THE RELATIONS BETWEEN DIVIDEND POLICY AND STOCK RETURNS IN THE DAR ES SALAAM STOCK EXCHANGE, TANZANIA

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ABSTRACT

Dividend policy establishes the distribution of a company's profit whether they could pay out to the stockholders as dividends or retain the profit for re-investments in the company. There are several theories which explain the dividend behaviour, and the empirical studies suggest evidence for one over the other, however the belief concerning corporate dividend theories are different. There are two conflicting theories; those who believe in dividend relevance theory (Lintner & Gordon) and those who believe in dividend irrelevance theory (Miller & Modigliani). The key part of the study is related to the evaluation of which theory is suited for dividend policy of companies in Dar es Salaam Stock Exchange (DSE). So far numerous researchers have make an effort to solve the dividend puzzle.

The main aim of this study was to establish whether there is a relationship between dividend policy and stock return of companies listed in Dar es Salaam Stock Exchange. In particular, the study focuses on three main aspects, namely; investigating the association between stock returns and dividend yield, stock price reaction to dividend announcements and identifying the factors influencing dividend policy decisions.

The empirical findings confirmed that dividend yield has a strong impact on stock returns and it is statistically significant. The finding of this study supported the dividend relevance theory. The event study found that dividend announcements have an impact on share prices and the significance of the abnormal around event date confirms that the DSE market supports dividend relevance and signaling theory. Finally, the study concluded that debt ratio and age of the firms have a strong influence on the dividend policy on firms on the DSE.

DECLARATION

I, ***Deodatus M. Sylvester,*** declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfillment of the requirements for the degree of Master of Management in Finance and Investment in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

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Signed at ……

On the …….. day of …… 20…..

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List of Abbreviations

AR	Abnormal Returns
AltX	Alternative Public Equity Exchange for Small and Medium sized Companies in South Africa
CAR	Cumulative Abnormal Average Returns
CMSA	Capital Market and Security Authority
CAPM	Capital Asset Pricing Model
CRDB	CRDB Bank Plc
CRSP	The Center for Research in Security Prices
DSE	Dar es Salaam Stock Exchange
DSEI	Dar es Salaam Stock Exchange All Share Indices.
EABL	East African Breweries Limited
FCF	Free Cash Flow
GSE	Ghana Stock Exchange
IPO	Initial Public Offering
JSE	Johannesburg Securities Exchange Limited
JHL	Jubilee Holding Insurance
KA	Kenya Airways Limited
KSE	Karachi Stock Exchange
LDCs	Less Developed Countries
MM Theory	Miller and Modigliani theory
MSM	Muscat Securities Market
NMB	National Microfinance Bank
NSE	Nairobi Stock Exchange
OLS	Ordinary Least Squares
S & P 500	Standard & Poor's 500 Index

SSA	Sub-Sahara Africa
Tshs	Tanzanian Shillings
TCCL (SIMBA)	Tanga Cement Company Limited
TATEPA	Tanzania Tea Packers Limited
TBL	Tanzania Breweries Limited
TCC	Tanzania Cigarette Company Limited
TOL	Tanzania Oxygen Limited
TPCL (TWIGA)	Tanzania Portland Cement Company Limited
TRA	Tanzania Revenue Authority
TSI	Tanzania Share Index
USE	Uganda Stock Exchange
UK	United Kingdom
USA	United States of America

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CHAPTER 1: INTRODUCTION

1.1 Background

Dividend policy is the set of guidelines a firm uses to decide how much of its net income it pays out as dividend to its shareholders and/or how much to retain to undertake its investment opportunities. The aim of the dividend decision is to decide to what extent the earnings of the company should be distributed among its shareholders and thereby also ascertain the retained earnings (Singhania & Gupta, 2012). The dividends are decided by the company's board of directors and paid out to shareholders in the company's register on a specified date, known as the date of record.

Dividends can be paid in three different forms ; *cash dividends*, usually paid in cash quarterly or half yearly (firms can declare both regular and extra dividends) and *stock dividends* in which shareholders receive new stock in the firm as a form of dividend. Dividend is generally defined as the distribution of earnings, past or present, among the shareholders of the firm in proportion to their ownership (Frankfurter, et al., 2003, p. 3).

The dividend policy refers to the question of how much of the net income a company ought to pay to its stockholders and how much to retain for investment or debt settlement. It not only specifies the amount of dividend payment, but also the form of dividend, payment procedure and retained earnings amount.

This procedure has implications for investors, managers, lenders and stakeholders whether it has to be declared now or accumulated to be paid later. Furthermore, it is an important input in valuation of the company. Management has to be flexible in their decision whether or not to reduce the payout ratio and increase the retained ratio for future investments and for servicing and redemption of claims from lenders.

Lintner (1956) suggested that the dividend depends partly on the company's current earnings and in part on the dividends of previous year which in turn, depend on the earnings of previous year and dividends of the year before. Gordon (1959), among scholars in this school of thought, believed and found that dividend policy does affect the value of the firm. However, Miller and Modigliani (1961) suggested that the value of the firm is unaffected by dividend policy, assuming a theoretical world without tax, transaction costs and other market imperfections. If this is true, investors should be indifferent to firms' dividend policies.

An alternative school of thought in the dividend relevance debate argues that firms can impact their share price by changing the dividend policy. Proponents of this school of thought argue that investors prefer an amount of dividends to an amount of capital gain. For instance, Black and Scholes (1974) reasoned that "a bird in the hand is worth more than one in the bush". In this context, investors will bid up the prices of the shares of firms that pay higher dividends than on shares those that pay lower dividends.

In the dividend relevance context, several theories have been developed to try to understand and explain corporate dividend policy. The dividend signaling theory states that sometimes stock prices respond to companies' dividend announcements either adversely or favourably, depending on whether it is good or bad. For example, at the DSE, during the period from 2007 to 2014, the TBL, TCC, Swissport and NMB made dividend announcements as shown in the Table 1.1.[1]

[1] TBL – Tanzania Breweries Ltd; TCC – Tanzania Cigarette Company, Swissport – Swissport Tanzania Limited and NMB – National Microfinance Bank.

Table 1.1: Dividend announcements

	TBL	TCC	SWISSPORT	NMB
Dividend announcements	19/02/10	11/3/2013	22/02/10	24/04/12
Ex- dividend date	12/3/2010	2/4/2013	16/04/10	16/05/12
Book Closure date	18/03/10	8/4/2013	22/04/10	22/05/12
Payment date	29/03/10	3/5/2013	24/05/10	11/6/2012

When TCC announced dividends, its share price went down from Tshs. 5,550/= to 5,520 the next day and went up to Tshs 5,720/= near ex-dividend day.[2] A similar phenomenon happened to NMB and Swissport, while NMB share went up from Tshs. 900 to 910, Swissport shares increased from Tsh.600 to 610, while the share price of TBL remained at a constant price of Tshs 1,760. Supposing there were no other factors, this observation supports the signaling effect.

The dividend policy debate still remains important in Corporate Finance policy. Indeed, Black (1976) asserts that "the harder we look at the dividend picture, the more it seems like a puzzle with pieces that just do not fit together". The motivation of doing this study lies in the existing puzzle whether firms' dividend policy affects their stock returns. Do stockholders prefer dividend payment to capital gains? Do these investors need high, low or no dividend payouts in order to capitalize on their returns?

Managers have an important role in addressing this problem as one of the strategic issues in the company. Management can decide to pay high dividends and finance future projects through new issues of equity or debt or pay low dividends and use retained earnings to finance these future projects. Prior to this study, the determination of the appropriate dividend policy and its probable impact on investors' returns has not yet been examined in

[2] Ex-dividend day is the day when stock trades exclusive of dividends i.e. if one buys stocks on or after this day then he or she is not entitled to receive dividends, on book closure date a person who owns stock on this date received the dividend payment.

the DSE context. This study investigated the relations between dividend policy and stock returns in the Dar es Salaam Stock Exchange (DSE) in Tanzania for the period of seven years from 2007 to 2014.

The Dar es Salaam Stock Exchange Limited (DSE) is a not-for-profit company which was established on 19th of September 1996, following the enactment of the Capital Markets and Securities Act, 1994, as a company limited by guarantee and having no share capital under the company's ordinance (Cap 212). The DSE started its operations on 15th April 1998 after two years of background preparatory work (DSE, 2014). As of the end of 2014, DSE had twenty one (21) listed companies; in 2013, DSE established the second tier market known Enterprise Growth Market (EGM), under which the bourse has listed three (3) firms.

The DSE is open five days a week, from Monday through Friday, and trading starts from 10.00 am and ends at 12.00 noon. The DSE uses the Securities and Trading Technology's (STT) integrated trading, clearing and settlement. It operates under the supervision of the Capital Markets and Securities Authority (CMSA), which is the regulatory board responsible for promoting and regulating securities business and development of capital markets in Tanzania. The DSE operates closely in association with the Nairobi Securities Exchange in Kenya and the Uganda Securities Exchange in Uganda. A proposal is underway to integrate the three exchanges to form a single East African bourse. However, individual investors in Tanzania have little knowledge on how the stock markets work and many of them fear investing in stocks because they do not have the base line for their decisions, especially in the risk bearing stock (Kaboneka, et al., 2014). Dar-es-Salaam Stock Exchange is one of the emerging stock exchange markets facing challenges that hinder the efficiency, sustainable growth and development of the market (Massele, et al., 2013).

1.2 Statement of the problem

There are several studies which have been conducted on dividend policy in developed countries such as the US, UK, Germany, etc. However, no agreement has been reached so far on which theory gives the best clarification in terms of investor's return maximization. In contrast, very few similar studies have been conducted in developing markets and other less developed countries (LDC's), including Tanzania.

The DSE is one of the youngest stock exchanges in Africa. The literature review shows that there is no known study done on the relations between returns and dividend policy on firms on the DSE. Due to the lack of empirical studies on dividend policy for Tanzanian companies, individuals and institutions do not have scientific knowledge to assist them to make decisions on equity investments. This motivated this study. Hence, this study contributes towards filling this knowledge gap. Findings from this study will enable companies to formulate better dividend policies and investors to make informed choices in their portfolio decisions.

1.3 Research objectives

The objective of this study is to find out whether changes in dividend policy are interpreted by the Tanzania market as attempts by management to convey information on the prospective projection of the company. This study is focused on the main objective as mentioned in 1.3.1, and specific objectives as in 1.3.2 and various hypotheses were used to test how the market interprets these changes in dividend policy.

1.3.1 General objective

The main objective of the study is to investigate the relations between dividend policy and stock returns in the Dar es Salaam Stock Exchange in Tanzania.

1.3.2 Specific objectives

1. To assess the association between stock returns and dividend yields on Dar es Salaam Stock Exchange (DSE) companies;
2. To assess the company's stock price reaction to dividend announcements;
3. To identify the determinants of dividend policy.

1.4 Research questions

This study is guided by the following research questions:-

1. What is the relationship between the dividend and share price return?
2. How does the stock price respond to an announcement of dividend payment?
3. What are the determinants of a dividend policy?

1.5 Significance of the study

This study contributes to the existing empirical literature on dividend policy, particularly on the relationship between dividend policy and stock returns, signaling effect and determinants of dividend payments. This study forms a platform and basis for reference to other researchers in similar and related topics.

This study is beneficial to individual and institutional investors on the Dar es Salaam Stock Exchange. The findings of this study enable them to make informed decisions on where to invest in order to capitalize on returns. The findings supports management decision on how much emphasis should be placed on changes, if any, to be made on dividend policy. Firm managers should change their dividend policy to effect the share price return, while bearing in mind other aspects, such as financing and investing decisions, before deciding whether to pay or not to pay dividend.

The opportunities for significant market outperformance subsist by utilization of trading strategy over a short span of time following dividend announcement because such announcements may lead to excess abnormal returns. Company managers should also understand and appreciate the effect of such announcements on their stock price as they make the dividend decision.

1.6 Limitations of the study

This study is restricted to local firms listed at Dar es Salaam Stock Exchange in Tanzania for the period between 2007 and 2014.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter introduces some theoretical, as well as empirical, issues that form the groundwork for the study. It includes a theoretical framework and empirical evidence. At the end, the null hypotheses are stated.

2.3 Theoretical Framework.

The dividend policy is the most complicated topic in corporate finance, to financial analysts, academicians, researchers and economists. This chapter provides an overview of the important theories related to the controversy of dividend policy decision-making. The theoretical literature review is focused on two theories i.e. the dividend relevance and irrelevance theories.

There are two conflicting theories of dividend policy which are well-known. The first theory argues that increasing dividend payments raises the value of the firm. Another viewpoint claims that high dividend payouts have the opposite effect on a firm's value, i.e., they reduce the firm's value. The second theoretical approach asserts that dividends should be irrelevant and all effort spent on the dividend decision is wasted (Al-Malkawi, et al., 2010). These two theories are discussed in detail below.

2.3.1 The Dividend Relevance Theory

The pioneer of this school of thought believes that in the real world, a dividend payment has a positive or a negative effect on the value of the company. This will impact on the stock price, market value and the average cost of capital. The principles of this school of thought were pioneered primarily by Gordon (1959) and Lintner (1962). Under this theory we have

additional propositions that support the conception of dividend relevance, such as the Tax preference theory, the Agency theory, the Signaling theory, and the Clientele theory.

In his paper '*Dividend, Stock prices and Earnings'* Gordon (1959) argued that the price of a share is equal to the discounted value of the expected future dividends. In addition, Gordon (1959) and Lintner (1962) contend that investors are risk averse and rational. Definitely, this is the *bird-in-the-hand* theory which asserts that a bird in the hand is preferable to two birds in the bush. This means that an investor will prefer to receive a certain dividend payment now rather than the uncertain amount that will be received in the future in the form of capital gains which may not be available.

In a general common stock valuation model developed by Gordon, the determinants of the firm's value cost of equity financing are dividends the firm is expected to pay to perpetuity, and the expected annual growth rate of dividends as well as the firm's current stock price. Fisher (1961) in his paper concluded that dividends have greater impact on share prices than retained earnings. DeAngelo-DeAngelo (2006) argued that the dividend payment policy is relevant in a perfect capital market.

2.3.1.1 The Tax Preference Theory

The existence of taxes may have an effect on dividend policy and the value of the company. It is obvious there is a different tax treatment on dividends and capital gains given that the majority of investors are interested in after tax return; the influence of taxes has some effect on demands for dividends. This theory suggested that low dividend payout ratios lower cost of capital and increase stock price.

Low dividend payment will maximize the value of the firm. Under this theory, dividends are taxed at a higher rate than capital gains. In instances where dividends are taxed more than

capital gains, taxpaying investors will prefer such a move and value the firm more advantageously. Litzenberger and Ramaswamy (1979) argued that for every dollar increase in return in the form of dividends, investors require an additional 23 cents in before tax returns.

Brennan (1970) developed a CAPM after tax version. In his model he insisted that a stock's pre-tax returns should be positively and linearly related to its dividend yield and its systematic risk. He concluded that a stock with higher dividend yield will sell at lower prices because of the disadvantage of higher taxes associated with dividend income and vice versa.

2.3.1.2 The Agency Theory

Under this theory, managers are imperfect agents of shareholders and managers' interests are not basically the same as shareholders' interests; hence they do not always act in the best interest of the shareholders. In this case, shareholders encounter costs associated with monitoring managers' conduct, and these agency costs are an implicit cost resulting from the possible conflict of interest among shareholders and managers.

In a recent study of the Zimbabwe stock exchange, Emily and Richard (2010) examined the determinants of dividend policy of non-financial firms, specifically looking at the link relating to firm performance and the decision to pay dividends. Using panel data methodology, they have found evidence of firm size, growth opportunities and solvency having a significant positive effect on the dividend policy.

Moreover, the empirical results support the arguments of the agency theory on dividends payments with a result of negative and significant relationship which was found between investors and the payout ratio. Chang, et al. (2014) in a study titled *"The Impact of*

Institutional Ownership on Dividends - An Agency Theory Based Analysis" found out that an institutional investor will use dividend payout to mitigate the firms' agency problems. With the support of the regression results, they concluded that there is a positive relation between lagged long-term and concentrated institutional rights and dividend payout ratio; and a positive relation is more salient when the firm has high agency costs.

Farre-Mensa, et al. (2014) concluded that the empirical evidence favours agency considerations over signaling and taxes as to why firms pay dividends. Denis and Osobov (2008) discussed this in their paper on stock markets in US, Germany, UK, France, Canada and Japan and their finding supports agency theory over clientele and signaling theories. La Porta, et al. (2002) developed two agency models of dividends and the results showed that dividends can be either a substitute or a complement to other governance mechanisms.

2.3.1.3 The Signaling Theory

The need for current income is suggested as one of the main reasons for investors to prefer dividends to capital gain. Dividends as a source of income can be used to satisfy the current needs of some investors. Some of the financial institutions cannot hold stocks that do not have established dividends records. Ambarish, et al. (1987) argued that there is a direct association between stock returns and dividends.

Sant and Cowan's (1994) study was consistent with other studies which support the theory which asserts payment of dividends provides information that help in valuing firms. Firms with higher profitability levels positioned themselves in a better position to pay dividends. Fama and French (2001) revealed that the payout ratio is positively related to profitability.
Bhattacharya (1979), John and Williams (1985) and Miller and Rock (1985) also developed a cash flow signaling theory hypothesis; they all argued that the cash dividend payment carry information concerning the current and future cash flow of the firms. The cash dividend

payment is usually associated with a firm's operating cash flow, assuming investment and external financing is constant. Similar studies using the dividend signaling theory observations were made in a study by Suwanna (2012), Guttman, et al., (2010) and Grullon, et al., (2002).

2.3.1.4 The Clientele Theory

This theory suggests that a certain group of investors may prefer a particular payout policy that matches their objectives or needs. While some investors may prefer shares which pay out a high proportion of returns, others may prefer low proportions. As a result, it is not conceivable that one dividend policy might be intrinsically superior to another. Allen, et al. (2000) argued that the clientele, for instance institutional investors, tend to be attracted to invest in dividend paying stocks since they have relative tax advantages over individual investors. Litzenberger and Ramawaswamy (1979) concluded that in clientele effect, the investors in higher tax brackets preferred stocks with low yields.

2.3.2 The Dividend Irrelevance Theory

This school of thought involves those who believe in a theory of the dividend irrelevance theory, that is a dividend has no effect on value of the firm. The proposition was pioneered by Miller and Modigliani (1961) in their classical paper on "*Dividend Policy, Growth and Valuation of Shares".* They proved mathematically that the firm's value is invariant to dividend policy. According to them, a company's dividend policy is "merely a financing decision" that has no effect on market value. They posit that the value of the firm is determined exclusively by its investment portfolio and not by the manner of its financing arrangements; to be precise, the value of the firm is the present value of free future cash flows. They added further that investors are interested in the total return and not the components of return.

Miller and Modigliani continued by considering the sources and uses of funds equation; that is, $CF_t + F_t = D_t + I_t + (1 + r) F_{t-1}$ where; CF - cash flow from operations, F_t - new equity financing raised at time t, D_t - dividend paid, I_t – investments and (1 + r) and F_{t-1} repayment of finance raised in time t (Eckbo,2008 p 9). Debt financing was excluded because of the assertion that the firm's value is an independent of capital structure. This means that a firm's value is directly related to future cash flows and market capitalization and inversely related to investment and the required rate of return. Moreover, the equation shows that the firm's value is an independent of dividend policy. However, Miller and Modigliani acknowledged that in the presence of taxation, investors tend to form clienteles and this is a common phenomenon under imperfect capital markets.

Fama and Miller (1972) supported the dividend irrelevance theory. They proved graphically that dividends have no impact on share prices. The MM irrelevancy proposition is based on the major assumption that investment decisions are made independently of the dividend policy and that the borrowing policy is fixed. Other assumptions are: the existence of perfect capital markets, no taxes, no transaction costs, no asymmetric information to all investors and that investors can borrow and lend at the same interest rate. Furthermore, investors are indifferent between dividends and capital gain.

Miller and Scholes (1978) used a different approach to explain dividend irrelevance. They posited that dividend income can be converted into capital gains by borrowing an appropriate amount to be invested in a risk free insurance contract. Since interest rates are tax deductible expenses, they may be used to offset against the tax charged on dividends and hence concluded that investors are indifferent with respect to dividends and capital gains.

The dividend irrelevance theory challenges the bird-in-hand theory and refers to it as the bird-in-hand-fallacy. The dividend irrelevance theory is supported by the following arguments:

- The homemade dividends; under the same perfect capital markets, it is possible that investors can costlessly create their own dividend stream from the capital value of their shares. Hence, corporate dividends are irrelevant in lieu of this aspect (Brav, et al., 2005).
- Brennan (1970).argued that any disapproval of this theory must be based on disagreeing with the principle of symmetric market rationality and the assumption of independence of irrelevant information. He suggested that for the rejection of the latter assumption, one of these following conditions must exist: Investors do not behave rationally and the stock price must be subordinate to past events and expected future prospects.
- Hakansson (1982) supported MM dividend irrelevance theory and argued that dividends, whether informative or not, are irrelevant to the value firm when investors have consistent belief and time additive utility and the market is fully efficient.

In conclusion, there are a number of theories that explain the dividend policy; however, there is no consensus on which theory should direct a firm's dividend decisions in the DSE. The extent of this study is to ascertain variables from theories developed in literature and determine their dividend policy decision.

2.4 Empirical evidence

The existing empirical literature on dividend policy gives contradicting conclusions about the theoretical literature. In order to understand clearly and with a logical presentation, the empirical evidence review has been categorized into three sections; developed markets, developing markets and the Tanzanian market context.

2.4.1 Developed markets

2.4.1.1 United States and Canada

Extensive research has been conducted in the US on dividend policy, especially in determining the relationship between dividends yields and share price returns, observing market reaction on dividends announcements using event study methodologies and survey studies. Among the early US studies done to analyze the relationship between dividends yields and share price returns was that of Walter (1956). Walter confirmed dividend relevance by arguing that growth in stock returns required low payouts of dividends and mature stock high payouts dividends.

Friend and Puckett (1964), studying data for 1956 and 1958 in the US, found that dividends enhance value for mature companies and reduce the value of growth companies. According to them, mature companies are those companies with stable cash flows and low profitable investment opportunities. In this category of companies they included food and steel companies. On the other hand, growth companies are those with high profitable investment opportunities. Puckett and Friend included electronics, utilities and chemical companies in this category.

Mavrides (2000) did a comparative study on return predictability on dividend yields, dividend growth and dividend information hypothesis for US and Japanese stock markets. The researcher used similar methodology as Tsoukalas and Sil (1999), discussed in section 2.3.2 below. Data was collected from time series of S & P 500 for US and the NIKKEI - 225 for Japan, real stock prices index for the end of the month quotes and corresponding dividend series covering the period between January 1995 to December 1997. The consumer price indices for both countries were used to deflate the data. The study observed the following; firstly, both US and Japanese stock markets suggest dividend yield is a

significantly strong explanatory factor of stock returns. With regard to dividend growth, there was no consensus.

Whilst the US market discovered that there was no relationship between dividend growth rate and stock return, the Japanese market confirmed that there is a relationship between them. It is argued that since dividend growth rate is a variable that excludes stock, the results for the US were expected and that of Japan surprising. Lastly, both markets observed the dividend information hypothesis explaining stock returns. Black and Scholes (1974) suggested that there was no relationship between dividend yield and expected return given the tax differential between dividends and capital gains. Brennan (1970) suggests that in the presence of the tax disadvantage of income over capital gains, it would be most favourable to pay no dividends.

Yan, et al., (2003) looked at the relationship between stock returns and dividend yields for the monthly prices collected from Centre for Research in Securities Prices (CRSP) during the period of 1927 to 2001. For the US data, they found no relationship linking return and dividend yield and hence concluded that the predictive power of dividend yield was relatively low. However, when they subdivided the data into periods specifically from January 1947 to December 2001 and January 1963 to December 2001, they found a positive relationship between excess returns less than 1%.

Richardson et al (1986) investigated the implication of clientele theories that changes in dividend policy should result in a marked increase in trading volume as shareholder clientele's change. 192 firms announced their first cash dividend; they documented both an increase in trading volume and firm value around the announcement date. They integrated these results to distinguish between the volume response to good news about the future and clientele adjustments to a change in dividend policy. The results suggested that volume

increases primarily in response to the signal about future earnings contained in the dividend and clientele adjustments are small. Adjaoud, et al., (2010), using the data from firms listed on the Toronto Stock Exchange, discovered that firms with stronger corporate governance had a higher dividend payout. Also they found that firm size, the level of FCF and dividend payouts are positively associated with dividend policy.

There are many drivers of dividends decision. However, their degrees of importance vary significantly from one company to another and from industry to industry. Lintner (1956) conducted a classic study involving 28 US firms to get opinions from corporate financial managers on what they considered the mainly important factors in formulating a firm's dividend policy. On the basis of interviews conducted with corporate managers, he identified four main issues; namely, the previous year's dividends, the current level of earnings, expected firm's future earnings and stability of dividends growth. He added managers were reluctant to slash dividends and that firms in USA had targeted payout ratios to which they moved with a lag.

Similar to Lintner's study, Baker, et al., (2001) revealed that the anticipated level of company's future earnings and pattern of past dividends were ranked the highest as determinants of a dividend policy. In contrast to Lintner, Baker, et al. (2001) identified two other factors, namely, availability of cash and concerns about maintaining or rising of stock price.

2.4.1.2 European Developed Markets

On their study on the predictability power of dividend yield and dividend growth on real stock returns, which also examined the return predictability using the information hypothesis of dividends, Tsoukalas and Sil (1999) used data for the period between January 1955 and December 1996, gathered from the Institute of Actuaries' Library in Oxford, UK. This data

were deflated using the British Consumer Price Index collected from the Organization for Economic and Development (OECD). They concluded that there was a strong relationship between real stock returns and dividend yields. Moreover, dividend information hypothesis was confirmed in this study. Lastly, there was no evidence that a real dividend growth rate has Granger causality on stock returns in the UK stock market index.

Lonie and Abeyratna (1996) examined the dividend announcements of 620 UK companies from January to June 1991 using event study and interaction tests. They found that investors responded to the increase or decrease in dividends. Nevertheless, their findings also revealed that even for companies with no change in dividends, the average abnormal returns one day prior to the announcements were significantly different from zero as indicated by the student test statistic.

In Germany where dividends are not tax-disadvantaged and in fact are taxed lower for most investor classes, these models expected that dividends are not informative. However, Amihud and Murgia (1997) found that the stock price reaction to dividend news in Germany was similar to that found in the United States. This suggested another rationale beyond taxation which makes dividends informative. Andreas, et al. (2009) concluded that the dividend policy in German firms is more flexible compare to firms in UK and USA, because they are willing to reduce the dividend payment whenever profitability is only temporarily down.

Kask and Schyllert (2005) in their thesis titled "*An empirical study for A-listed Swedish companies"* found that prior year's dividends, profitability, capital structure, risk, ownership and line of business are the determinants for firms on the Stockholm Stock Exchange (SSE).

Brunzell, et al. (2014) examined listed Nordic firms' dividend payout policy and found that dividend policy is mostly influenced by capital structure considerations and the outlook of future earnings. They also found that the likelihood for a firm having an explicit dividend policy is positively related to ownership concentration as well as to the presence of large long-term private or industrial owners. Results supported the use of defined dividend policies for agency or monitoring reasons rather than signaling reasons.

2.4.1.3 Japan and Australia

Allen and Rachim (1996) examined the dividend policy of 173 Australian listed companies for tenure between 1972 and 1985. The results found significant evidence of positive correlations between stock and earnings volatility while leverage has negative correlations with the dividend payout ratio. They concluded that the results suggested the payout ratio, the firm size, debt levels and earning volatility are the dominant factors affecting dividend policy decisions.

However, Coutlon and Ruddock (2011) concluded that, in Australia, dividend paying companies are larger, have more profit and have less growth options than non-dividend paying firms. Consistent with the life-cycle theory, they observed a highly significant relation between the decision to pay regular dividends and the proportion of shareholders' equity that is earned rather than contributed.

Ho (2003) examined the constituent stocks of the ASX 200 Index of the Australian stock market and the Nikkei 225 Index of the Japanese stock market. From the study, it is evident that Australia, with an imputation tax system which favours dividends over capital gains, has a significantly higher dividend payout than Japan and provides support to the influence of environment on dividend policy.

Empirical results suggested that dividend policies in Australia and Japan are influenced by various financial factors. By using fixed effects regression models, results indicated that dividend policies are affected positively by size in Australia and liquidity in Japan, and negatively by risk in Japan only, while the industry effect is found to be significant in both countries.

Fukuda (2000) examined dividend signaling hypothesis using Japanese stock market data. He found that firms which increase dividend payment experiences earnings growth in the previous year but earnings decline in the following years. This evidence does not apply to firms which decrease or omit dividends or vice versa. In the event study, he realized markets react positively to the dividend announcement when it comes to dividend increases. He concluded managers tend to be very positive or negative about future earnings when the changing dividends payment and the market overreaction to dividend change is news. This is a sign that they can increase the value of the firm by changing the dividend policy.

2.4.2 Developing Markets

There are scarce empirical studies on dividend policy done in developing markets compared to the developed market. According to Maniagi, et al. (2013), the findings in developed economies may not be directly applied in developing economies; this might be due to country specific factors, institutional factors and firms' financial structures. Aivazian, et al. (2003) argued that country factors are important in dividend policies and find these in capital structures decision. The following are reviews on stock return predictability, information signaling and determinants of dividend payout decision conducted in various markets in developing countries and emerging markets.

According to Seneque and Gourlay (1983), decision-makers of top firms listed on the Johannesburg Securities Exchange (JSE) regarded dividends as active rather than a

passive variable. Mlonzi, et al. (2011) in their empirical evidence, demonstrated a substantial negative share price reaction to earnings announcements on the small ALtX stock market; they argued that the ALtX showed a weak form of market efficiency.

They concluded that during a recessionary period, investors' wealth goes down in the small ALtX market; however, the weak form of market efficiency gives an opportunity for investors to use the market for profits when the market is performing well. Knight and Graves (1987) concluded that dividends convey no information other than that conveyed in the earnings and therefore support the dividend irrelevance theory.

Similarly, Nishat and Irfan (2004) examined the effect of dividend policy on stock price risk in Pakistan. Their study revealed dividend yields and dividend payout ratios are positively related to stock price volatility. In this study, a sample of 160 listed companies in Karachi Stock Exchange (KSE) for a period between 1981 and 2000 inclusively were used. Hunjra, et al. (2014) investigated Impact of Dividend Policy, Earning per Share, Return on Equity, as well as Profit after Tax on Stock Prices on the Karachi Stock Exchange., The results indicated dividend yield and dividend payout ratio, which are both measures of dividend policy, and have significant impact on stock price. Dividend yield is negatively related with stock price and dividend payout ratio is positively related with stock price which means that these results are against dividend irrelevance theory.

The empirical study conducted by Liu and Hu (2005) using cross-sectional data of firms listed on Shanghai and Shenzhen stock exchanges at the end of 2000 revealed that there is a positive association between the cash dividend payment and share return as well as total assets but negative leverage (debt to asset) ratio. This is evidence that the Chinese stock market is full of speculation and unfair finance. Additionally, the cash payment of dividend is irrelevant to non-outstanding shares.

Maniagi, et al. (2013) investigated ways to identify key determinants among dividend payout of non-financial firms listed on the Nairobi Security Exchange (NSE). This involved a sample of 30 non-financial companies listed from 2007 to 2011. In their study, descriptive statistics and multiple regressions were used. The study found return on equity on current earnings and firms' growth activities was positively correlated, to dividend out and business risk and size increase, the precision of significant variables from 95% to 99% hence among the major determinants of dividend payout.

Aduda, et al. (2012) found that macro-economic factors such as stock market liquidity, institutional quality, income per capita, domestic savings and bank development are important determinants of stock market development on the Nairobi Stock Exchange. A similar study done on the NSE by Parkson and Waweru (2010) concluded that dividends are strongly related to net income and to liquidity and they are negatively related to the existence of investment opportunities. Yegon, et al. (2014) recommended that firms should ensure that they have a good and robust dividend policy in place because it will enhance their profitability and attract investments to the organizations.

Yahyaee, et al. (2006) conducted a study on the Muscat Securities Market (MSM) in Oman to identify the factors that influence dividend policy. The investigation involved financial and non-financial firms listed on the MSM from 1989 to 2004. It is said that firms in Oman distribute almost 100% of their profits as dividends. The study used a Tobit regression model, where dividend yield and dividend to asset ratio were the dependent variables regressed over nine independent variables. The results were as follows; profitability, size and business risk were found to affect dividend policy in both financial and non-financial firms. However, government ownership, leverage and age seemed to affect only non-financial firms while maturity, growth opportunities and asset tangibility had no impact.

Moreover, the study done by Naceur, et al. (2006) on the determinants and Dynamics of the Dividend policy suggested that Tunisian firms depended on both current earnings and past dividends to fix their dividend payments. This study also showed the dividends tended to be more sensitive to current earnings than prior dividends.

Bougater (2014) investigated the impact of cash dividend payments on stock prices of listed non-financial Tunisian firms on the Casablanca Stock Exchange (CSE). The empirical results revealed that Tunisian investors reward cash dividend-paying stocks. This finding begs the question on the existence of a dividend catering behavior. Amidu (2007), in his study, examines whether dividend policy influences firm performance in Ghana. The analysis included all the firms listed on the GSE, from 1997 – 2004. His results showed positive relationships between return on assets, dividend policy, and growth in sales. Also this study revealed that bigger firms on the GSE performed less with respect to return on assets. The results also revealed a negative relationship between return on assets and dividend payout ratio and leverage.

Olowe and Moyomore (2014) examined the determinants of dividend payout in the Nigerian banking industry over the period 2006 to 2008. The study used collective regression techniques using the data of the Nigerian quoted banks. The results showed that size, profitability and liquidity are statistically significant factors which positively impacted dividend payout. The results also revealed revenue growth, debt-equity ratio, retained earnings, loan-deposit ratio and loan-loss provision negatively influenced dividend policy. Uwuigbe, et al. (2012) found that there was a significant positive association between the performance of firms and the dividend payout on firms in Nigeria. The study also revealed that ownership structure and firm's size has a significant impact of the dividend payout of firms.

Farooq, et al. (2012) in their research titled "*Dividend Policy as a Signaling Mechanism under Different Market Conditions: Evidence from the Casablanca Stock Exchange*" found a significantly negative relationship between the dividend payout ratio and stock price volatility during the stable growth period. Their results showed a significantly positive relationship between the dividend payout ratio and stock returns during the same period. They concluded that investors pay less consideration to the signaling value of dividends at the time when they are earning high returns on their investments.

In a paper which studied the factors influence the dividend in Sub-Saharan Africa (SSA) by Arko, et al. (2014), their results provided consistent evidence that dividend decision and its payments are affected by firm profitability level taxation, leverage, investment opportunity sets and risk. The results affirm the signaling and agency cost theories of dividend policy.

Nnadi, et al. (2013) in their study "*Determinants of Dividend Policy: Evidence from Listed Firms in the African Stock Exchanges*" examined factors which influenced dividend policy in 29 African stock exchanges. This study revealed agency costs to be the most dominant determinant of dividend policy among African firms. Also other factors such as level of market capitalisation, age and growth of firms, as well as profitability also play key roles in the dividend policy of listed African firms.

2.4.3 The Tanzanian Market

In the context of the Tanzanian market, the market is not perfect, for example, tax inconsistency between capital gains and dividends, information asymmetries between managers and investors, low number of market participants, etc. In Tanzania, dividends are taxed at 5% for DSE listed firms, both for resident and non-resident, while there is no tax on capital gain (TRA: 2014).

However, there are many rationales and factors of dividend policy which tend to support the

dividend relevance or irrelevance proposition, though it is the task of empirical work to determine which theory explains the dividend policy at the DSE. Mchomvu (2014) concluded that earnings to some extent influenced the dividend policy of individual firms; he added that profitability, risk, growth, cash flow and size have a positive impact on the dividend policy.

2.5 Research Hypotheses

The following hypotheses were tested in this study.

2.5.1 Hypothesis (a)

H_0: There is no significant association between share price returns and dividend yields.

H_1: There is a significant association between share price returns and dividend yields.

2.5.2 Hypothesis (b)

H_0: Stock prices at the DSE do not rapidly adjust to dividends announcements.

H_1: Stock prices at the DSE do rapidly adjust to dividends announcements.

2.5.3 Hypothesis (c)

H_0: There is no significant relationship between dividend yield and several variables.

H_1: There is a significant relationship between dividend yield and several variables.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter aims to explain the methodology used in this study as per the research questions posed under section 1.4. It starts by detailing the overall research design. It also covers issues pertaining to sampling procedures, data collection and data analysis.

3.2 Research design

The study was conducted in Tanzania. It uses descriptive and causal research designs to investigate the relationship between stock price returns and dividend yield, as well as the market reaction to dividend announcements and determinants of the dividend policy on the Dar es Salaam Stock Exchange (DSE).

3.3 Sample selection and size

The population for this study is the total number of all companies listed on the DSE i.e. 21 companies, as shown in Appendix 5. The subjective sampling technique was used to select the sample to be included in this study. The selection was based on local listed companies and those which declared dividends, both in the interim period and the final period during 2007 and 2014. Companies that were newly listed, particularly those that had been listed on the stock market for less than two years, were left out of the sample. Based on above criterion, eight (8) companies were selected for this study out of the total of twenty one (21) companies currently listed.

3.4 Data collection procedures

The study used secondary data which was extracted from the DSE database on company stock prices, dividend payments announcement and the DSE Index data while other data

was obtained from the financial statements on all local listed companies from 2007 to 2014. Different regression models and ratio analysis were used in analyzing the data collected.

3.5 Data analysis

Data collected was analyzed by using statistical software, Gretl and MS Excel.

3.6 Methods of analysis

In this study, different models of analysis were used in all three research questions (a) to (c). The regression analysis which was used is the most important tool at the financial econometricians' disposal. Regression is concerned with describing and evaluating the relationship between a given variable and one or more other variables. It is an attempt to elaborate the movements in a variable by reference to movements in one or more variables (Brooks, 2008).

The simple linear regression model was applied to research question (a), in order to analyze the relationship between share price returns and dividend policy. The event study methodology was used for research question (b) with dividend announcement as an event; the market model was used to calculate the expected return and daily abnormal return. The same methodology was employed by Fama, et al. (1969) when they examined the effect of the announcement of a stock split on stock prices (Brown & Warner, 1985; Chandra & Balachandran, 1992).

Finally, the Tobit Regression Model was used to determine the determinants of dividend policy. The OLS is not an appropriate method to analyze the payment of dividends because of the nature of dependent variables. A similar model was used by Sighania and Gupta (2012) and Komrattanapanya and Suntrauk (2013).

3.6.1 Regression Model

In order to answer the first research question, i.e., to examine the relationship between share price returns and dividends yield, a regression model was used. However, before applying regression, we have to check for random or fixed effects in pooled or panel data set. We tested for these effects by using a Hausman Test. Following Fama and MacBeth (1973), Blume and Friend (1973) and Blume (1980), a linear regression model of the following form was estimated:

$$R_{i,t} = \alpha_1 + \alpha_2 R_m + \alpha_3 DY_{i,t} + \varepsilon_{i,t} \quad \textbf{1}$$

Where;

$R_{i,t}$ is the total realized returns of stock i over period t.

R_m is the return of the market, TSI

$DY_{i,t}$ is the dividend yield.

$\varepsilon_{i,t}$ is the mean –zero disturbance uncorrelated with R_m and $DY_{i,t.}$

α_1 is a constant term and it is the intercept when dividend yields=0,

α_2 and α_3 are the coefficients of R_m and $DY_{i,t}$ which allowed to vary randomly from one period to next

The dividend yield is obtained by summing the gross dividends (DIV_T) for stocks which went ex-dividend during the previous 12 months and dividing the total by the current end of the month price as in Gwilym, et al. (2000). The expected annualized dividend in month t as it has been used by Blume (1980), Kiem (1985) and Christie (1980) is calculated as follows,

$$\boldsymbol{DY_{i,t}} = \frac{\mathbf{1}}{\boldsymbol{P_{t-13}}} \sum_{\boldsymbol{T=t-12}}^{\boldsymbol{t-1}} \boldsymbol{DIV_T} \quad \textbf{1(1)}$$

Where

$DY_{i,t}$ is the dividend yield before the adjustment for the market movements.

p_{t-13} is the stock price of the firm's at the of month t-13

DIV_T is the dividend paid in the month t-12 to t-1.

3.6.2 Event study methodology

In order to analyze the second research objective, i.e., to examine the market price reaction to dividends announcements, event study methodology was used. Event study methodologies are behavioral models proposed by Fama, et al. (1969) to test the semi-strong form capital market efficiency. Event studies measure the impact of dividend announcement on stock price as a result of the event. Pettit (1972) found that the market made use of dividend change announcements in pricing securities. A similar technique of event study was carried out, especially in the explaining of stock prices through information by Sorokina, et al. (2013), Dasilas and Leventis (2011), Suwanna (2012), Mallikarjunappa and Manjunatha (2009), McManus, et al. (2004) and Wong (2002).

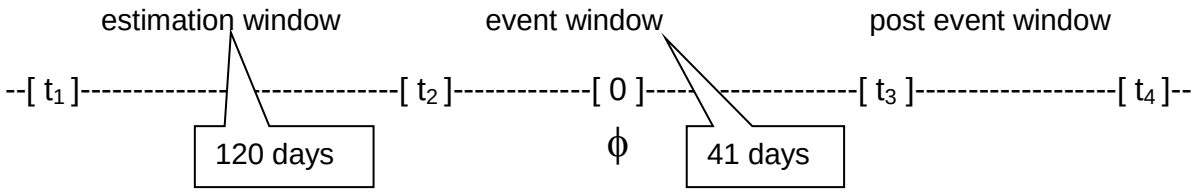
In this study, the daily closing share price and dividend announcement were obtained from the DSE. The use of the daily rather than the monthly share price data permits more precise measurements of abnormal returns and more informative studies of announcement effects (Khotari & Warner, 2006). The daily prices were used to calculate the effect of dividend announcements on stock prices. In order to conduct this study, 8 companies were selected out of 21 companies listed at the DSE. All the companies selected had dividend announcements; daily share prices were collected from the DSE.

There are various approaches used for calculating the abnormal returns, namely, constant mean return model, index model, market model and capital asset pricing model. Many event studies use the market model because it takes into account both market trends and stock firm's risk; it was also recommended as a well-specified model by Brown and Warner (1985) for estimating daily abnormal returns. This study used the market model because of its

simplicity and ease of application especially in small markets such as the DSE. This methodology is used to assess the abnormal returns (AR), average abnormal returns (AAR) and cumulative average abnormal return (CAR) around the dividend announcement window.

The impact of dividend announcements on stock returns is examined for analysis, 120 days estimation window prior to the event window was used to derive the relationship between firm's stock return and a market returns for the event i.e. dividend announcement and the event window was defined to be 41 days in length. These 120 days, prior to the event window are enough to calculate valid estimators needed for the event-study model (MacKinlay, 1997). The AAR and CAR were computed surrounding the events on 41 days event window i.e. -20 days pre and +20 days post announcement.

Time line for Event study



Where;

ϕ represent the event date, $\phi = t_2+1$ to $\phi = t_3$ is the event window (41 days), and $\phi = t_1+1$ to $\phi = t_2$ is the estimation window (120 days). Let $l_0 = t_2 - t_1$ and $l_1 = t_3 - t_2$ be the length of the estimation window and the event window respectively. $\phi = t_3+1$ to $\phi = t_4$ is the post event window (+20 post event) and $l_3 = t_4 - t_3$ is its length. (Campbell, et al, 1997).

An important assumption throughout the event-study methodology was that the event is dependent with respect to the change in market value of the security.

The following steps are required when using the event study methodology according to Khotari and Warner (2006):

1. Defining hypotheses and the thrust of the study;
2. Defining and collecting data sample;
3. Calculate the stock price returns of companies and the market indices (TSI);
4. Calculating Abnormal Returns for each company;
5. Standardization of event time and calculation of Average Abnormal Returns;
6. Calculating Cumulative Abnormal Returns (CAR);
7. Plotting the graph of CAR_t against Time (t);
8. Analyses and interpreting results, test statistic needs to be computed.

Table 3.1: Selected companies dividend announcements dates.

Company	Sample Period (Event Window)	Announcement Day (t = 0)	Estimation Window
Crdb Bank Plc (CRDB)	41 days (20 pre and 20 post Announcement)	05.04.12	120 days
Dar es Salaam Community Bank (DCB)	41 days (20 pre and 20 post Announcement)	31.03.11	120 days
Tanzania Breweries Limited (TBL)	41 days (20 pre and 20 post Announcement)	22.03.12	120 days
National Microfinance Bank (NMB)	41 days (20 pre and 20 post Announcement)	24.04.12	120 days
Tanzania Cigarette Company (TCC)	41 days (20 pre and 20 post Announcement)	11.03.13	120 days
Tanga Cement Company Limited (SIMBA)	41 days (20 pre and 20 post Announcement)	18.03.11	120 days
Swissport Tanzania Limited (SWISSPORT)	41 days (20 pre and 20 post Announcement)	20.03.13	120 days
Tanzania Portland Company Limited (TWIGA)	41 days (20 pre and 20 post Announcement)	15.03.11	120 days

The market model is used for estimating daily abnormal returns using data t = -20 to t = +20 (where t= 0 is dividend announcement date). Under the market model the expected daily return E ($R_{i,t}$) for security i on day t is calculated as follows;

$$\mathbf{E\ (R_{i,t}) = \alpha_i + \beta_i R_{m,t} + \varepsilon_{it}} \qquad \mathbf{2(1)}$$

This technique of using the market model to estimate abnormal returns on the DSE is also suggested in studies done by Suwanna (2012), Dasilas (2008), Vazakidis and Athianos (2010) and McWilliams and Siegal (1997) that explored abnormal return of the stock in the event window and it takes into account both market wide factors and the systematic risk of each sample security. This helped eliminate idiosyncratic risk. The estimates of the daily abnormal return ($AR_{i,t}$) for each company is derived from;

$$\mathbf{AR_{i,t} = R_{i,t} - E\ (R_{i,t})} \qquad \mathbf{2(2)}$$

Where;

$E\ (R_{it})$ is the expected return on security i during period t based on the market rate of return and stock relationship with the market (β)

AR_{it} is the abnormal rate of return on security i during period t

R_{it} is the actual rate of return on security i during period t

β_i is the security price volatility relative to the overall market

α_i is the intercept of a straight line on security i.

R_{mt} is the rate of return on a market index (TSI) during period t

ε_{it} is the error term which has zero mean ($E(\varepsilon_{it}) = 0$) and constant standard deviation (Var (ε_{it}) = σ^2 = Constant) and ε_{it} are independent over time.

To calculate the cumulative effect of the AR_i's on days surrounding the event window, the Cumulative Abnormal daily Returns (CAR_i) for an event from period t_1 to t_2 is calculated thus:

$$\mathbf{CAAR_i} = \sum_{t_1}^{t_2} \mathbf{AR_{it}} \qquad \mathbf{3}$$

Where

CAR_i Cumulative abnormal return on security i at a period t=1 to t=n

AR_{it} Abnormal return on security i at a period t

We plot the graph of CAR_i against Trading days (Time), to obtain a virtual view of the behaviour of abnormal returns around the event date; whether there is reaction or not and if any, whether it is an overreaction or delayed reaction. CAR might be positive/negative after the event: if the CAR is negative, it suggests that dividend announcement does not carry any information or that it carries bad news; if positive, it suggests that the information conveys good news to the market.

For the purpose of this analysis, both interim and final dividend announcements are used. In interpreting results, the test statistic needs to be computed. The rule of thumb is null hypothesis (H_0) is rejected, if the t-statistic is greater than critical value 1.96 for two tailed test i.e. 0.975 for a single tail test at the 5% significance level.

3.6.3 Determinants of the dividend policy at the DSE

The final research objective (c) is to determine the determinants of dividend policy for DSE selected companies. The Tobit Regression Model is used because under this model, firms have only two options, either to pay or not pay dividend. Due to the unique characteristics of dividend (dependent variable), that can have only two possible values zero value (not pay) and positive value, as dividend can never be negative, the Ordinary Least Square (OLS) is

not an appropriate method to analyse the payment of dividend (Sighania & Gupta, 2012). The same techniques were supported by Komarattanapanya and Suntrauk (2013), Sighania and Gupta (2012), Dickens, et al. (2002) and Kim and Maddala (1992). The Tobit regression model that was used in this study is given as follows:

$$\mathbf{DYLD = \beta_1 + \beta_2 NI + \beta_3 AGE + \beta_4 MCAP + \beta_5 DER + \beta_6 EPS + \varepsilon_t} \qquad \mathbf{3}$$

Where;

DYLD Dividend yield (in %)

NE Net Income (Tshs Million)

AGE Number of years that company has been into existence.

MCAP Market capitalization (Tshs Billion).

DER Debt–equity ratio (%)

EPS Earning per share.

Table 3.2: Tobit Regression of variables

Symbols	Description	Measurement
DYLD	Dividend Yield.	Dividend to Price Ratio (in the returned earned by equity shareholders in terms of dividends).
NI	Net Income.	Net income after tax.
MCAP	Market Capitalization.	Total market capitalization of the firm, which is equal to the product of total shares outstanding and market price.
EPS	Earnings per share.	Ratio of total earnings and number of shares outstanding
DER	Debt Ratio.	Ratio between total asset and total liabilities
AGE	Unit of data in number.	Number of years the company has been in existence.

CHAPTER 4: ESTIMATION AND INTERPRETATION OF RESULTS

4.1. Introduction

This chapter gives the results from the various analyses. All the methods mentioned in chapter 3 were used in the estimation of the results and the interpretation. The research findings are discussed, hypotheses are tested and objectives are revisited in order to determine whether or not they are achieved.

4.2. The relationship between returns and dividend yields.

The panel linear regression model is used to establish the relationship between returns and dividend yield of firms listed on the Dar es Salaam Stock Exchange. In panel data, the most commonly used estimation procedures are the fixed effects and random effects models. Before estimation of regression equation (1) we have to decide whether to use the fixed effects or the random effects models. The results of the Hausman test are presented in Appendix 1 (A). The Hausman test yields a p-value of 0.3201 which is insignificant implying that we failed to reject the null hypothesis that, the fixed effects model yields efficient estimates. Thus, this study uses the fixed effects model. The key regression results are as shown in Table 4.1 (also see Appendix 1. B).

Table 4.1: Regression model results

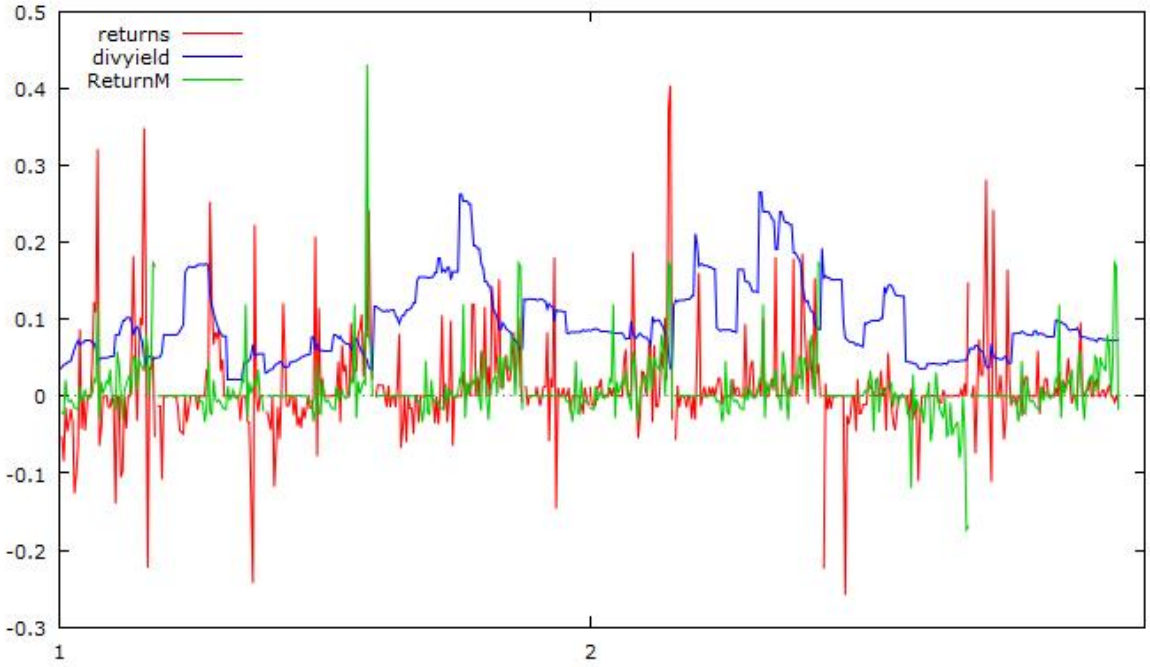
Variables	Coefficient	Standard Error	Z-Value
Constant	0.0103	0.0084	-1.233
DIV Yield	-0.1858	0.0673	-2.759***
Return M	0.5137	0.2024	2.538**
R-Square	0.0764		

***Significant at 1% level, two tailed test, ** Significant at 5% level, two tailed test.

Returns (i) = 0.01031 – 0.1853*Div Yield + 0.5137* Return (m)
SE (0.0084) (0.0673) (0.2024)

The results indicate that Dividend yield and Market returns significantly explain stock returns. The fitness of the model is 7.64 percent explained which is very small. The dividend yield coefficient -0.1858 shows the negative relation between firm's returns and dividend yield and the z-value which indicates that is highly significant. This shows that the dividend yield has a strong impact on stock returns. According to Schooley and Barney (1994) Dividend yield is a better variable used because its source is based on the market measure given that the stock price is used as a denominator.

Figure: 1. Securities Return (i), Dividend Yield and Market Return (m)



Discussion of findings

The relationship between stocks returns and dividend yield is negative and significant at 1% level, with a p-value of 0.0058. This shows that the there is a strong significant negative association between returns and dividend yield. Baskin, (1989), Hashemijoo, et al. (2012), Hujra, et al. (2014) also found similar results in their study. The results of this study are

however contrary to Fama and French (1988) and Hussainey, et al. (2011)'s results which showed that share price returns and dividend yields are significantly positively related.

The significant negative association between returns and dividend yield provides empirical supporting evidence for the duration effect, the rate of return effect and the information effect. From the duration effect, the stock price is directly affected by dividend payments (dividend yield). From regression results, the duration effect revealed that high dividend yield provided more short term cash flows. If firms under DSE have a stable and consistent dividend policy, higher dividend stocks will have a shorter duration. The Gordon Growth Model can be employed to ascertain that firms with high dividend yield will be less sensitive to any fluctuation in discount rates, as a result it will show lower stock price returns. For that reason, a negative relationship between stock returns and dividend yield was expected which is in line with empirical results from this study.

The rate of return effect suggests that firms which have lower dividend yields are possibly assessed more worthwhile due to their growth potential and investment prospects, also it may display higher stock price returns. Stock market price might be more sensitive to changes in estimated rate of return over different time periods (Donaldson, 1961). Hence, companies with higher rate of expansion which have lower dividend yield might display stock price stability. This may be due to dividend yield and may serve as proxies for future growth and investment prospects. Therefore, as estimated from the results above, stock price returns and dividend yield, are inversely related, which is consistent.

The significance of the dividend yield in explaining returns suggests that it conveys information effectively i.e. signaling information on dividend yields point outs that high dividends payments may signal the stability of the firms. Dividend yield and stock market prices have a direct association as discussed. Black and Scholes (1974) state that dividend yield and returns might have negative association under a condition that dividend income is

taxed at a higher rate, and state that dividend yield has the predictive power to explain the returns, which is the case for DSE.

From the results of this study, it can be concluded that managers of firms may be able to change the volatility of their share prices by altering their dividend policy.

4.3 Market price reaction to dividend announcements

All selected eight (8) companies in our sample on this study made final dividend announcements during the period studied. This study aimed to find out whether there is an effect of final dividend announcement on market price, and how quickly the market adjusts to these announcements by using an event study. The Market Model is used to calculate expected returns; the event window under review is 41 days (-20 and +20 days). The intercept (α) and slope (β) for the market model were obtained through regression (see Table 4.2) and expected returns, abnormal returns and cumulative abnormal returns and t test results were calculated on each firm sampled. Appendix 2 presents results for each of the 20 days period prior to and 20 days after the event along with t statistics for null hypothesis testing.

Table 4.2: Market model regression results

	TCCL	**TPCL**	**TCC**	**TBL**	**SWISSPORT**	**CRDB**	**NMB**	**DCB**
Intercept (α)	-0.0009	-0.0005	-0.0036	0.0007	-0.0031	0.0044	-0.0021	-0.0091
Slope (β)	-0.2170	-0.0165	1.2034	0.6786	-0.5570	0.1604	-0.1751	0.1969
R Square (R^2)	0.0130	0.0003	0.2787	0.0201	0.0079	0.0039	0.0311	0.00156
Std Error	0.0036	0.0034	0.0178	0.0307	0.0320	0.0172	0.0059	0.0239

The tables in Appendix 4 show that there is consistent pattern of the cumulative abnormal returns after the announcement. The results show evidence that stock market reaction

around dividend announcement date is significant and positive, which reveals the event of announcement has an impact on share price.

Day 0 to 5 post-announcement contributed the majority of this. As shown in Appendix 4, cumulative abnormal return was significant at 1% level in the 15 days following the dividend announcement for all the companies in the sample. With regard to the positive or negative cumulative return 3 days post-announcement, it is clear that the dividend announcements conveyed positive news in the cases of CRDB, Twiga, Simba and Swissport and negative news in case of TCC, TBL, NMB and DCB to the market. This is reflected in the stock price behavior of these companies.

Discussion of findings

The Null hypothesis [CAR ≠ 0] is thus rejected at 1% significant level for firms like TPCL, TCC, NMB, TBL, CRDB and DCB while Swissport and TCCL at 5% significant level. The results in Appendix 3 depict that the t-statistic in most of the company in (-10, +10) is greater than critical value. This reveals that the share price adjusted following dividend announcements. These results are consistent with Fama, et al. (1969) Ball and Brown (1968), Vazakidis and Athianos (2010), Sharma (2011), Suwanna (2012) and Chavali and Nusratunnisa (2013).

In conclusion, the empirical findings of this study revealed that the stock prices moved upwards or downwards significantly after the dividend announcements. Abnormal return (AR) and cumulative abnormal return (CAR) from the market model are statistically significant. The results confirm the dividend signaling theory as the dividend announcements have significant impact on share prices they also challenge the dividend irrelevance theory pioneered by Miller and Modigliani (1961) since the results revealed existence of abnormal

activities in the Dar es Salaam Stock Exchange both prior to and after the dividend announcement.

The evidence indicates positive market reaction before and after the announcement in some firms and the negative reaction before and after the announcement, both of which are statistically significant. The Tanzanian stock market has a single taxation system unlike other stock markets in the North America and Europe, most of which have a dual tax regime targeting capital gains and income separately. The graphs in Appendix 4 indicate the return movement 41 days before and after the dividend announcement.

4.4 Determinants of the dividends policy

The summary descriptive statistics of all variables used in the analysis are shown in Table 4.3. The table shows the reports of the mean, standard deviation, minimum, and maximum number of observations and skewness for each variable used.

Table 4.3: Descriptive statistics for the variables

Variable	Mean	Median	Minimum	Maximum	Std. Dev.	Obs. No.	Skewness
EPS	205.778	186.750	-187.880	859.000	227.999	65	0.819827
DVLD	8.33926	7.11538	0.000000	71.5686	10.1582	65	3.91075
DER	46.9857	37.5987	1.07989	108.841	30.6396	65	0.454776
AGE	39.9692	33.0000	16.0000	83.0000	22.3152	65	0.570886
MCAP	25.2319	25.7468	22.2708	27.9010	1.68866	65	-0.443781
NI	24.0122	24.4037	19.9356	28.2411	1.53562	65	-0.657955

The Tobit regression results are shown in Table 4.4. The results confirm that debt ratio (DER) and age (AGE) are significant determinants of dividend policy among listed firms in Tanzania. Coefficients of -0.2004 on debt ratio and -0.1601 on age shows they are negatively related to dividend yield and z-values of -2.3480 for debt ratio and -1.9132 for age show they are strongly significant. The significance of age and debt to dividend yield also

confirms that firms with low debt tend to pay high dividends and those which are newly listed also tend to pay high dividends. The results are consistent with results from Singhania and Gupta (2013) and Al Malkawi (2007).

Table 4.4: Tobit regression model results

Variables	Coefficient	Standard Error	Z-Value
Constant	7.6342	28.4217	0.2686
NI	1.6231	2.7665	0.5867
EPS	0.0069	0.0075	0.9163
MCAP	-0.9111	2.6277	-0.3467
DER	-0.2004	0.0854	-2.3480**
AGE	-0.1601	0.0837	-1.9132*

**Significant at 5% level, two tailed test. * Significant at 10% level, two tailed test

Discussion of findings

In Table 4.4 above, the Tobit regression results report that age and debt equity ratio (DER) of companies significantly influences the dividend policy of Tanzanian listed firms. From the regression results (presented in Appendix 1 B), the variable AGE, a proxy for growth, has a negative and significant coefficient. The age of the firms is significant at the 1 percent level, suggesting that mature firms which have stable earnings tend to pay low levels of dividend. This result is inconsistent with that reported by Komrattanapanya and Suntrauk (2013) for Thailand, who had a positive coefficient. The results show that the coefficients on debt-to-equity ratio (DER) are negative and statistically significant. The p-value of the coefficients on DER for models is 0.0189. This suggests that firms with high debt ratios tend to pay lower dividends. If the firm has a large debt on the balance sheet it may not be able to pay high dividends due to the fact that the free cash flow is required to meet other obligations of lenders and creditors. Thus dividend yield must be negatively related to financial leverage.

Our results show that Net Income, EPS and MCAP are not statistically significant in explaining dividend yield. This suggests that profitability is not a critical determinant of level of dividends paid. Firm size is also insignificant, a fact that might allude to the unique features of the Tanzanian capital market which is still young with the majority of companies being relatively medium and small in size compared to global markets. In addition, some of theories which apply in developed economies might not apply in developing economies such as Tanzania and thus a further probe is required to find out what determines dividend policy on the DSE.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides an outline of the study and compares the research findings with the theoretical literature and other empirical findings on the relation between returns and dividend policy on the Dar es Salaam Stock Exchange.

5.2 Findings

That stock markets are inefficient for price discovery is supported by the fact that the indices and stock prices do not follow a random walk. Lukanima (2014) outlines the main features of the DSE as: inactive trading, illiquidity, high dependence on foreign investors to boost market activities, investors' dependence on dividend as the main source of income rather than stock trading, uncompetitive trading among brokers and motives for more returns from alternative portfolio investments in government securities, which are, to some extent, exceptional characteristics compared to developed markets.

The stocks of listed companies on the DSE in Tanzania are not broadly held. Share trading on the DSE are low due to low share supplies (Mbani, 2011) and the control of these companies is still in the hands of a few dominant shareholder groups. The representatives of these concentrated owners hold the positions on the company board; therefore the dividend payment was found not to be necessary as a signaling device.

The empirical findings of this study show that there is an association between stock returns and dividend yields. The findings support the dividend relevance theory consistent with Lintner (1956), Gordon (1959), Fisher (1974) and De-Angelo and De-Angelo (2006). However, the negative coefficient of dividend yield is contrary to some studies in the developed world and some developing stock markets as well.

On the second objective, this study used an event study methodology that examined the impact of dividend announcements on market share prices. The empirical evidence showed that dividend announcements have a positive and negative impact on share prices. Particularly, when dividends are announced, the market prices adjust quickly and accurately and that there are a majority of positive and a minority of negative excess abnormal returns in some of the companies in the DSE. This finding also supports the dividend signaling theory and similar evidence was provided by Taneem and Yuce (2009) and are consistent with prior event studies by Ball and Brown (1968), Fama, et al. (1969), Bhattacharya (1979), Brown and Warner (1985) and Miller and Rock (1985) and recent studies by Sharma (2011) and Suwanna (2012). All of these authors argued that dividend announcements carry information concerning the future prospects of the firms

The study concluded that debt ratio and age of the firm have a strong influence on the dividend policy of individual firms. The correlation coefficient for all variables used in this study showed the relationship with dividend yield; however, market capitalization, debt ratio and age had a negative association with yield but only age and debt were statistically significant. The results revealed that market capitalization, net income and earnings per share could not be used to predict the dividend policy of individual firms. This study considered factors which appeared most frequently in the literature as determinants of dividend policy and for which data could be obtained in Tanzania. Therefore, unlike the Komarattapanya and Suntrauk (2013) study which used nineteen variables, this study used only five variables.

It can therefore be concluded that the two factors found significant are the only known factors that influenced dividend policy on the DSE. To a large extent, the research findings

are similar to those in Singhnia and Gupta (2012) and Komarattapanya and Suntrauk (2013), particularly in the two variables, age as proxy for growth and debt ratio as leverage measure.

5.3 Recommendations

According to the findings of this study, dividend payments increased the shareholders' return as it has been observed in this first study. There is a significant relation between returns and dividend yields; however investors can maximize returns from the capitalized value of their shares. Firm managers should change their dividend policy to effect the share price return, this has to be done bearing other aspects, such as financing and investing decisions, before deciding whether to pay or not to pay dividend. Due to the diverse nature of the listed companies, the management of these firms should consider dividend policy as a strategic issue and not tactical and investors should choose the dividend policy that suits their investment profile.

The findings from the event study imply that dividend announcements may be of value both to arbitrageurs and buy and hold investors. The opportunities for significant market outperformance subsist by utilization of trading strategy over a short span of time following dividend announcement because such announcements may lead to excess abnormal returns. Company managers should also understand and appreciate the effect of such announcements on their stock price as they make the dividend decision.

5.4 Recommendations for further Studies

The study investigated the relationship between stock returns and dividend policy only on listed companies on the DSE. Nevertheless, dividend policy involves both listed and unlisted firms. Therefore, further research is needed to examine the determinants of dividend policy for Tanzanian non listed companies and see if a similar conclusion is reached. In identifying the determinants of dividend policy by using the Tobit Regression model, only five variables

were used in this study i.e. net income, market capitalization, earning per share, debt ratio, and age. These variables acted as a proxy for guidelines that are valuable to managers, investors and regulators when it comes to considering dividend policy.

The study therefore recommends that additional research is necessary to scrutinize the possibility of other factors that were not included in our study such as dividend payout ratio, return on assets, cash flow per share, ratio of stock price to book value per shares, etc., that have been used in other studies such as Komrattanapanya and Suntrauk (2013) and Al-Nawaiseh (2013). Further research involving more data is required, especially on stock return predictability and event studies, as the current research suffered from insufficient data. Moreover, this study used nominal returns, therefore future research may use real stock returns which are considered to be realistic as they exclude inflation.

Additional research could be conducted on the other announcement events like appointment of new executives, board of directors, mergers and acquisitions, etc. and not only on dividend announcement effects between various sectors to determine if the abnormal returns are significantly different. The research involved events that took place from 2007-2014. The initial years when the DSE was formed, i.e. 1998, have been excluded. Any future research on dividend policy in Tanzania should seek to overcome this data constraint by extending the period to include more years as more data becomes available.

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APPENDICES

Appendix 1: Regression Results

Panel linear regression

A Selection whether to used fixed or random effect in panel linear regression

Variables	**Coefficient**	**Standard Error**	**Z - Value**	**P-value**
Constant	-0.0027	0.00518	-0.5215	0.60224
Divyield	-0.0535	0.04533	-1.1807	0.23822
Return M	0.5041	0.06772	7.4435	<0.00001 ***

Hausman test -

Null hypothesis: GLS estimates are consistent

Asymptotic test statistic: Chi-square (2) = 2.27828

With p-value = 0.3201

B Regression results equation (1).

Fixed Effects

Exogenous: Returns

Endogenous: divyield & Return M

Instruments: divyield_1 & ReturnM_1

Variables	**Coefficient**	**Standard Error**	**Z – Value**	**P-Value**
Constant	0.0103	0.0084	1.233	0.2175
Divyield	-0.1858	0.0673	-2.759	0.0058***
Return M	0.5137	0.2024	2.538	0.0111 **

Sigma-hat = 0.057937 (df = 567)

R-squared = corr(y, yhat)^2 = 0.076358

Wald chi-square (2) = 10.0632 [0.0065]

Test statistic: F (7, 567) = 0.863417 [0.5353]

C Tobit Model regression results

Dependent variable: DVLD

Independent variables: EPS, DER, AGE, MCAP and NI

	Coefficient	Std. Error	z-value	p-value
CONSTANT	7.63415	28.4214	0.2686	0.78823
EPS	0.0069157	0.0075476	0.9163	0.35952
DER	−0.200406	0.0853669	-2.348	0.0189**
AGE	−0.160149	0.083707	-1.913	0.05572*
MCAP	−0.911143	2.62774	-0.347	0.72879
NI	1.62306	2.76647	0.5867	0.55741

Test for normality of residual

Null hypothesis: error is normally distributed

Test statistic: Chi-square (2) = 30.6426, p-value = 2.21839e-007

Appendix 2:

A Final Dividend payment in Tshs per share

Companies	2007	2008	2009	2010	2011	2012	2013
CRDB			7.00	8.00	9.00	12.00	14.00
DCB		20.00	28.00	48.00	50.00	14.00	27.00
TBL	200.00	200.00	150.00	150.00	150.00	200.00	300.00
TCC	175.00	275.00	150.00	300.00	600.00	750.00	750.00
TPCL	43.00	70.00	130.00	139.51	180.00	185.00	195.00
TCCL	185.00	120.00	179.00	247.00	86.00	100.00	110.00
SWISSPORT	79.48	72.86	89.94	97.17	157.52	149.39	166.58

Appendix 3: Results of E (r), AR, CAAR & t test events study as per Market Model

TPCC (TWIGA)

Event day 15.03.2011

days	E(r)	AR	CAR	t test CAR
-20	-0.06%	0.06%	0.06%	0.16
-19	-0.05%	0.05%	0.11%	0.32
-18	-0.05%	0.05%	0.16%	0.48
-17	-0.02%	0.02%	0.19%	0.54
-16	-0.05%	0.05%	0.24%	0.70
-15	-0.06%	0.06%	0.30%	0.87
-14	-0.06%	0.06%	0.35%	1.04
-13	-0.05%	0.05%	0.40%	1.19
-12	-0.05%	0.05%	0.45%	1.33
-11	-0.05%	0.05%	0.50%	1.47
-10	-0.05%	0.05%	0.56%	1.63
-9	-0.06%	0.06%	0.61%	1.80
-8	-0.06%	0.06%	0.67%	1.97
-7	-0.06%	0.06%	0.73%	2.14
-6	-0.05%	0.05%	0.78%	2.29
-5	-0.05%	0.05%	0.84%	2.45
-4	-0.05%	0.05%	0.89%	2.61
-3	-0.05%	0.05%	0.94%	2.76
-2	-0.05%	0.05%	1.00%	2.92
-1	-0.05%	0.05%	1.05%	3.08
0	-0.06%	0.06%	1.11%	3.25
1	-0.05%	0.05%	1.16%	3.40
2	-0.05%	0.05%	1.21%	3.55
3	-0.05%	0.05%	1.26%	3.71
4	-0.05%	0.05%	1.32%	3.86
5	-0.05%	-1.04%	0.28%	0.81
6	-0.05%	-1.03%	-0.75%	-2.20
7	-0.06%	0.06%	-0.69%	-2.03
8	-0.05%	0.05%	-0.64%	-1.87
9	-0.05%	0.05%	-0.59%	-1.72
10	-0.05%	-1.02%	-1.60%	-4.70
11	-0.05%	0.05%	-1.55%	-4.54
12	-0.05%	0.05%	-1.49%	-4.38
13	-0.05%	0.05%	-1.44%	-4.24
14	-0.05%	0.05%	-1.39%	-4.08
15	-0.05%	0.05%	-1.34%	-3.92
16	-0.05%	1.12%	-0.21%	-0.63
17	-0.05%	0.05%	-0.16%	-0.47
18	-0.05%	0.05%	-0.11%	-0.31
19	-0.05%	0.05%	-0.05%	-0.16
20	-0.05%	0.05%	0.00%	0.00

TCCL (SIMBA)

Event day: 18.03.11

day	E(r)	AR	CAR	t test CAR
-20	-0.027%	0.027%	0.027%	0.08
-19	-0.091%	0.091%	0.118%	0.33
-18	-0.089%	0.089%	0.208%	0.58
-17	-0.091%	0.091%	0.299%	0.83
-16	-0.091%	0.091%	0.390%	1.09
-15	-0.091%	0.091%	0.481%	1.34
-14	0.013%	-0.013%	0.468%	1.31
-13	-0.039%	0.039%	0.508%	1.41
-12	0.049%	-0.049%	0.459%	1.28
-11	-0.091%	0.091%	0.550%	1.53
-10	-0.091%	0.091%	0.641%	1.79
-9	0.037%	-0.037%	0.603%	1.68
-8	-0.091%	0.091%	0.695%	1.94
-7	-0.091%	0.091%	0.786%	2.19
-6	-0.091%	0.091%	0.877%	2.44
-5	-0.091%	0.091%	0.968%	2.70
-4	-0.085%	0.085%	1.052%	2.93
-3	-0.040%	0.040%	1.093%	3.04
-2	-0.093%	0.093%	1.185%	3.30
-1	-0.089%	0.089%	1.275%	3.55
0	-0.091%	-0.956%	0.319%	0.89
1	-0.091%	0.091%	0.410%	1.14
2	-0.147%	-0.890%	-0.480%	-1.34
3	-0.054%	-0.971%	-1.451%	-4.04
4	-0.091%	0.091%	-1.360%	-3.79
5	-0.036%	0.036%	-1.324%	-3.69
6	-0.091%	0.091%	-1.233%	-3.44
7	-0.065%	0.065%	-1.168%	-3.25
8	-0.091%	1.117%	-0.051%	-0.14
9	-0.146%	0.146%	0.095%	0.27
10	-0.036%	0.036%	0.131%	0.37
11	-0.091%	0.091%	0.222%	0.62
12	-0.084%	0.084%	0.307%	0.85
13	-0.091%	0.091%	0.398%	1.11
14	-0.091%	0.091%	0.489%	1.36
15	-0.146%	0.146%	0.635%	1.77
16	-0.091%	-0.935%	-0.299%	-0.83
17	-0.036%	0.036%	-0.264%	-0.73
18	-0.081%	0.081%	-0.182%	-0.51
19	-0.091%	0.091%	-0.091%	-0.25
20	-0.091%	0.091%	0.000%	0.00

TCC
Event day: 11.03.13

day	E(r)	AR	CAR	t-test CAR
-20	-0.59%	0.59%	0.59%	0.33
-19	-1.71%	1.71%	2.30%	1.29
-18	-3.19%	3.19%	5.48%	3.07
-17	-1.31%	0.84%	6.32%	3.54
-16	1.23%	-3.11%	3.21%	1.80
-15	-2.67%	2.67%	5.88%	3.29
-14	-0.35%	0.35%	6.23%	3.49
-13	0.57%	-0.57%	5.66%	3.17
-12	-0.47%	0.01%	5.67%	3.18
-11	-1.16%	1.16%	6.83%	3.82
-10	0.61%	-0.61%	6.22%	3.48
-9	0.07%	-0.07%	6.15%	3.44
-8	-0.63%	0.16%	6.32%	3.53
-7	-0.44%	0.44%	6.75%	3.78
-6	-1.00%	-2.62%	4.13%	2.31
-5	-3.69%	-6.84%	-2.71%	-1.52
-4	-0.37%	0.37%	-2.35%	-1.31
-3	-2.60%	-1.32%	-3.67%	-2.06
-2	-0.37%	0.37%	-3.31%	-1.85
-1	-1.64%	0.87%	-2.43%	-1.36
0	-2.38%	-2.46%	-4.89%	-2.74
1	-0.44%	0.08%	-4.82%	-2.70
2	-1.17%	0.81%	-4.01%	-2.24
3	-0.47%	0.47%	-3.54%	-1.98
4	-1.42%	-2.13%	-5.67%	-3.17
5	-0.22%	-0.12%	-5.79%	-3.24
6	-0.15%	0.15%	-5.64%	-3.15
7	-0.98%	0.28%	-5.35%	-3.00
8	-1.30%	1.30%	-4.06%	-2.27
9	-0.77%	0.77%	-3.29%	-1.84
10	-0.93%	0.93%	-2.35%	-1.32
11	1.09%	-1.09%	-3.45%	-1.93
12	-0.41%	0.06%	-3.39%	-1.89
13	-2.97%	2.97%	-0.42%	-0.24
14	-0.60%	-0.77%	-1.19%	-0.67
15	-1.41%	-1.92%	-3.11%	-1.74
16	0.73%	1.93%	-1.18%	-0.66
17	-1.25%	0.25%	-0.94%	-0.52
18	-0.30%	1.31%	0.37%	0.21
19	-0.57%	-0.43%	-0.06%	-0.03
20	-0.72%	0.06%	0.00%	0.00

TBL
Event day: 22.03.12

day	E(r)	AR	CAR	t test CAR
-20	0.07%	-4.32%	-4.32%	-1.41
-19	-0.09%	0.09%	-4.23%	-1.38
-18	0.07%	-0.07%	-4.30%	-1.40
-17	0.07%	-0.07%	-4.37%	-1.43
-16	0.22%	-0.22%	-4.59%	-1.50
-15	0.06%	-2.53%	-7.12%	-2.32
-14	-1.06%	1.06%	-6.05%	-1.97
-13	1.02%	1.45%	-4.61%	-1.50
-12	0.07%	-2.54%	-7.14%	-2.33
-11	-0.88%	0.88%	-6.26%	-2.04
-10	0.02%	-0.82%	-7.08%	-2.31
-9	0.07%	-0.07%	-7.15%	-2.33
-8	-0.07%	0.07%	-7.09%	-2.31
-7	0.83%	-0.02%	-7.11%	-2.32
-6	-0.90%	0.90%	-6.21%	-2.03
-5	-0.71%	-4.82%	-11.04%	-3.60
-4	0.07%	4.66%	-6.38%	-2.08
-3	0.07%	-4.79%	-11.17%	-3.64
-2	-0.08%	0.08%	-11.10%	-3.62
-1	-0.06%	3.98%	-7.11%	-2.32
0	-0.05%	-3.87%	-10.99%	-3.58
1	0.07%	-0.07%	-11.06%	-3.61
2	-0.35%	0.35%	-10.71%	-3.49
3	0.07%	-0.84%	-11.55%	-3.77
4	0.07%	-0.07%	-11.62%	-3.79
5	-0.84%	0.84%	-10.77%	-3.51
6	-0.34%	-0.42%	-11.19%	-3.65
7	0.07%	-0.07%	-11.26%	-3.67
8	-0.08%	0.08%	-11.18%	-3.65
9	-0.06%	-4.39%	-15.57%	-5.08
10	0.95%	-1.67%	-17.24%	-5.62
11	0.27%	-0.27%	-17.51%	-5.71
12	0.07%	-0.79%	-18.29%	-5.97
13	0.63%	-0.63%	-18.93%	-6.17
14	0.07%	3.57%	-15.36%	-5.01
15	0.07%	2.18%	-13.18%	-4.30
16	0.21%	-0.21%	-13.39%	-4.37
17	0.07%	-0.07%	-13.46%	-4.39
18	0.05%	-0.05%	-13.51%	-4.41
19	0.21%	-0.21%	-13.72%	-4.47
20	0.07%	13.72%	0.00%	0.00

SWISSPORT
Event date: 20.03.13

day	E(r)	AR	CAR	t test CAR
-20	-0.30%	-1.08%	-1.08%	-0.34
-19	-0.31%	0.00%	-1.08%	-0.34
-18	-0.11%	-0.74%	-1.82%	-0.57
-17	-0.20%	0.20%	-1.62%	-0.51
-16	-0.31%	0.00%	-1.62%	-0.51
-15	-0.67%	-1.72%	-3.34%	-1.04
-14	-0.26%	-4.12%	-7.46%	-2.33
-13	0.71%	9.31%	1.85%	0.58
-12	-0.31%	0.00%	1.85%	0.58
-11	-0.31%	0.00%	1.85%	0.58
-10	-0.40%	-1.27%	0.59%	0.18
-9	-0.41%	0.93%	1.51%	0.47
-8	0.47%	0.30%	1.81%	0.57
-7	0.18%	0.88%	2.69%	0.84
-6	0.14%	0.80%	3.48%	1.09
-5	-0.31%	0.00%	3.48%	1.09
-4	-0.31%	0.00%	3.48%	1.09
-3	-0.27%	0.06%	3.55%	1.11
-2	0.06%	0.67%	4.21%	1.32
-1	-0.26%	-4.21%	0.00%	0.00
0	0.18%	0.88%	0.87%	0.27
1	-0.37%	-0.12%	0.76%	0.24
2	-0.31%	0.00%	0.76%	0.24
3	-0.31%	0.00%	0.76%	0.24
4	-0.59%	-1.56%	-0.80%	-0.25
5	-0.12%	1.38%	0.58%	0.18
6	-0.03%	-3.62%	-3.04%	-0.95
7	-0.15%	2.32%	-0.71%	-0.22
8	-0.03%	0.49%	-0.22%	-0.07
9	-0.12%	0.34%	0.11%	0.04
10	-0.05%	0.47%	0.59%	0.18
11	-0.80%	-0.89%	-0.30%	-0.09
12	-0.49%	-0.33%	-0.63%	-0.20
13	-0.29%	0.03%	-0.59%	-0.19
14	0.08%	-10.97%	-11.57%	-3.62
15	-0.29%	11.70%	0.14%	0.04
16	0.14%	0.80%	0.94%	0.29
17	0.02%	0.58%	1.52%	0.48
18	-0.22%	0.16%	1.68%	0.53
19	-0.37%	-2.16%	-0.48%	-0.15
20	-0.20%	2.23%	1.76%	0.55

NMB
Event date: 24.04.12

day	E(r)	AR	CAR	t test CAR
-20	-0.21%	0.21%	0.21%	0.35
-19	0.00%	0.00%	0.20%	0.34
-18	-0.21%	0.21%	0.41%	0.69
-17	-0.21%	-0.96%	-0.55%	-0.94
-16	-0.21%	0.21%	-0.34%	-0.58
-15	-0.21%	0.21%	-0.14%	-0.23
-14	-0.21%	-2.09%	-2.23%	-3.76
-13	-0.08%	0.08%	-2.15%	-3.62
-12	-0.21%	0.21%	-1.94%	-3.27
-11	-0.21%	0.21%	-1.73%	-2.92
-10	-0.33%	-1.92%	-3.65%	-6.15
-9	0.05%	-0.05%	-3.70%	-6.23
-8	-0.21%	0.21%	-3.49%	-5.88
-7	-0.17%	-0.94%	-4.43%	-7.47
-6	-0.21%	1.31%	-3.12%	-5.26
-5	-0.21%	0.21%	-2.91%	-4.91
-4	-0.25%	0.25%	-2.67%	-4.50
-3	-0.20%	0.20%	-2.46%	-4.15
-2	0.09%	-0.09%	-2.55%	-4.30
-1	-0.45%	0.45%	-2.10%	-3.53
0	-0.21%	0.21%	-1.89%	-3.19
1	0.04%	-0.04%	-1.93%	-3.25
2	-0.19%	0.19%	-1.74%	-2.93
3	-0.21%	0.21%	-1.53%	-2.58
4	-0.17%	0.17%	-1.36%	-2.29
5	-0.40%	0.40%	-0.96%	-1.61
6	0.04%	-0.04%	-1.00%	-1.68
7	-0.01%	0.01%	-0.99%	-1.67
8	-0.21%	0.21%	-0.79%	-1.33
9	-0.21%	0.21%	-0.58%	-0.98
10	-0.17%	0.17%	-0.41%	-0.69
11	-0.17%	0.17%	-0.24%	-0.40
12	-0.18%	0.18%	-0.06%	-0.10
13	-0.21%	0.21%	0.15%	0.25
14	-0.10%	0.10%	0.25%	0.41
15	-0.21%	0.21%	0.45%	0.76
16	-0.21%	-0.90%	-0.45%	-0.75
17	0.03%	-0.03%	-0.48%	-0.80
18	-0.10%	0.10%	-0.37%	-0.63
19	-0.21%	0.21%	-0.17%	-0.28
20	-0.17%	0.17%	0.00%	0.00

DCB
Event date: 31.03.11

days	E(r)	AR	CAR	t test CAR
-20	-0.94%	-10.84%	-10.84%	-4.55
-19	-0.92%	0.92%	-9.92%	-4.16
-18	-0.91%	0.91%	-9.01%	-3.78
-17	-1.02%	-4.38%	-13.39%	-5.61
-16	-0.97%	0.97%	-12.42%	-5.21
-15	-0.95%	0.95%	-11.47%	-4.81
-14	-0.97%	0.97%	-10.50%	-4.40
-13	-0.93%	-4.20%	-14.70%	-6.16
-12	-0.92%	0.92%	-13.78%	-5.78
-11	-0.91%	-3.97%	-17.74%	-7.44
-10	-0.91%	0.91%	-16.83%	-7.06
-9	-0.91%	-1.44%	-18.27%	-7.66
-8	-0.88%	0.88%	-17.39%	-7.29
-7	-0.91%	0.91%	-16.48%	-6.91
-6	-0.91%	0.91%	-15.57%	-6.53
-5	-0.91%	0.91%	-14.66%	-6.14
-4	-0.92%	0.92%	-13.74%	-5.76
-3	-0.91%	0.91%	-12.83%	-5.38
-2	-0.91%	0.91%	-11.91%	-4.99
-1	-0.95%	-1.35%	-13.27%	-5.56
0	-0.91%	2.06%	-11.21%	-4.70
1	-0.91%	0.91%	-10.30%	-4.32
2	-1.34%	0.20%	-10.10%	-4.23
3	-0.91%	0.91%	-9.18%	-3.85
4	-0.91%	0.91%	-8.27%	-3.47
5	-0.88%	0.88%	-7.39%	-3.10
6	-0.91%	0.91%	-6.47%	-2.71
7	-0.91%	0.91%	-5.56%	-2.33
8	-1.29%	1.29%	-4.27%	-1.79
9	-0.91%	0.91%	-3.36%	-1.41
10	-0.86%	-3.58%	-6.94%	-2.91
11	-0.87%	1.96%	-4.98%	-2.09
12	-0.95%	-0.14%	-5.12%	-2.15
13	-0.97%	0.97%	-4.15%	-1.74
14	-0.96%	0.96%	-3.19%	-1.34
15	-0.91%	0.91%	-2.28%	-0.95
16	-0.87%	0.87%	-1.40%	-0.59
17	-0.86%	-1.29%	-2.69%	-1.13
18	-0.86%	0.86%	-1.83%	-0.77
19	-0.91%	0.91%	-0.91%	-0.38
20	-0.91%	0.91%	0.00%	0.00

CRDB
Event date: 05.04.12

day	E(r)	AR	CAR	t-test CAR
-20	0.21%	1.46%	1.46%	0.85
-19	0.44%	0.00%	1.46%	0.85
-18	0.40%	0.24%	1.69%	0.99
-17	0.44%	0.00%	1.69%	0.99
-16	0.48%	-0.22%	1.47%	0.86
-15	0.44%	0.01%	1.49%	0.87
-14	0.17%	1.67%	3.16%	1.84
-13	0.67%	-1.41%	1.75%	1.02
-12	0.44%	0.00%	1.75%	1.02
-11	0.20%	1.48%	3.23%	1.89
-10	0.44%	0.00%	3.23%	1.89
-9	0.59%	-0.93%	2.31%	1.35
-8	0.21%	1.42%	3.73%	2.17
-7	0.26%	1.15%	4.88%	2.84
-6	0.44%	0.00%	4.88%	2.84
-5	0.44%	0.00%	4.88%	2.84
-4	0.38%	0.41%	5.29%	3.08
-3	0.42%	0.17%	5.46%	3.18
-2	0.44%	0.00%	5.46%	3.18
-1	0.34%	0.61%	6.07%	3.54
0	0.44%	0.00%	6.07%	3.54
1	0.13%	1.95%	8.01%	4.67
2	0.41%	0.22%	8.23%	4.80
3	0.41%	0.19%	8.42%	4.91
4	0.65%	-1.30%	7.12%	4.15
5	0.62%	5.78%	12.90%	7.52
6	0.44%	0.00%	12.90%	7.52
7	0.48%	1.59%	14.49%	8.45
8	0.44%	0.00%	14.49%	8.45
9	0.47%	1.65%	16.14%	9.41
10	0.44%	0.00%	16.14%	9.41
11	1.07%	-3.93%	12.21%	7.12
12	0.47%	1.69%	13.89%	8.10
13	0.40%	0.24%	14.13%	8.24
14	0.03%	4.48%	18.62%	10.85
15	0.44%	0.00%	18.62%	10.85
16	0.44%	0.00%	18.62%	10.85
17	0.44%	0.00%	18.62%	10.85
18	0.44%	0.00%	18.62%	10.85
19	0.40%	2.23%	20.85%	12.15
20	0.44%	0.00%	20.85%	12.15

Appendix 4: Figures of graphs of cumulative abnormal returns and abnormal returns against trading days for sample

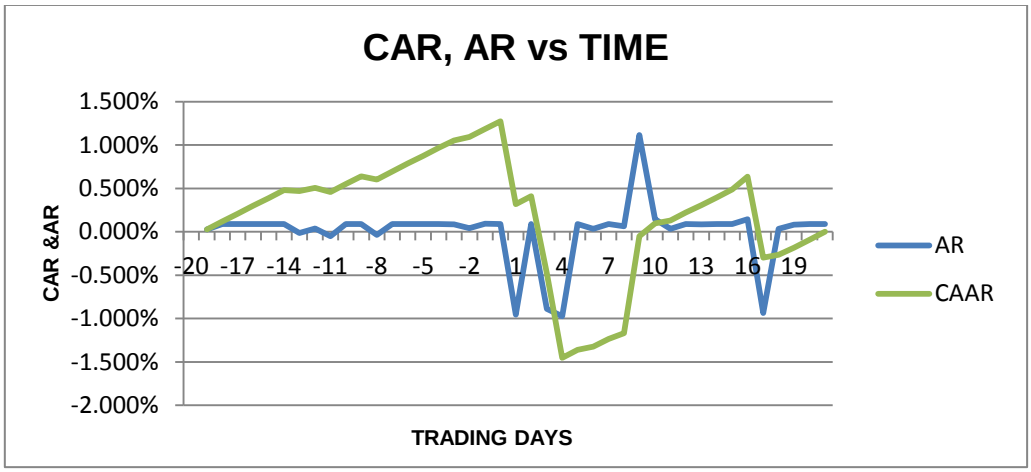

Figure 2: TCCL, CAR, AR vs. trading days (time)

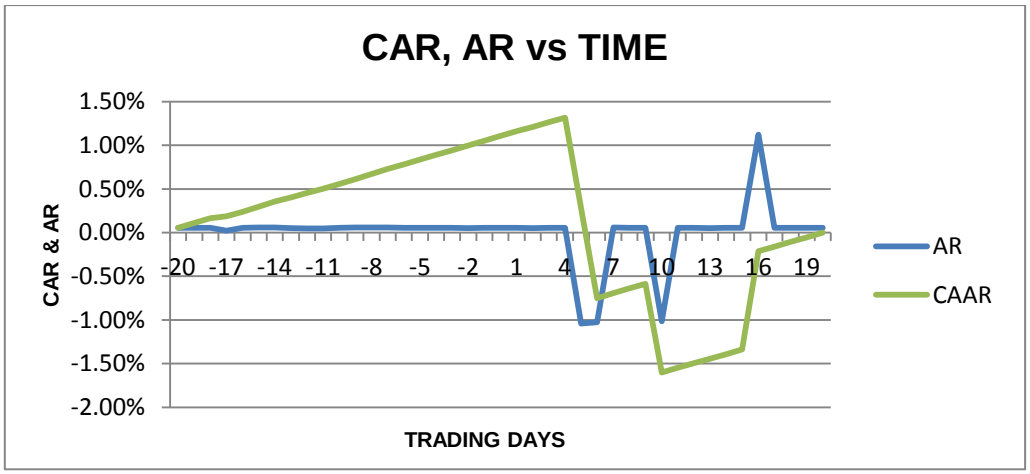

Figure 3: TPCL CAR, AR vs. trading Days (time)

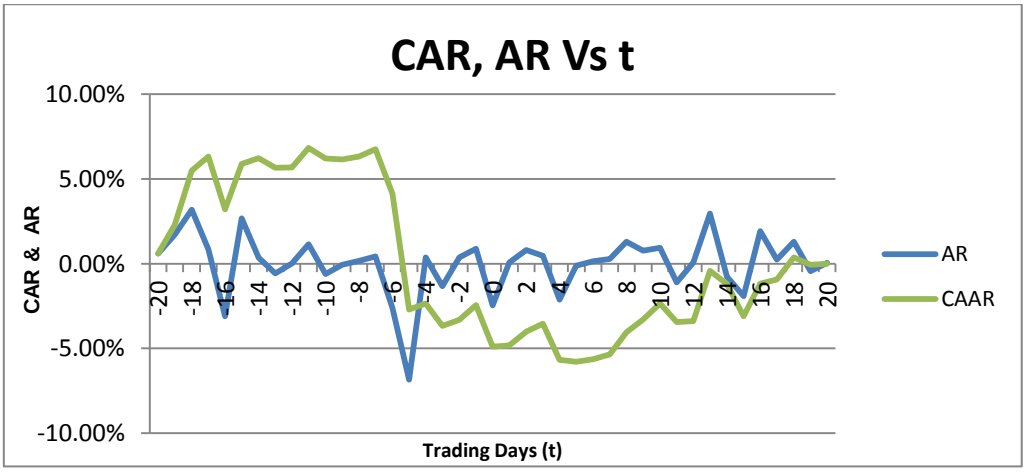

Figure 4: TCC, CAR, AR vs trading days (time)

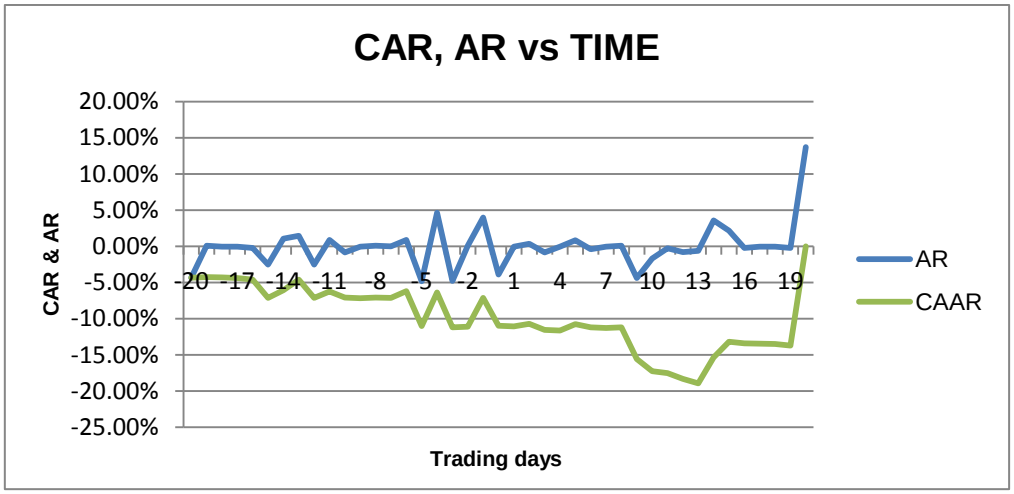

Figure 5: TBL, CAR, AR vs trading days (time)

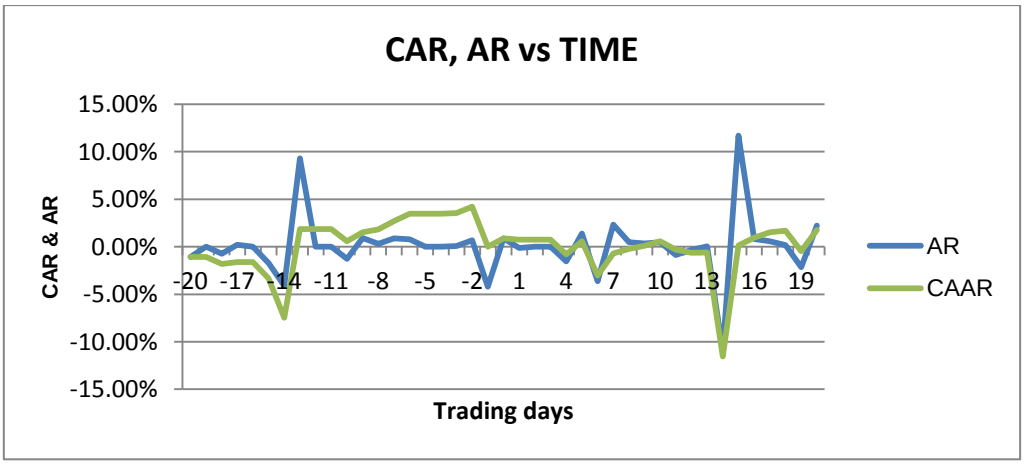

Figure 6: SWISSPORT, CAR, AR vs trading days (time)

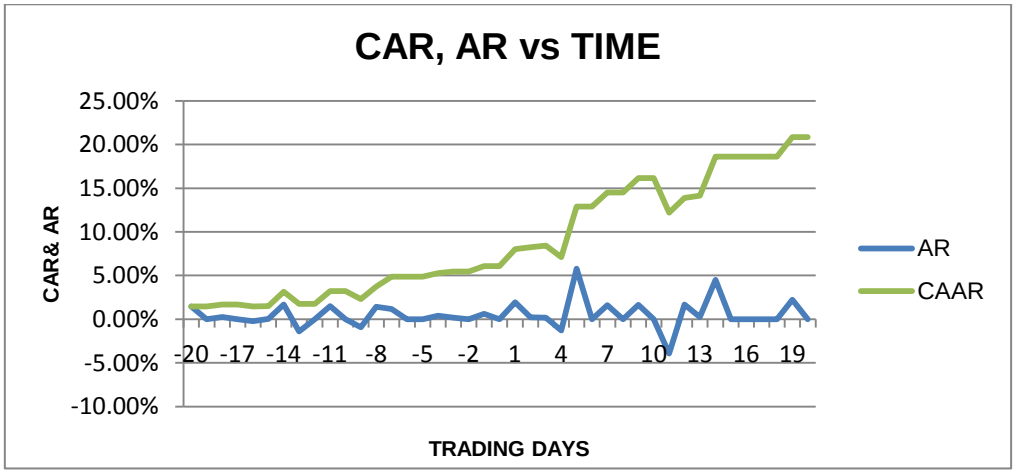

Figure7: CRDB, CAR, AR vs trading days (time)

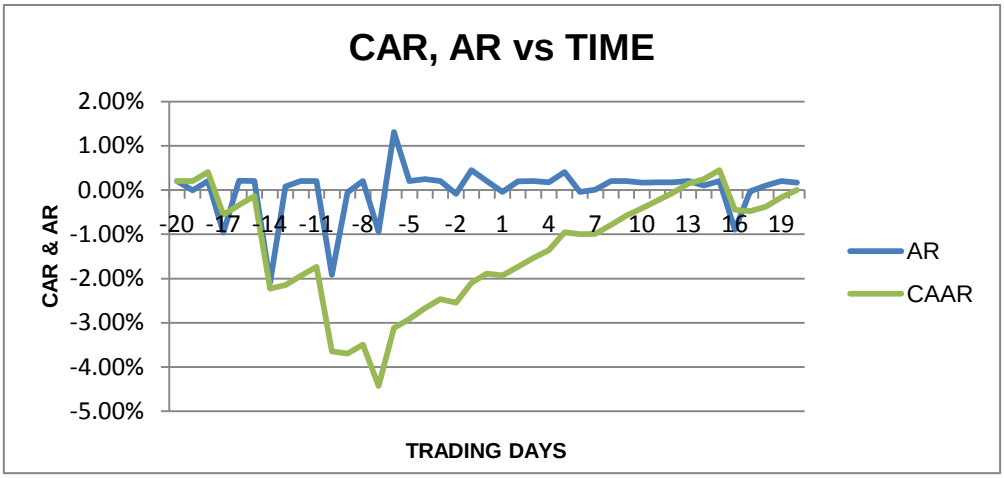

Figure 8: NMB, CAR, AR vs. trading days (time)

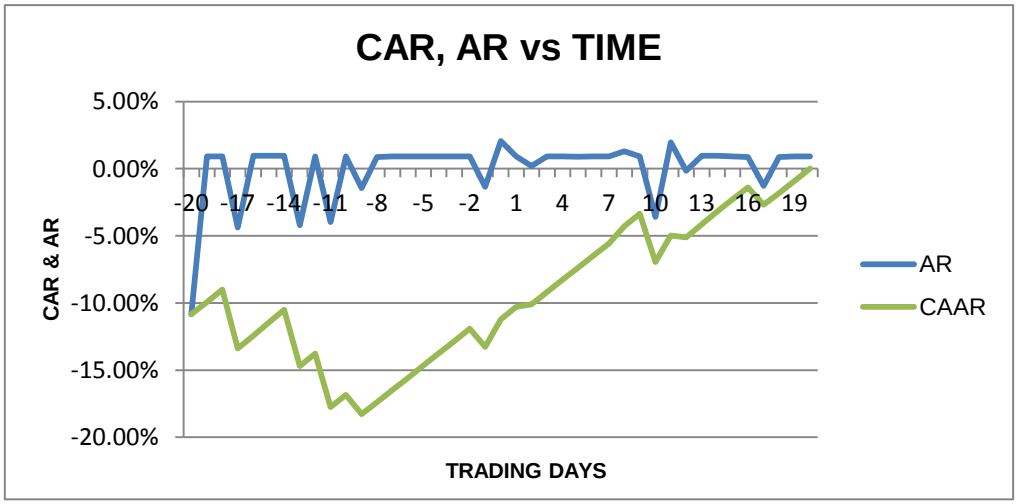

Figure 9: DCB, CAR, AR vs. trading days (time)

Appendix 5: Table: List of Companies under Dar es Salaam Stock Exchange

SN	Company	ISIN	Date Listed	Number of Issued Shares	Nature of Business
1	TOL Gases Ltd. (TOL)	TZ1996100008	15th April, 1998	37,223,686	Production and distribution of industrial gases, welding equipment, medical gases, etc.
2	Tanzania Breweries Ltd. (TBL)	TZ1996100016	9th September, 1998	294,928,463	Production, marketing and distribution of malt beer in Tanzania
3	Tanzania Tea Packers Ltd. (TATEPA)	TZ1996100065	17th December, 1999	17,857,165	Growing, processing, blending, marketing and distribution of tea and instant.
4	Tanzania Cigarette Co. Ltd. (TCC)	TZ1996100032	16th November,2000	100,000,000	Manufacturing, marketing, distribution and sale of cigarettes.
5	Tanga Cement Co. Ltd. (SIMBA)	TZ1996100057	26th September,2002	63,671,045	Production, sale and marketing of cement.
6	Swissport Tanzania Ltd. (SWISSPORT)	TZ1996100040	26th September,2006	36,000,000	Airports handling of passengers and cargo.

7	Tanzania Portland Cement Co. Ltd. (TWIGA)	TZ1996100024	29th September,2006	179,923,100	Production, sale and marketing of cement.
8	Dar es Salaam Community Bank Ltd (DCB)	TZ1996100214	16th September,2008	32,393,236	Commercial bank
9	National Microfinance Bank (NMB)	TZ1996100222	6th November 2008	500,000,000	Commercial bank
10	CRDB Bank (CRDB)	TZ1996100305	17th June 2009	2,176,532,160	Commercial bank
11	Precision Air Services Plc (PAL)	TZ1996101048	21st December 2011	193,856,750	Air transport services
12	Maendeleo Bank Plc (Maendeleo)	TZ1996101683	4th November 2013	9,066,701	Commercial bank
13	Kenya Airways Ltd (KA)	KE 0000000307	1st October 2004	1,496,469,034	Passengers and cargo transportation to different destinations in the world.
14	East African Breweries Ltd. (EABL)	KE0000000216	29th June, 2005	790,774,356	Holding company in various companies that are involved in production, marketing and distribution of malt beer in Kenya, Uganda and Mauritius

15	Jubilee Holdings Ltd. (JHL)	KE0000000273	20th December,2006	59,895,000	Holding company in several companies that are involved in insurance businesses in Kenya, Uganda and Tanzania.
16	Kenya Commercial Bank Ltd (KCB)	KE0000000315	17th December 2008	2,970,340,000	Commercial bank
17	National Media Group Plc (NMG)	KE0000000380	21st February2011	188,542,286	News Media Group
18	African Barrick Gold Plc (ABG)	GB00B61D2N63	7th December,2011	410,085,499	Mining and production of gold
19	Swala Gas and Oil	TZ1996101866	11th August 2014	93,287,800	Mineral Exploration
20	Mkombozi Commercial Bank	TZ1996101972	29th December 2014	5,000,000	Commercial Bank
21	Uchumi Supermarket Ltd	KE0000000489	15th August 2014	265,426,614	Supermarket