeper secondary market allows companies to raise capital at a lower price (Ellul & Pagano, 2004). Companies value share liquidity for a number of reasons as observed by William (2009). First, liquid stock can be used as currency for acquisitions. This allows a public company to pursue an acquisition even if it lacks sufficient cash or borrowing capacity. Second, a company can use liquid stock as a component of employee compensation. Liquid stock is attractive to employees because it can be easily valued and converted into cash, and it provides tax benefits and upside potential. These considerations aid in employee recruitment and retention and better align the interests of employees and shareholders. Third, fluctuations in the price of a company stock in a liquid market aids management because it provides immediate feedback as to the market consensus on the company's strategy and performance.

Bancel & Mittoo (2001) report on the basis a survey done with Canadian and European firms found that managers perceive that international cross listings increase the total trading volume of the share of a firm. Levine & Schmukler (2003) found a reduction in the trading volume of cross listed shares in the home market while Halling, et al. (2004) report that the increase in trading volume that occurs in the international market immediately after the international cross listing is followed by a decline later on. In Kenya a study by Wanjiru (2012) showed an increase in the volumes of shares traded and an increase in market capitalization of the cross listed firms as well as an improvement in the market capitalization of the bourses where the firms had cross listed. In the current study, liquidity of shares will be measured using the volumes of shares traded over the period of study.

2.5.4. Transactions Costs

According to Chouinard & D'Souza (2004) Cross-listing reduces transactions costs through if there is an improvement in market liquidity. A market is considered to be liquid if transactions can be executed rapidly and with little impact on prices. Global competition and availability of trading information determines order flow commonly known as the trading volume. In This competition causes exchanges to continuously look for ways to improve their trading processes in order to enhance market quality and maintain or attract order flow.

when a security trades on multiple markets, traders who do not have superior information regarding future returns will base their trading decisions largely on transactions costs. If one exchange has lower transactions costs than the other(s), order flow emanating from these so-called liquidity traders will gravitate towards that exchange. Other traders who wish to profit from information in their possession that has either not been disseminated to, or properly assimilated by, the whole trading community will.

Other key considerations are operational and informational efficiency, transparency, and volatility. Improvement in quotes can be interpreted as a response of domestic market-makers to competition from their foreign counterparts. Liquidity improves the most when the domestic market retains a significant portion of its trading volume and when restrictions on pre-listing cross-border trading are stringent. If informational links were poor, e.g., for emerging markets, cross-listing would actually reduce liquidity and increase volatility on the domestic market as informative trades were directed to other markets (Bacidore and Sofianos 2002). All else being equal, greater liquidity should translate into a lower cost of equity capital, since liquidity is valued by shareholders (Bacidore and Sofianos 2002).

2.5.5. Volatility of Returns on Shares

Stock market volatility is the fluctuation of the sale and stability of shares traded in the stock market. Portfolio volatility measures the degree of ups and downs the portfolio experiences. High-volatility portfolios exhibit dramatic swings in price and are indicative of under diversification. A higher beta of the portfolio indicates that the security has higher risk and will exhibit more volatility than the stock market in general. When the stock market goes up one day, and then goes down for the next five days and then up again and again increases the volatility of shares in the market. Volatility is mostly measured in percentage changes in prices, or rates of return. Returns show the proportion change in the value in one's investment over the period of time. (Levišauskait 2010, Nelson 1999)

3. Research Methodology

3.1. Research Design

Descriptive survey research design was used in the study. This is because the study is about fairly knowledgeable aspects of the phenomenon, but little knowledge is available regarding their characteristics, nature or details. Kothari (2014) states that descriptive research aimed at generating knowledge that may be useful to describe or develop a profile of the study. Mugenda & Mugenda (2003) asserts that the purpose of descriptive survey research is to determine and report the way things are and it helps in establishing the

current status of the population under study. This design is the most appropriate since it ensures that the data obtained gives appropriate answers to the research questions.

3.2. Target Population

The population of interest for this study comprised of all listed companies in the Nairobi Securities Exchange Market. There are currently 66 (Sixty-six) listed firms (Appendix II). (Nairobi Securities Exchange Marke)

3.3. Sampling and Sampling Technique

The study used purposive sampling. This sampling technique is one where the items for the sample are selected deliberately by the researcher and the researcher's choice concerning the items remains supreme (Kothari, 2014). The exact sample size consisted of top management and staff members from the investment departments of each of the 7 (seven) companies that are listed in Kenya and cross listed in the East African Bourse as shown in appendix IV. From the target group a representative sample size was obtained by applying the formula by Glenn, D. (2012): $n=N/[1+N(e)^2]$

Where: n is the sample size; N is the target population and e is the precision level (5%)

$n=57/[1+57(0.05)^2]=50$ this is shown in Table 1 below:

Companies	Target Population	Sample size	Percentage (%)
Centum Investment	8	7	12.3
EABL	14	14	24.5
Equity Bank	5	4	7
Jubilee Holdings Ltd	12	10	17.5
KCB	10	9	15.8
Kenya Airways	4	3	5.3
NMG	4	3	5.3
TOTAL	57	50	87.7%

Table 1: Sample Size

Source: Capital markets Authority (2015)

3.4. Data Collection

The study mainly dwelt on both secondary data and primary. Published financial statements are available at the CMA in respect to financial performance and NSE information vendors who avail the market capitalization values and the ruling share prices. Firm's financial statements will be used for comparison of performance before and after cross listing for cross-listed firms. A similar period of post cross-listing financial performance of two years for non cross-listed firms was obtained. Data was collected using checklists from the NSE or CMA. The data collection sheets were used to gather all the information in respect to the financial performance of the firms and price of shares of the companies. This included profits before tax and prices of shares of cross listed companies before and after cross listing.

3.5. Data Analysis

An event study procedure was used in data analysis. Regarding objective one, the profit before tax of the companies will be computed for the two years before cross listing and two years after cross listing and a comparison is done on the two periods. On objective two, the share prices of the cross listed companies will be established for the two-year period before and after cross border listing and a comparison is done. Finally, regarding objective three, the liquidity of the shares of the cross listed companies will be computed and compared for the two years before and after cross border listing. The liquidity of shares will be measured using the volume of shares traded for two years before and two years after cross border listing. The data was analyzed by use of a statistical and research package namely (SPSS) with various data display tools for example, tables to analyze the available data for ease of explanation and display. This involved comparative analysis of the period before and after cross listing.

To establish the effect of cross border listing on volatility of returns on shares of companies cross – listed, a regression analysis was undertaken based on the regression model:

$$Y = a + bX_1 + bX_2 + bX_3 + \varepsilon$$

Where:

Y = Cross border listing.

a = Constant

X₁ = Financial performance

X = Prices of shares

X = Liquidity of shares

ε = Error term.

4. Data Analysis, Presentation and Interpretation

4.1. Introduction

This section consists of the analysis of the data collected in line with the four objectives of the study. The analysis begins with the demographic profile of the respondents. The descriptive analysis of the results was presented in tables, charts and graphs showing the frequencies and the percentages generated

4.2. Background Information

4.2.1. Response Analysis

The study targeted 50 respondents who are from top management and staff members from the investment departments of each of the 7(Seven) cross listed firms. The researcher distributed questionnaires to the respondents and only 40 out of the 50 sample respondents filled-in and returned the questionnaires making a response rate of 80%, a sample response rate that is well represented. Below is Table 2 showing the response rate.

Respondents	Frequency	%
Questionnaires returned	40	80
Did not respond	10	20
Total	50	100

Table 2: Response rate

The above response in Table 2 was considered to be representative. According to Mugenda (2003), for any meaningful and representative research, a sample of at least above 10% is representative enough.

4.2.2. Current Position of the Respondent

A majority of the respondents were in the middle level management with a representation of (50%). This was followed by supervisors (30%). The minority were the top managers (20) as summarized by figure 4:2. This shows that the respondents are aware of the transactions carried out by their respective firms thus providing sounding response relevant to the study.

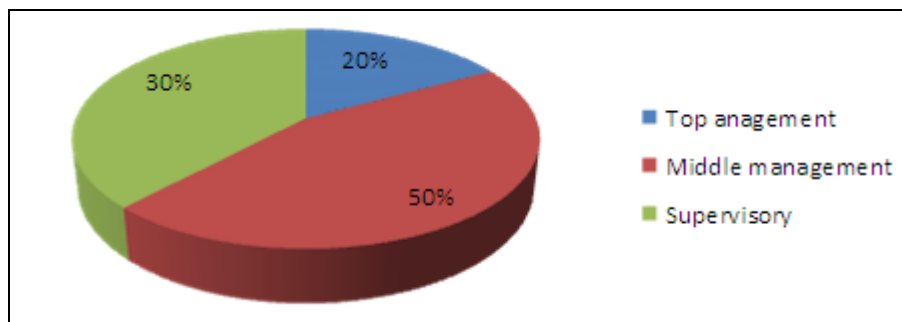


Figure 2: Current positions

4.2.3. Length of Time Served

Table 2 shows that the largest group of respondents, equivalent to 51%, had a service length of 5 – 10 years in the respective cross listed firms, while the longest services of more than 10 years constituted 17% of employees. Those who had served between 2 and 5 years were 23%, while the shortest work durations were obtained from 9% of the staffers.

Length of Time	Frequency	Percentage
Less than 2 years	6	9
2 -5 years	15	23
5-10years	33	51
10 and above	11	17
TOTAL	65	100

Table 3: Length of time served

From these findings, it was evident that the study obtained responses from employees who had generally served in the cross listed firms for reasonably enough duration to give dependable feedbacks. Since most of the respondents have worked in respective firms for over 2 (two) years, it is evident that respondents are well knowledgeable of all the transactions that their respective firms undertake thus providing quality responses as far as the study is concerned.

4.3. Descriptive Analysis

4.3.1. Effect of Financial Performance on Volatility of Returns on Shares

The respondent was asked on a five point Likert scale where 5 is strongly agree, 4 agree, 3 neutrals, 2 disagree and 1 strongly disagree to state how they agree with the given statements that financial performance affects volatility of returns on shares.

	N	Minimum	Maximum	Mean	Std. Deviation
Profit before tax increase after cross listing?	40	1	5	4.60	.955
Decrease in profit before tax after cross listing	40	1	5	4.70	.853
Profit before tax remains constant before and after Transaction costs increase profitability	40	1	5	4.75	.840
Valid N (list wise)	40				

Table 4: Effect of financial performance on volatility of returns on shares

From the above table, respondents strongly agreed that profit before tax increase after cross listing with a mean score of 4.60 and a standard deviation of 0.955. Respondents strongly agreed that decrease in profit before tax after cross listing affects volatility of returns on shares of cross listed firms with a mean score of 4.70 and a standard deviation of 0.853. Respondents strongly agreed on the statement that profit before tax remains constant before and after and thus financial performance positively affects the volatility of returns on shares of cross listed firms with a mean score of 4.75 and a standard deviation of 0.840. Respondents also disagreed that transaction costs increase profitability with a mean score of 2.65 and a standard deviation of 1.027. This clearly indicates that financial performance affects volatility of returns on shares of cross listed firms.

4.3.2. Effect of Price of Shares on Volatility of Returns on Shares

The respondent was asked on a five point Likert scale where 5 is strongly agree, 4 agree, 3 neutrals, 2 disagree and 1 strongly disagree to state how they agree with the given statements that prices of shares affects volatility of returns on shares of cross listed firms.

	N	Minimum	Maximum	Mean	Std. Deviation
Information availability affects volatility of shares	40	1	5	4.68	.859
Does a bullish market affect volatility of shares	40	1	5	4.63	.868
Prices of shares affect volatility	40	1	5	4.48	.960
Availability of shares in the market affect volatility of shares	40	1	5	4.35	1.099
Valid N (list wise)	40				

Table 5: Effect of price of shares on volatility of returns on shares

From the above table, respondents strongly agreed that information availability affects volatility of shares with a mean score of 4.68 and a standard deviation of 0.859. Respondents also strongly agreed with the statement that a bullish market affect volatility of shares with a mean score of 4.63 and a standard deviation of 0.868. Respondents also agreed that prices of shares affect volatility with a mean score of 4.48 and standard deviation of 0.960. Respondents agreed again that availability of shares in the market affect volatility of shares with a mean score of 4.35 and a standard deviation of 1.099.

4.3.3. Effects of Liquidity of Shares on the Volatility of Returns on Shares

The respondent was asked on a five point Likert scale where 5 is strongly agree, 4 agree, 3 neutrals, 2 disagree and 1 strongly disagree to state how they agree with the given statements that liquidity of shares affects volatility of returns on shares of cross listed firms.

	N	Minimum	Maximum	Mean	Std. Deviation
Volume turnover affects volatility of shares	40	1	5	4.65	.834
Does market capitalization affect volatility of shares	40	1	5	4.50	.961
Does the market share index affect volatility of shares	40	1	5	4.68	.859
Does transaction information affect volatility of shares	40	1	5	4.55	1.037
Valid N (list wise)	40				

Table 6: Effects of liquidity of shares on the volatility of returns on shares

From the above table, respondents strongly agreed that Volume turnover affects volatility of shares with a mean score of 4.65 and a standard deviation of 0.834, respondents strongly agreed with the statement that market capitalization affect volatility of shares with a mean score of 4.50 and standard deviation of 0.961, respondents also strongly agreed that market share index affect volatility of shares with a mean of 4.68 and a standard deviation of .859. Respondents further strongly agreed that transaction information affect volatility

of shares with a mean score of 4.60 and a standard deviation of 0.871. From the findings above this clearly indicated that liquidity of shares affects the volatility of returns on shares.

4.3.4. Effects of Transactions Cost on the Volatility of Returns on Shares

The respondent was asked on a five point Likert scale where 5 is strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree to state how they agree with the given statements that transactions cost affects the volatility of returns on shares.

	N	Minimum	Maximum	Mean	Std. Deviation
Investors risk profile affects investment in shares	40	1	5	4.55	.876
Degree of risk affects investment in shares	40	1	5	4.35	1.099
Business cycle affects investment in shares	40	1	5	4.60	.900
Transaction costs affect volatility of shares	40	1	5	4.52	1.037
Transaction information affect volatility of shares	40	1	5	4.70	.853
Cost of shares affect volatility of shares	40	1	5	4.89	1.022
Valid N (list wise)	40				

Table 7: Effects of transactions cost on the volatility of returns on shares

From the above table, respondents strongly agreed that Investors risk profile affects investment in shares with a mean score of 4.55 and a standard deviation of 0.876. Respondents agreed that degree of risk affects investment in shares with a mean of 4.35 and a standard deviation of 1.099. Respondents also strongly agreed that business cycle affects investment in shares with a mean score of 4.60 and a standard deviation of 0.900, respondents also strongly agreed that transaction costs affect volatility of shares with a mean of 4.52 and a standard deviation of 1.037. Respondents further strongly agreed that transaction information affect volatility of shares with a mean score of 4.70 and a standard deviation of 0.853. Respondents also agreed that the cost of shares affects volatility of shares with a mean of 4.89 and a standard deviation of 1.022. From the findings above this clearly indicated that transactions cost of shares affects the volatility of returns on shares of cross listed firms in east Africa

4.4. Coefficient of Correlation

The study used the Karl Pearson's coefficient of correlation (r) in showing the relationship between cross border listing and volatility of returns on shares of companies cross - listed within east Africa. According to the findings, it was clear that there was a positive correlation between volatility of returns on shares of companies cross - listed within east Africa and financial performance of this firms shown by a correlation figure of 0.989; cross border listing and volatility of returns on shares of companies cross - listed within east Africa and price of shares shown by a correlation figure of 0.983; there was also a positive correlation between cross border listing and volatility of returns on shares of companies cross - listed within east Africa and price of shares and liquidity of shares with a correlation value of 0.986; A positive correlation was also noted between cross border listing and volatility of returns on shares of companies cross - listed within east Africa and transactions cost. There was also positive correction between financial performance, price of shares, liquidity of shares and transactions cost. This showed that there was a strong positive relationship between cross border listing and volatility of returns on shares of companies cross - listed within east Africa.

	Financial performance	Price of shares	liquidity of shares	transactions cost
Financial performance	1			
Price of shares	.989	1		
liquidity of shares	.983	.993	1	
transactions cost	.986	.996	.994	1

Table 8: Correlation

4.5. Coefficient of Determination (R²)

Table 8 showed that the coefficient of determination was 0.981. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (volatility of returns on shares of companies cross - listed within east Africa) that is explained by all independent variables. From the findings this meant that 98.3% of volatility of returns on shares is attributed and determined by combination of the four independent factors investigated in this study. The study also showed that there are other variables not studied in this research that attributed to 1.7%.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.992 ^a	.983	.981	.12276	.983	516.687	4	35	.000

a. Predictors: (Constant), Financial performance, Price of shares, transactions cost, liquidity of shares

Table 9: Coefficient of Determination (R2)

4.6. ANOVA

The study used ANOVA to establish the significance of the regression model from which f-significance value of p less than 0.05 (<0.05) was established as shown in Table 9. The model was statistically significant in predicting volatility of returns on shares of companies cross - listed within east Africa that the regression model had a probability of less than 0.05 of giving a wrong prediction. This therefore means that the regression model had a confidence level of above 95% hence high reliability of the results obtained.

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	31.146	4	7.786	516.687	.000 ^b
	Residual	.527	35	.015		
	Total	31.673	39			

a. Dependent Variable: volatility of returns on shares of companies cross - listed within east Africa
b. Predictors: (Constant), Financial performance, Price of shares, transactions cost, liquidity of shares

Table 10: ANOVA

4.7. Multiple Regressions

The researcher conducted a multiple regression analysis as shown in Table 180so as to determine the relationship between volatility of returns on shares of companies cross - listed within east Africa and the four variables investigated in this study. The regression equation was:

$$Y = 0.000 + 0.918X_1 + 0.320X_2 + -0.657X_3 + 0.416X_4 + \epsilon$$

Where

α : is a constant term,

β_n : coefficients to be determined

ϵ : the error term.

Y: the dependent variable (volatility of returns on shares of companies cross - listed within east Africa)

X1: Financial performance.

X2: Price of shares

X3: transactions cost

X4: liquidity of shares

According to the regression equation established shown in Table 10, taking all factors constant at zero, volatility of returns will be 0.000. The data findings analyzed also shows that taking all other independent variables at zero; a unit increases in financial performance will lead to a 0.918 increase in volatility of returns; A unit increase in Price of shares will lead to a 0.320 increase in volatility of returns; a unit decrease in transactions cost will lead to a -0.657 decrease in volatility of returns; a unit increase in liquidity of shares will lead to a 0.416 increase in volatility of returns. This therefore implies that four variables have a positive relationship with volatility of returns on shares of companies cross - listed within east Africa.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.120		-.004	.997
	Financial performance	.918	.260	.904	3.530	.001
	Price of shares	.320	.231	.317	1.386	.175
	transactions cost	-.657	.355	-.676	-1.852	.073
	liquidity of shares	.416	.130	.454	3.200	.003

a. Dependent Variable: volatility of returns on shares of companies cross - listed within east Africa

Table 11: Multi linear Regression Analysis

5. Summary, Conclusions, and Recommendations

5.1. Summary of Findings

The research has identified that there is a relationship between cross border listing and volatility of returns on shares of companies cross - listed within east Africa. From the data collected and analyzed , a test of effects of financial performance on volatility of returns on shares of cross listed firms showed that profit before tax increase after cross listing with a mean score of 4.60, decrease in profit before tax after cross listing affects volatility of returns on shares of cross listed firms with a mean score of 4.70 ,profit before tax remains constant before and after and thus financial performance positively affects the volatility of returns on shares of cross listed firms with a mean score of 4.75 and that respondents disagreed that transaction costs increase profitability with a mean score of 2.65. This results clearly indicate that financial performance affects volatility of returns on shares of cross listed firms.

It was evident also that information availability affects volatility of shares with a mean score of 4.68, a bullish market affects volatility of shares with a mean score of 4.63, prices of shares affect volatility with a mean score of 4.48 and availability of shares in the market affect volatility of shares with a mean score of 4.35 thus confirming the general question of effect of price of shares on volatility of returns on shares. Other findings too showed a positive relation between cross border listing and volatility of returns on shares of companies cross - listed within east Africa, where effects of liquidity of shares on the volatility of returns on shares showed the following results.

The volume turnover affects volatility of shares with a mean score of 4.65, market capitalization affects volatility of shares with a mean score of 4.50

, market share index affect volatility of shares with a mean of 4.68 and transaction information affect volatility of shares with a mean score of 4.60. It was clear that Investors risk profile affects investment in shares with a mean score of 4.55, the degree of risk affects investment in shares with a mean of 4.35, transaction costs affect volatility of shares with a mean of 4.52 ,transaction information affect volatility of shares with a mean score of 4.70 and the cost of shares affects volatility of shares with a mean of 4.89 thus a strong agreement that transactions cost affects the volatility of returns on shares.

5.2. Conclusions

As financial markets worldwide have become more integrated and improving in their performance and revenue, geography is still a very important factor in matters finance and business establishment. The volatility of shares in cross listed firms is a sign that business is booming in Stock exchanges. Stock exchanges are trying to break the barriers to international capital flows through creation of strategic alliances that reach far borders. The number of listed and traded foreign companies in the world has doubled in the last two decades. Inter-listing has allowed firms to reduce the cost of their equity capital by reducing the risks associated with their shares. To meet investors' desire to diversify their portfolio and to help businesses attract international capital, it is essential for governments or regulatory authorities to realize the inter-listing concepts and act in support of the cross-listed firms. Global competition is healthy for both cross listed firms and also investors. In order to secure a well-positioned business in the international arena, market participants must understand their own respective roles in the international markets to protect themselves and reap the maximum rewards. This will enable firms to get more ways to utilize their investment opportunities, as there could be enough money to undertake viable projects with greater returns.

5.3. Recommendations

The study draws recommendations based on the conclusion on the effect of cross border listing on volatility of returns on shares of companies cross - listed within east Africa

The recommendations are based on Financial Performance, Price of Shares, Liquidity of Shares and Transactions costs.

The relationship between liquidity and inter-listing is largely attributed to the global competition for order flow. Cross listed firms should embrace this competition to causes exchanges thus continuously improve their trading processes in order to enhance market quality and maintain or attract order flow.

To meet investors' desire to diversify their portfolio and to help businesses attract international capital, it is essential for governments or regulatory authorities to realize the following concepts and to act accordingly:

Governments should help businesses and specifically the cross-listed firms to attract international finances through well planned and devised policies that can help in revenue creation and floating of shares in the markets.

Investors can simply open an account with a foreign broker in a foreign country, place orders directly through telephone or internet or other means of communication. It would be nice if the foreign broker has a branch office in the country where the investor is located. Investors may also choose a local broker which has a membership in a foreign exchange or act as an agent for a foreign broker. The growth of institutional investors' cross-border trading and the explosive development in modern technology in both computer and communication can be highly be utilized it desirable and cost-efficient way to trade off-the-exchange.

5.4. Areas for Further Research

This study is not conclusive and as such it is recommended that further research be undertaken. The study proposes a further research in effects of cross border listing on the financial performance of firms in developing countries. This will enable local firms in developing countries understand the dynamics of cross listing and the financial implications associated with cross border listing.

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