FACULTY OF LAW, COMMERCE AND MANAGEMENT

SCHOOL OF ECONOMIC AND BUSINESS SCIENCES

MASTER OF COMMERCE IN BUSINESS FINANCE (50 % DISSERTATION)

SHARE PRICE REACTION TO DIVIDEND CUTS AND OMISSIONS: EVIDENCE FROM SOUTH AFRICA.

By

PHUMUDZO PRECIOUS RAEDANI

Student Number: 475888

Supervisor: **MR JAMES BRITTEN**

Date of submission: 29 March 2019

A research report submitted to the Faculty of Law, Commerce and Management, at the University of Witwatersrand in partial fulfilment of the requirements for the degree of Master of Commerce in Business Finance.

Johannesburg, South Africa

Declaration Regarding Plagiarism

I (full names & surname):	Phumudzo Precious Raedani
Student number:	475888

Declare the following:

1. I understand what plagiarism entails and I am aware of the University's policy in this regard.
2. I declare that this dissertation is my own, original work. Where someone else's work was used (whether from a printed source, the internet or any other source) due acknowledgement was given and reference was made according to departmental requirements.
3. I did not copy and paste any information directly from an electronic source (e.g., a web page, electronic journal article or CD ROM) into this document.
4. I did not make use of another student's previous work and submitted it as my own.
5. I did not allow and will not allow anyone to copy my work with the intention of presenting it as his/her own work.

SIGNATURE: …… DATE …….

DEDICATION

I dedicate this thesis to my grandmother, Mrs. Nyawasedza Mashapa and my late mother, Mrs. Ntambudzeni Julia Raedani. Thank you for always pushing me to be the best version of myself. With much love!

Acknowledgements

I would like to express my sincere gratitude to my supervisor Mr. James Britten for his patience, guidance, and support. I really benefited from your advice and the positive outlook you had towards my research.

I am grateful to BankSETA for their financial support. Thank you for giving me the opportunity to pursue my Master's degree.

I am also thankful to my colleagues Samantha Tembo and Prince Nkiwane for their moral support and motivation throughout this research.

Finally, I wish to express my love and gratitude to my family and friends for their constant support. Your words of encouragement and confidence kept me going. Thank you for always believing in me.

ABSTRACT

This study examines the effects of dividend cuts and omission on the performance of South African firms listed on the Johannesburg Stock Exchange (JSE) over the sample period of 1996 and 2016. The study examines an overlooked area in dividend change studies and is motivated by the conflicting conclusions that exist in finance literature around what dividend reductions signal to the market. The study made use of a total of 94 firms which comprises both the dividend decrease and omission sample as well as the control (peer) firm sample. The study employs the event study methodology using the control firm and the capital asset pricing model (CAPM) to test for the effect of dividend cuts and omissions on the share price. The study also tests for the relationship between dividend cuts and omissions and variables such as the return on assets (ROA), the market to book ratio (M/B) and the capital expenditure (CAPEX). The study finds negative abnormal returns for both control adjusted returns and the CAPM adjusted returns. The market to book ratio results show that there is a decrease in growth prospects for both high and low market to book ratio firms. In terms of the return on asset analysis, dividend decrease sample firms were found have had poor operating performance years prior the dividend cut announcement and continued to experience poor operating performance years after the cut, suggesting that dividend decrease firms were not as profitable and hence the reason to cut dividends. The dividend decrease firms were found to increase capital expenditures even years after the dividend decrease announcement whereas the opposite was found for control firms. The overall results are consistent with international literature where changes in dividends appear to be linked to changes in future growth opportunities.

Table of Contents

LIST OF TABLES AND TABLE OF FIGURES

TABLES

FIGURES

1. INTRODUCTION

This study examines the effects of dividend cuts and omissions on the performance of listed firms on the Johannesburg Stock Exchange (JSE) in South Africa. The topic of dividend policy is of importance and one of the key unresolved puzzles in the field of corporate finance literature (Black, 1976; Baker, Powell & Veit, 2002; Brealey & Myers, 2003). There is a great deal of confusion in interpreting exactly what changes in dividends signal. Dividend signalling stemmed from the information asymmetries that arise between a firm's management and shareholders. There have been numerous studies over the past few decades on whether dividends convey any information about the state of a firm (Linter, 1956; Miller & Modigliani, 1961; DeAngelo, DeAngelo & Skinner, 1992; Dhillon & Johnson, 1994; Chowdhury, Maung & Zhang, 2014).

Generally, there is this idea that dividends signal or predict changes in future earnings to the market (Linter, 1956; Miller & Rock, 1985). Pettit (1972), Aharony and Swary (1980), Benesh, Keown, and Pinkerton (1984) and Dhillon and Johnson (1994) all found strong evidence in support of dividend change announcements sending information to the market. DeAngelo, DeAngelo, and Skinner (1996) found that dividends did not signal future performance. Benartzi, Michealy, and Thaler (1997) found little to support that changes in dividends have any informational content regarding future earnings. Ryan, Besley, and Lee (2000) found strong support for signalling in explaining the changes in dividends. Nissim and Ziv (2001) and Grullon, Michaely, Benartzi, and Thaler (2005) and found no support for the signalling theory of dividends. Brav, Graham, Harvey, and Michaely (2005) found that managers did not believe that dividends acted as a signal but rather that dividends convey some information to investors regarding their firms.

In South Africa, Wolff and Auret (2009) investigated whether dividend changes signalled future earnings and found no support for the signalling theory of dividends. Recent studies do not find any evidence that dividend changes signal future earnings, yet it is clear to see that markets react to dividend changes. One recent study is that by Jensen, Lundstrum and Miller (2010) who argue that dividend changes are not reflected in changes in earnings but rather in the expiration of future growth options. Jensen et al., (2010) suggested that firms reduce dividend as a last resort solution.

Similar to Jensen et al., (2010) this study will explore what divided changes signal in South Africa in the context of dividend cuts and omissions. There have been a lot of African studies that have focused on dividend initiations, very few have focused on dividend decreases but most studies have ignored the issue of dividend omissions completely, making this study of importance as it will add to existing corporate finance literature.

Based on the existing literature in South Africa, the topic on both dividend cuts and omissions seems to have been ignored, so this study aims to find out if the results from South Africa are aligned with other studies that exist internationally. This study will be of use to finance scholars in the emerging markets context whilst also filling in the gap in dividend reduction literature. This study aims to analyse the dividend changes to the future growth prospects of the firm similar to what has been done by Jensen et al., (2010). Using an event study methodology, this study analyses the share price reaction of publicly listed South African firms that announced a decrease or omission in final dividends. The results show that there is a significant abnormal reaction associated with dividend decrease and omission announcement when comparing the peer firm abnormal return and the CAPM abnormal reaction.

The rest of this research report is structured as follows: section two provides a detailed analysis of the literature review. Empirical work on dividend policy and dividend signalling has been discussed, particularly with an emphasis on the firm factors that are affected by dividend cuts and omissions. Section three provides a detailed analysis of the data sample formation and selection criteria. Section four provides the methodology that will be used to test the effect of dividend cuts and omission on the share price, growth prospects, and operating performance. Section five provides the results and implications from the empirical analysis. Section six concludes by summarising and recommending areas for future research.

2. LITERATURE REVIEW

2.1 INTRODUCTION

The aim of this chapter is to discuss the diverse theories that explain how dividend cuts and omissions affect firm value. The patterns of dividend cuts and omissions in emerging and developed markets are also discussed. The study of dividend pay-out policy aims to explain the different payout structures of listed firms. Lintner (1956) study came up with the idea of sticky dividends, meaning that managers are reluctant to cut dividends unless it is necessary. Miller and Modigliani (1961)'s paper is centred on the dividend irrelevance theory under very strict assumptions meaning that there is no impact on the firm's capital structure whether the firm pays dividends or not. Fama and French (2001) conducted research on US firms that was built around the idea that dividend payers have appeared to be disappearing, the study focused on dividend payers reducing the propensity to pay versus the change in characteristics of payers becoming less prominent. Jensen et al., (2010) conducted a study on what dividends signal, the study confirmed that firms cut dividends as a last resort measure. This section of the study will show how dividend reductions (cuts and omissions) affect firm value by reviewing existing literature and empirical evidence.

2.1.1 LAYOUT OF THIS CHAPTER

This section is organised as follows: section 2.2 provides an overview of dividend pay-out policy including the dividend irrelevance theory by Miller and Modigliani (1961). Section 2.3 discusses the signalling theory. Section 2.4 discusses firm characteristics. Section 2.5 discusses dividend reductions which are split into cuts and omissions. Section 2.6 documents the empirical review of existing literature. Section 2.7 provides evidence from outside the United States of America. Section 2.8 outlines the different methodologies that have been used in previous dividend studies. Section 2.9 provides a summary of the chapter.

2.2 DIVIDEND POLICY

Dividend policy is of key importance in finance literature due to the effects it has on the firm value and shareholders wealth. A payout policy that is followed by management to determine the size and the pattern of dividends paid to shareholders over time is known as the dividend firm's dividend policy (Robinson, 2006). A dividend refers to the money paid out from profits to a company's shareholders when a publicly traded company makes a profit. A firm can either reinvest the money or pay it out as dividends (Easterbrook, 1984). Shareholders receive dividends as a form of compensation for investing in a company. Dividends paid are measured in two ways, the first is the dividend yield which is the dividend paid to the price of the stock.

$$DY_{it} = \frac{DPS_{it}}{P_{it}} \quad (1)$$

Where:

DY_{it} is the dividend yield of firm *i* on day *t*

DPS_{it} is the dividends per share of firm *i* on day *t*

P_{it} is the price per Share of firm *i* on day *t*

The second measure is the dividend payout ratio, this relates dividends paid to firm earnings. A question of importance that is in the centre of dividend policy is whether firms should always pay dividends or invest in positive net present value (NPV) projects by retaining earnings which would have been paid out to shareholders.

The dividend irrelevance theory was founded by Miller and Modigliani (1961) who contributed to the first influential work on dividends. Dividend irrelevance theory suggests that a firm's dividend policy is irrelevant since it has no influence on the stock price or the cost of capital. The value of the firm is therefore determined by its assets investments policy, rather than the way earnings are split between dividends and retained profits. Miller and Modigliani (1961)'s dividend irrelevancy policy holds in the context of an ideal economy that is characterized by perfect capital markets, rational

behaviour, and perfect certainty meaning that the current price of a company's shares is not dependent on the dividend payout rate, given the company's investment strategy. Miller and Modigliani (1961) came up with two propositions that explain factors that affect the valuation of securities and the firm.

Proposition I which is also termed capital structure irrelevance states that the value of the firm does not depend on its sources of finance but rather on the ability of its assets to generate returns. The cost of the firm is calculated by capitalizing the expected returns that are generated by the company. Proposition II is concerned with the firm's average cost of capital. This proposition states that the return on common stock increases linearly with an increase in the amount of debt taken by the firm.

$$r_e = p_k + (p_k - r_d)\left(\frac{D}{E}\right) \quad (2)$$

Where:

r_e is the expected yield of a share

p_k is the capitalization rate for a pure equity stream

r_d is the return on debt

D is the market value of debt

E is the market value of equity

The firm's financing decisions are irrelevant and what is of importance is the firm's investment prospects. These two propositions are centred along very strict assumptions such as investors are unrestricted to buy and sell securities, investors have no trade limitations, they can borrow or lend funds at similar conditions that firms do, investors are said to behave rationally, investors have the same access to all information that is deemed relevant, there are efficient capital markets, there are no taxes, no costs of financial distress and liquidation.

The dividend irrelevance theory does not hold in real life due to the existence of the dynamics such as investors and firms paying taxes, investors paying transaction costs when they buy or sell shares, firms incurring floatation costs when selling additional shares. All this makes the assumptions on which the propositions are based on unrealistic (DeAngelo & DeAngelo, 2006). In the real world, the market does not perceive dividend cuts and omissions as favourable news, instead, the stock price reacts negatively to the announcements of dividend cuts. Markets demonstrate a deviation from perfect information and this is referred to as asymmetric information. When one party has better information than the other, this inequality of information access disrupts the normal behavior of the market.

The impact of dividends on the share price is indicative of the role in which dividends act as a proxy for long-run earnings anticipations. This relationship where dividends are said to convey information about the firm's profit and growth prospects to the market was termed "the informational content of dividends" by Miller and Modigliani (1961). Bhattacharya (1979), Miller and Rock (1985) and John and Williams (1985) were amongst the first few that formalised this relationship in dividend signalling theory studies. This will further be explained in section 2.3.

2.3 DIVIDEND SIGNALLING AND STICKY DIVIDENDS

The concept of paying dividends has puzzled academics for many years but still, firms pay dividends despite it being costly due to dividends being a signal to investors and the market. Dividends are paid out as a mechanism to communicate additional inside information to outsiders and originates from the information asymmetries that lie amongst the firm's management and shareholders (Lintner, 1956). The informational content of dividends and the signalling theory of dividends stems from the idea that investors are not always aware of true nature of the firms operating cash-flows and such financial information can be fabricated to deceive investors. Paying dividends is seen as a proxy of a firm's financial health. Investors interpret changes in dividends as a sign of change in the managers' view of the firm's future performance. Based on the dividend signalling theory, changes in dividends signal managers' future earnings expectations.

Dividend payments are increased only when a firm's management is convinced that there will be enough future earnings that will sustain the increase in dividends and they decrease dividends if they are uncertain of whether the future earnings will be sufficient enough to meet the dividend levels they are already paying out. Firms increase dividends as a way to show that future earnings are less likely to fall (Lintner, 1956). Managers are hesitant to reduce dividends since dividend reductions are accompanied by a severe penalty from the market. Firms will only increase dividend payments when they are confident that they can sustain the dividend payments in the future and the current earnings are maintainable or will continue to improve.

Investors tend to be very unforgiving towards firms that reduce or do not maintain their previous dividend payment and these firms are punished with lower share price valuations. Firms can choose to pass on positive net present value projects that add value to the firm just to maintain paying a stable dividend. The smoothing hypothesis was introduced by Lintner (1956) and it suggests that the dividend decisions are influenced by past and current earnings. Lintner (1956) documented a negative reaction due to dividend cut announcements suggesting that dividends are sticky. This means that once a firm starts paying a certain level of dividends, cutting becomes very difficult making that firm "stuck" and it must maintain paying dividends at that level.

Miller and Modigliani (1961) proposed that managers and shareholders have the same set of information and no information asymmetries exist between them. Bhattacharya (1979) asserted that dividends signal a company's future profitability and referred to this as the signalling hypothesis. Easterbrook (1984) found that managers have more information about the company than investors do, and they pay dividends as a tool to communicate that future earnings are going to increase. The payment of dividends is a costly and an inefficient way for a firm to distribute excess returns to investors, as a result, it can be concluded that dividends act as some form of signal about information that the market does not know of (Hillier, Grinblatt & Titman, 2012).

Dividend policy has generally been perceived as a means in which firms signal their views about their company's future prospects (Miller & Rock, 1985). Naturally, investors have much less information about the firm compared to the firm's management (insiders) and any signal that could indicate the direction of a firm's future prospects could be beneficial to investor's decision making.

Dividends are a voluntary distribution of cash and because of the cost associated with a firm maintaining a cash disbursement, this is when signalling becomes the most meaningful to outsiders. The more it costs to maintain a dividend outflow, the more the signalling information is derived by investors about the expected profits and future quality of the firm. If consistently paying a large cash dividend signals good future firm prospects, then a dividend reduction or omission could signal trouble in the near future and this is consistent with findings by Dielman and Openheimer (1984) and Healy and Palepu (1988) who noted a negative market reaction after dividend reductions were announced.

Spence (1973), Bhattacharya (1979), and Miller and Rock (1985) advanced the signalling theory of dividends. Firm managers (insiders) are known to make use of dividend policy to convey costly information about the firm's future prospects to less informed investors (outsiders). Dividend initiations and increases are associated with positive stock price reaction (Bhattacharya, 1979). Investors take this dividend increase as a signal that top management thinks future earnings prospects are good. Asquith and Mullins (1983) found that unique and valuable information is conveyed to investors from the dividend initiation announcements.

According to Miller and Rock (1985), dividend announcements communicated some missing information regarding the firm to investors in the market, this grants the market an opportunity to construct an estimation of what the current firm earnings are. The relevance of a firm's dividend policy is of importance in an environment where there is an existence of asymmetric information since it communicates valuable information about future earnings. The several implications of dividend signalling are that firms pay dividends to shareholders as a way to signal the quality of a firm to the market and this leads to managers being very reluctant to cut their dividend since they fear that a cut might provide a negative signal. Miller and Rock (1985) found a negative reaction associated with dividend cut announcement.

Dividend reductions are found to mostly occur after a period of poor operating performance and this is reflective of the low level of current and expected future earnings of a firm (DeAngelo et al., 1992). Studies by Jensen and Johnson (1995) and Michaely, Thaler, and Wormack (1995) found dividend reductions to be more informative than dividend increases. The decision to cut dividends is not only

due to reductions being an indicator of financial distress and low managerial confidence in the firm's operations, but it can also be due to value-adding investments that require cash. According to DeAngelo and DeAngelo (1990), financially distressed firms were found to be hesitant to omit dividends due to the negative market reaction associated with dividend cut announcements. Firm management was seen to believe that steady dividends mitigate negative investor reactions.

DeAngelo and DeAngelo, (2000) found that the longer the firm has been paying dividends the more reluctant the firm is to reduce the dividend. Graham and Harvey (2001) found that firms feel reluctant to stop the dividend payments if they have paid before. According to Brav et al., (2005), firm managers pursued the maintenance of current dividend levels by avoiding to cut dividends except in the position of extreme circumstances which is indicative of the notion that dividend payout policy is still conservative. Managers believe that stable dividends lessen negative investor reactions. From the interview conducted, the managers did not believe that dividends acted as a signal but rather that dividends convey some information to investors regarding their firms, these results appear to contradict the notion of the dividend irrelevancy by Miller and Modigliani (1961).

Contrary to Brav et al., (2005), Wolff and Auret (2009), found that most investors still interpreted changes in dividend as a signal and this was confirmed through firms experiencing a movement in their share price and market value regardless of the ambiguity around what dividends signal. On the other hand, Jensen et al., (2010) suggested that dividend reductions are not signals of future outlook but are said to indicate that a firm has reached its last resort situation, and this is consistent with findings by Bulan (2010) and Stepanyan (2011) where firms reduce their dividends because of the depletion of financial slack.

2.4 FIRM CHARACTERISTICS

The notion that the amount of dividends paid out is positively related to the size of the firm is generally accepted by several finance scholars (Ghosh & Woolridge, 1988; DeAngelo, DeAngelo & Stulz, 2006). Smaller firms are found to pay fewer dividends compared to larger firms due to the transactional costs that they face if they have to raise funds externally (Holder, Langrehr & Hexter,

1998). High-quality firms reduce dividends sooner as a way to rebuild the firm's profitability, in so doing they experience an increase in total asset growth, higher future returns and higher levels of future profitability. Lower quality firms tend to generally delay decreasing the number of dividends paid to shareholders until they have no other way around cutting dividends. Issues such as the performance of the stock before the dividend announcement date and the negative information that is realised before the dividend change were found to be some of the influential factors that affected how the market reacted to dividend cut and omission announcement (Ghosh & Woolridge, 1988).

The amount of earnings that are retained by a firm are of importance when determining the dividend pay-out ratio with respect to firm size. DeAngelo, DeAngelo, and Skinner (2004) conducted a study on dividend concentration and consolidation of earnings in response to Fama and French (2001)'s disappearing dividends. It was found that as much as there is a change in dividend practices, it does not entirely indicate that dividends are disappearing. There was a positive relationship that was noted to exist between the number of dividends paid and the size of the firm, larger firms were found pay more dividends when compared to smaller firms since they generated more profits. Raei, Moradi and Eskandar, (2012) were also found to document similar results.

The changes in dividends have been noted to act as a signal for both the current and expected future prospects of the firm (DeAngelo et al., 1992; Yoon & Starks, 1995; Brav et al., 2005). In a similar manner, Collins, Saxena, and Wansley (1996), Mitton (2004) and Deshmukh (2005) contend that there is a positive relationship that exists between the firm size and the dividend pay-out due to large firms having less asymmetric information. Firm size and profitability were found to influence dividend payments suggesting that the larger the firm, the higher the dividends paid.

Young firms have a low payout ratio and a high retention ratio since they have a lot of investment opportunities compared to mature firms. Mature firms have a high pay-out ratio and a low retention ratio as they have low investment opportunities (Fama & French, 2001; Grullon, Michealy & Swaminathan, 2002; DeAngelo & DeAngelo, 2006). Firms with high levels of profitability and minimal growth opportunities were found to be better suited to pay dividends than firms that have high growth options and low profitability due to these firms investing more in projects and in turn paying fewer dividends to the shareholders (Fama & French, 2001). These results serve as

confirmation that there is a strong positive relationship that exists between the amount of equity that is earned by a firm and probability of that firm paying out dividends.

2.5 DIVIDEND REDUCTIONS

2.5.1 DIVIDEND CUTS AND OMISSIONS

The occurrence of dividend decreases in the context of developed markets have been documented to occur less frequently and are of a much greater scale than dividend increases (Yoon & Starks, 1995; Skinner & Soltes, 2011). Dividend cuts occur when a firm reduces the number of regular dividends it pays out to shareholders and dividend omissions occur when a firm completely stops paying out dividends. The announcements of dividend reductions are noted to be accompanied by more severe market responses than the announcement of a dividend increase (Aharony & Swary, 1980; Yoon & Starks, 1995; Van Eaton, 1999). In most cases, it leads to a sharp decline in the share price as it is usually received as a sign of the firm's financial position by investors.

Dividend omissions often result from poor operating performance when a firm is going through a period of financial distress, or it can simply be part of an effort to conserve cash (DeAngelo & DeAngelo, 1990). Dividend omissions change the characteristics of a firm from a dividend-payer to that of a non-payer, this, in turn, affects how investors view the firm drastically. Dividend cuts and omissions are often viewed negatively by market participants due to factors such as a decline in earnings and losses and other circumstances that often occur before the decision to reduce dividend pay-out (Healy & Palepu, 1988). Often, if a firm reduces dividends, it is seen as an indicator of financial distress and low managerial confidence in the firm's operations (Healy & Palepu, 1988).

Firms can also cut dividends if they have value-adding investments that require the use of cash that would have in turn been paid to shareholders in the form of dividends. Dividends can also be cut due to reasons that are beyond firm specific factors which relate to the current market conditions. Generally, there is a strong reluctance to omit dividends if the firm had been previously paying dividends but firms can be forced to cut dividend when experiencing periods of financial distress (DeAngelo & DeAngelo, 1990). Dividend reductions occur mostly after a period of poor operating

performance; this is often a reflection of the low level of current and expected future earnings of the firm (DeAngelo et al., 1992). It is expected for firms to resume paying dividends in the near future when the firm recovers from periods of poor performance (Benartzi et al., 1997; Grullon et al., 2002). Some studies documented a sizable improvement in earnings shortly after dividend cut announcements even though firms that reduced dividend realised losses in the periods that follow after the reduction in dividends (Lie, 2005).

2.6 EMPIRICAL REVIEW

Lintner (1956) laid the foundation in understanding modern dividend policy. The authors reviewed a sample of 28 listed firms for a seven-year period, from 1947 to 1953. The firms in the sample were found to have various target pay-out ratios and adjustment rates depending on factors such as the pattern of operations and the experience of the company. The amount of change in dividends that would be decided upon was found to be dependent on the relationship between current earnings and the existing dividend rate. This led to the development of the smoothing hypothesis which suggested that the current dividend decision is influenced by previous and current earnings. Dividend conservatism was found to emanate from the market asymmetries that exist between managers and shareholders. Firms target a pay-out ratio since the stability of future earnings was found to be one of the most crucial factors in the pay-out policy. There is a large penalty for decreasing dividends and the current dividend level is taken as it is.

Dielman and Oppenheimer (1984) studied the effect on long term returns by firms that omitted dividend over the period 1969 to 1977 in the U.S. Dividend change announcements such as increases, decreases, and omissions were examined. Firms that reduced their dividends by 25% or omitted their dividends were found to experience abnormal returns of -9.8% and -7.3% respectively around the dividend reduction announcement period. Six months after the dividend reduction announcement, firms that cut dividends were discovered to continue to experience abnormal returns of -3.3% whereas those that omitted dividends experienced positive abnormal returns of 0.8%. Firms that omitted dividends payments within four years of a previous omission were noted to experience insignificant two-day market response. Firms with a more stable dividend history were concluded to have a greater

response to changes in dividend policy. The post-announcement year abnormal returns were estimated at 2.5% for dividend increase firms.

Healey and Palepu (1988) investigated the relationship between earnings changes, dividend initiations, and omissions and what impact that had on the stock price. The dividend initiations sample consisted of 131 firms from 1963 to 1980. The dividend omission sample consisted of 210 firms that omitted dividends and the sample period ranged from 1969 to 1980. The firms in the sample had to have been listed on the New York Stock Exchange (NYSE) or either the American Stock Exchange (AMEX). Following a dividend initiation, firms were found to have permanent earnings increases in the year of the announcement and the two years after the announcement. Firms that omitted dividends experienced a decline in earnings only one year before the dividend date, thereafter the firms' earnings recovered. Some significant earnings increase and decrease were found for at least one year before for dividend initiations and omission announcements respectively. It was found that initiations were associated with positive stock price reactions and the opposite was found for omissions. A correlation was noted to exist between the changes in the firm earnings and the changes in dividend initiations and omissions in the year of and after the dividend announcement resulting in abnormal stock price reactions. These results suggest that dividend initiations and omissions provide valuable information on the firm's future earnings performance. These results confirm that investors interpret the announcement of dividend initiations and omissions as a way of managers forecasting changes in earnings.

DeAngelo and DeAngelo (1990) carried out a study investigating the dividend policy adjustments of 80 financially distressed firms listed on the NYSE which documented the reluctance to change dividends. Managers were found to be keen to reduce or cut dividends than to omit dividend payment all in all. Managers of firms that had a long history of dividend payments were found to be unwilling to reduce dividend payments. According to Pettit, (1972) and Aharony & Swary, (1980), firms that decrease or omit dividends experience huge declines in value. When dividend cuts occur they are found to be less frequent and are generally followed by periods of poor performance (Grullon, et al., 2002; Lie, 2005). In line with the theory of a conservative dividend policy, DeAngelo and DeAngelo (1990) showed that financially distressed NYSE firms were quite reluctant to omit a dividend. Shareholders favour stable dividends and place a premium on dividend payers who did not need to reverse previous dividend payment decisions (Brav et al., 2005). In order to respond to cash shortfalls,

managers were found to reduce the number of investments they could take on as opposed to reducing dividends (Daniel, Denis, and Naveen, 2007).

DeAngelo et al., (1992)'s study on dividends and losses examined a sample of 167 NYSE firms from the industrial sector and 440 NYSE firms which did not experience any losses from 1980 to 1985. The industrial sector firms had to experience at least one annual loss in order to be part of the final sample composition. The authors made use of a control sample and concluded that a loss in earnings was seen as a necessary, but not a sufficient condition to constitute a dividend reduction. The authors identified two types of dividend payers: 1) firms which continuously experienced severe earnings troubles and ended up reducing dividend payments. 2) Firms which experienced once-off earnings troubles and did not reduce their dividend. The results in this study are in support of Modigliani and Miller (1959)'s hypothesis that dividend reductions signal that a firm's future prospects are low. The earnings performance results indicated that dividend reducers experienced a larger initial loss in the year before the announcement of a dividend cut with a mean earning of -16.8% compared to -9.8% for non-reducers (control sample). After the dividend cut event year, non-reducers were seen to recover, whereas firms that reduced dividends reported continuous losses. In the first year, dividend reducers experienced earnings of -6.5% and -1.8% in the second year. A rebound in mean earnings of + 5.3% was reported for non-reducers in the first year and + 3.7% in the second year.

Yoon and Starks (1995) investigated the signalling hypothesis in order to explain the wealth effects associated with changes in dividend announcements. Managers are said to have more firm-specific information than outside investors and they send signals about current or future cash-flows through dividend announcements to the market. The study made use a sample of 3 478 dividend increase and 431 dividend-decrease announcements of NYSE stocks between 1969 and 1988. The study made use of Tobin's *q* as a proxy for the level of investment. They analysed the characteristics between low ($q<1$) and high investment firms ($q>1$) using firm variables such as dividend yield, firm size, the magnitude of the dividend, information asymmetry and signalling theory respectively. The results showed smaller firms had low Tobin q scores and experienced larger dividend changes with higher dividend yields. When determining the relationship between announcement returns and investment opportunities, a large negative share price reaction is found for dividend decrease announcement compared to dividend increase announcement with returns of -3.197% ($q<1$) and -2.689% ($q>1$) for dividend decreases and 0.969% ($q<1$) and 0.350% ($q>1$) for dividend increases.

DeAngelo et al., (1996) argued that firms that decreased earnings due to short term revenue or high depreciation expenses from the high capital expenditure of the firm. They still find no evidence supporting the signalling theory. The authors also find that dividend increases are associated with good prior performance and dividend decreases are associated with poor prior performance. Dividends were not found to signal future performance. Benartzi et al., (1997) conducted a study examining whether changes in dividends signal the past or the future. The study made use of both categorical and regression analysis for a sample of 1025 firms trading on the NYSE and AMEX from 1979 to 1991. Changes in dividends are said to have some informational content to them, meaning managers use this as a signal to indicate future earnings to the market. The authors found little evidence to support that changes in dividends have any informational content regarding future earnings. There was little evidence in support of a positive relationship between dividend changes and future earnings changes two years after the dividend decrease, however, a very strong lagged and contemporaneous correlation between dividend changes and earnings was noted. It can be concluded that the only strong predictive power that dividend cuts have is reliably signalling future earnings increases.

Van Eaton (1999) estimated abnormal returns for a three year period around changes in dividends for NYSE and AMEX firms around 1971 to 1990. Found evidence on the pattern of stock price adjustment to the information contained in dividend change announcements. The study reports the greatest magnitude of the price reaction at the time of the announcement of the dividend change for firms that announcing dividend decreases and omissions. Dividend decrease and dividend omission firms were found to experience average abnormal returns of approximately -11% and -17% over the post-announcement year. On the contrary, no significant abnormal returns were noted the year after the announcement of the dividend change for firms that increased or resumed paying dividends. These results confirm that dividend cut and omissions are accompanied by negative price reaction.

Bessler and Nohel (2000) studied the effects of dividend cuts and omissions on the stock market by commercial banks in the United States of America (U.S.A). A sample of 434 well-established dividend-paying firms that omitted regular dividends between 1963 and 2004 was utilised. Factors such as poor operating performance, poor financial flexibility, high investment, and increased risk were noted as reasons why firms omitted dividend. An increase in leverage was noted in the years prior to the dividend omission and remained high years after the omission announcement whereas the

amount of free cash flow that the banks had declined towards the dividend omission announcement and recovered thereafter. The return on assets and sales growth were found to improve gradually right after the omission. Firms that omitted dividends were found to suffer a decline in operating performance which resulted in severe financial constraints, this was indicated by an increase in leverage and a decline in the cash levels. After the omission, firms replenished their cash holdings but continued to have very high, above-industry leverage. 25% of the firms that omitted dividends were found resume dividend payment within three years from the dividend omission announcement due to an improvement in the firms operating performance. Dividend omission was found to be beneficial to firms that resumed paying dividends after the omission as it allowed them to pursue valuable investment opportunities while improving financial flexibility (Bessler & Nohel, 2000).

Nissim and Ziv (2001) conducted their study on dividend changes and profitability by using a sample that consisted of dividend increases, dividend decreases and no change observations for firms listed on the AMEX and NYSE between 1963 and 1998. Their study followed that of Benartzi et al., (1997) but altered the linearity of earnings assumption that Benartzi et al., (1997) used. For at least two years following the dividend announcement, there was a positive relationship noted between the changes in dividends and the future earnings changes. This is inconstant with results from Benartzi et al., (1997). For at least four years after the dividend announcement, changes in future profitability were reported for dividend increases, no relationship was noted to exist for dividend decreases and future profitability (Nissim & Ziv, 2001).

Fama and French (2001)'s study was based on the idea of disappearing dividend payers in the United States stock markets. The study determined whether the change in dividend payments was due to dividend payers having reduced the propensity to pay dividends or whether the characteristics of dividend payers were becoming less prominent in the U.S market (Fama & French, 2001). Fama and French (2001) tested their hypothesis by constructing a sample of dividend payers between 1926 to 1999 on the NYSE and AMEX. The number of dividend payers was found to decrease by over 50%. Fama and French (2001) found that only 20.8% of firms in 1999 paid dividends compared to 68% of firms which paid dividends in 1978, showing a decline in dividend payments. The decline in dividend payments was attributed to fewer firms being characterised by the features highlighted for dividend payers, whilst more firms were characterised as non-payers. More public firms showed characteristics

of firms that have historically not paid dividends and there was a decline in the propensity to pay dividends by firms whose characteristics would have historically led them to pay dividends.

Grullon et al., (2002) studied the relationship between the changes in dividends and maturity of the firm. This study was inspired by that of Fama and French (2001). The authors constructed a sample of dividend announcements from the NYSE and AMEX over the period 1967 to 1993. There was no evidence found to be in support of the signalling hypothesis of dividends. The study's results seem to confirm Jensen (1986)'s free cash flow hypothesis but since it does not fully explain the study's findings, the authors introduced the maturity hypothesis which suggests that dividends paid are an indication of where a firm is in its growth phase. A firm at growth phase is characterised by NVP projects that are positive, earns large economic profits whilst also having high capital expenditures and low free cash flow leading to a decrease in dividend payments. When a firm moves from a growth phase to a maturity phase, the opposite is the case, increased dividend payments help to reduce the agency problems that arise due to the firm having too much excess free cash flows. Dividend changes were found to be linked with changes in equity risk, an annual risk premium was found to increase by about 2%.

Nissim (2004) studied the informational content of the dividend decreases that occurred during the years 1982 through 2003. The study examined the effect of the dividend decrease announcement for dividend decreasing firms and firms that paid dividends. Dividend cut announcements were found to trigger a negative market response, which is consistent with Grullon et al., (2002). Dividend decrease announcements were associated with negative unexpected earnings for both dividend decreasing firms and those that did not decrease dividends. Firms that reduced their dividends were found to experience negative earnings per share (EPS) of -4.83% in year 0 and -5.89% in year 1. Firms that did not cut dividends were found to experience earnings of - 0.75% in year 0 and -3.03% in year 1. The negative reaction was found to be smaller for dividend decrease firms compared to dividend-paying firms. Nissim (2004) goes on further to test for market reaction to dividend cut announcement through the use of the Fama and French (1993) three-factor model. Dividend decrease firms were found to experience a cumulative abnormal return (CAR) of -14% by day -2 and a three days announcement return of –3.2%. Overall, dividend decrease announcements were found to convey earnings information to the market.

Brav et al., (2005) conducted a qualitative study to test for the signalling and the informational content hypothesis. The authors shadowed Lintner (1956)'s research who originally documented the conservative nature of dividends and the extreme managerial reluctance to cut dividends. Brav et al., (2005) conducted a survey and interviewed a total of 384 CFO's and managers to determine what drives dividend policy and repurchases. Both studies documented a conservative approach for dividend policy found regardless of the differences in times when the studies were conducted. Reducing dividends was regarded as a "last resort" solution and it is acceptable if and only if a firm is going through periods of extreme financial difficulties or if there is a positive net present value opportunity that requires funding (Brav et al., 2005). Managers want to maintain existing levels of dividends to avoid the market punishing them and they are also constrained by their historic payout policy. Majority of the responses from the interview were mostly around there being negative consequences associated with reducing a firm's dividend, even if a plausible explanation is communicated to the market and hence the need to try and not reduce dividends. Brav et al., (2005) similar to Lintner (1956) found that a firm's payout policy is still very conservative as managers strive to preserve existing levels of dividends and avoid cutting dividends by any means necessary, except when they are faced with extreme circumstances. The stability of future earnings was reported to be a trivial factor in the dividend payout decision by 65 % of the managers who completed the survey. The results in this study, however, do not show a strict pay-out ratio targeting compared to those by Lintner (1956).

Li and Lie (2005) conducted a study in the U.S on both dividend increases and decreases using a sample period from 1963 to 2000. The sample considered a total of 1 815 dividend decreases and 18 964 dividend increases. A high possibility for firms to increase their dividends was noted if they were large and profitable and had low levels of previous debt, cash, market to book ratio and dividend yield. The opposite is noted for firms that have poor operating income, low cash balances, and a low market-to-book ratio. Investors considered both the payment of dividends and the size of the payment to be important, regardless of the role that profitability played in the decision. For dividend increasing firms, the market-to-book ratio represents growth opportunities and firms with fewer investment opportunities in the future require fewer funds for investment and therefore can increase dividend payments. The market-to-book ratio for dividend decreasing firms measures past and expected future performance and whenever there are poor performances firms will reduce their dividend payment.

Lie (2005) conducted a study on the operating performance of firms following dividend decrease and omission announcements. The sample period varied between 1980 and 1998. The authors found that the announcements of a dividend reduction (decrease and omission) were associated with a negative stock price reaction. It is hypothesised that a negative stock price reaction is often linked with a decrease in the firm's future prospects. The mean (median) abnormal stock returns reported for the 3-day announcement period (day -1 through +1) are -3%(-2.9%) for firms that decreased dividends and -5.7% (-4.5%) for firms that omitted dividends. The results in this study suggest that dividend decreases and omissions are viewed unfavourably by the market. Lie (2005) tested the effect of dividend decrease and omission on the firms operating performance. Firms that decreased and omitted dividends were found to experience a decline in operating performance in the quarter prior and post the dividend announcement when matched with industry peers. Dividend omissions and cuts are found to signal unfavourable information about current earnings but no evidence was found on dividend decreases or omissions signalling unfavourable after the announcement period.

Grullon et al., (2005) published a paper, "Dividend changes do not signal changes in future profitability" as a response to Nissim and Ziv (2001)'s paper which suggested that dividend changes signify future profitability. The sample construction consisted of 2 778 firms listed on the NYSE and the AMEX over the period from 1963 to 1997. This sample equated to 14 235 dividend increase, 974 dividend decrease, and 23 334 no change dividend event observations. Dividend cuts were the least common dividend change events but the size of the reductions was more severe in magnitude when compared to the other dividend changes. Dividend increases were more common but generally announced by larger firms which had been more profitable than other firms in the years before the reduction. Grullon et al., (2005) concluded that dividend changes were not correlated to future earnings and they did not add any explanatory value in models designed to forecast earnings changes. This result remained the same even after controlling for nonlinearities in the earnings process.

DeAngelo, DeAngelo, and Skinner (2009) found firm managers to be reluctant to cut cash dividends. The study documented a strong reluctance to cut regular cash dividends. Managers avoid having to cut dividends unless they were faced with extreme situations because of the negative market reaction associated with dividend cuts. These results are consistent with Healy and Palepu (1988); DeAngelo and DeAngelo (1990); DeAngelo et al., (1992) who found that dividend reductions result in negative firm valuation. Studies by Pettit (1972), Charest (1978), Aharony and Swary (1980), Benartzi et al.,

(1997), Nissim and Ziv (2001), Grullon et al., (2002) found that the market does not view dividend cuts positively. During a two to three day period around the dividend decrease announcement, a price decline of approximately 3.0% was found. The study confirms that a dividend omission or cut is a last resort solution that helps the firm to survive periods of financial distress.

Jensen et al., (2010) conducted a study on what dividend reductions signal. The authors constructed a sample which included dividend decreases firms on the NYSE, AMEX, and (National Association of Securities Dealers Automated Quotation System) NASDAQ from 1967 to 2006. Investors were found to view dividend reductions negatively. The authors examined financial characteristics such as the firms' share price returns, return on assets, market to book ratios, expenditure on fixed assets, expenditure on research and development and level of employees as factors that can affect the dividend decision. The authors found that abnormal returns surrounding the dividend announcement were large, negative and statistically significant. They suggested that investors reacted negatively to the dividend-decrease announcement because it signalled the expiration of growth options and not because of the reduced absolute value of the dividend payment (Jensen et al., 2010).

Dividend decreases were found to be attributable to reduced funding for growth opportunities. Dividend reductions did not appear to decrease the growth prospects for firms that started with a period of relatively poor prospects. The greatest decline in the market to book ratio was suffered the most by firms that started off that had high investment opportunities before the dividend cut. Focusing on the impact of operating performance and the decision to decrease dividends, dividend decreases were found to mostly occur when the ROA figures were extremely low and mostly negative. Looking at changes in capital expenditures, the number of employees, expenditure on fixed assets, and research and development, it is found that firms that reduced dividends experienced a rebound in earnings and this is inconsistent with the traditional signalling theory (Jensen et al., 2010).

Bulan (2010) study revisited the issue of why firms cut regular cash dividends in the U.S. The study was inspired by the notion that managers reduce dividends when there are apparent signs of poor performance. The author only looked at non-financial and non-utility firms that paid regular cash dividends between the sample periods of 1965 to 2004. There were three main important findings to note in the study: 1) the market reaction to dividend cut announcements were found to be proportional

to the element of surprise, for firms with fewer signs of poor operating performance, the dividend cut announcement was accompanied by a more negative market reaction. The opposite was found for firms with more prolonged periods of operating performance. 2) Firms were found to cite poor performance as a way to justify cutting a dividend.3) Under normal circumstances, firms tend to cut dividends a response to poor performance and this is consistent with previous studies that found that firms cut dividends as a last resort solution, some firms, however, were found to cut their dividend pro-actively even without signs of poor performance as a way to preserve a low leverage ratio.

Stepanyan (2011) investigated if managers cut dividends because they have to. The sample of firms listed on the NYSE, AMEX, and NASDAQ that decreased dividends from 1965 to 2004. The depletion of excess cash flow and the ability to issue safe debt were found to contribute to dividend reductions, preventing the firm from paying out dividends to its shareholders. Dividend cutting firms were found to be small firms with per share, low profitability, higher market-to-book ratios, high levels of lagged dividends per share, more volatile cash flows, lower cash balances, and higher debt-to-assets ratios compared to firms that did not cut dividends. Dividend cutting firms were found to report higher losses and were had a greater risk of going through financial distress than firms that did not cut dividends. After the emergence of share repurchases in the mid-1980s, the magnitude of dividend cuts has grown larger during the last two decades. Managers were found to reduce dividends as a means to try and restore their firm's financial flexibility.

A study by Che, Liebenberg, Liebenberg, and Morris (2018) examined the effect of dividend cuts on the market and how it affects a firm's growth opportunities. The sample consisted of 145 dividend cuts announced during the recessionary period of 2007 to 2009. The authors found negative average abnormal returns around the announcement day. Strong support for the growth opportunities hypothesis was found, firms with high growth opportunities were found to benefit from a dividend cut during a financial crisis. These results are consistent with those by Jensen et al., (2010) who found that firms benefited by letting growth options expire. High growth firms were found to experience a bigger reaction to the dividend cut announcement. Dividend cuts were more unexpected for firms with high profitability and therefore should have a stronger negative impact on stock returns. Firms with high growth opportunities experienced higher abnormal returns and were more likely to resume the dividend payment within five years of the dividend cut. Firms that resumed their dividends had

significantly higher long-term returns than those that never resumed paying dividends (Che et al., 2018).

2.7 EVIDENCE FROM OUTSIDE THE UNITED STATES OF AMERICA (U.S.A)

2.7.1 UNITED KINGDOM (U.K)

Gunasekarage and Power (2002) examined the long-run financial and return performance based on financial ratios of UK firms. The firms were grouped according to whether they changed their dividends and earnings. Their study's analysis ranged from five years before to five years after the announcement of dividend news. During the time of the announcements, share returns were found to be positive when companies had increased dividends and earnings. The opposite was found to be true for dividend reductions. Dividend news was not found to act as a signal of long-term future company performance.

Benito and young (2003) conducted a study on the effects of dividend omissions and dividend cuts by UK firms. The sample contained data for all non-financial companies that failed, delisted or merged for the period between 1974 and 1999. The authors examined dividend omissions and cuts as functions of financial characteristics such as cash flow, leverage, investment opportunities, investment, and firm size. Firms that did not pay dividends were found to be somewhat less profitable, had higher levels of interest payments relative to profits, were more indebted, had lower levels of investment and were also smaller companies than firms that paid dividends. Companies that have never paid a dividend were also found to be relatively unprofitable, experienced a relatively high burden of interest payments relative to profits, but have higher investment opportunities and are also smaller in size. Controlling for other characteristics, larger companies were found to be less likely to omit a dividend payment than smaller companies. This is consistent with the idea that signalling issues were more important for larger firms. Overall, it is found that there are a large fraction of quoted UK companies that omit cash dividends.

Balachandran (2003) conducted a study on the price reaction due to interim and final dividend reductions in the UK for the period between January 1989 and December 2000. The total sample was made up of 521 dividend reductions were 239 companies reduced their interim dividend per share and 282 companies reduced their final dividend per share. The price reactions were all found to be negative and statistically significant at the 1% level for the event windows from day −12 to day 0, day −1 to day 0, day −1 to day 1, day 0, day −1 to day 3 and day −1 to day 5. The magnitude of the price reactions for interim dividend reductions is −7.8% and −3.6% for final dividend reductions for the announcement period from day −1 to day 0, −10.6% for interim dividend reductions and −3.7% for final dividend reductions for the announcement period from day −12 to day 0. There were no significant post-announcement effects found for interim dividend reductions. The price reaction for interim dividend reductions was significantly stronger than that of final dividend reductions for all the dividend reduction groups except for the group with less than 40% reduction. Interim dividend reductions led to a stronger price reaction than final dividend reductions and the market was found to react more negatively to dividend reduction at the interim stage than at the final stage.

Ap Gwilyn, Seaton, and Thomas (2004) conducted a study on dividend cuts on firms in the United Kingdom. It is found that firms making losses were more likely to reduce dividends compared to firms that remain profitable. A lower propensity to reduce dividends was found in the UK relative to the U.S, less than one-third of firms reduced dividends in the initial loss year. This is consistent with Ferris, Sen, and Yui (2006) where UK payout practices are inconsistent with a reduced propensity to pay dividends. Firms with higher levels of debt were found to increase the likelihood of a reduction whilst also suppressing profitability in future years. Benito and Young (2003) also described that higher leverage is associated with dividend reduction and omission. The authors also found a rebound in earnings after a loss for dividend reducing firms which is consistent with Healy and Palepu (1988).

Ferris, Sen, and Yui (2006) examined whether the decline in the number of dividend payers is purely a U.S. phenomenon and whether it applied in the U.K. This study was a response to Fama and French (2001)'s study on disappearing dividends. The data analysis ranged from 1988 through 2002. The number of U.K. firms that paid dividends was found to decline from 75.9% to 54.5%. They also found a declining propensity to pay dividends over the 1998–2002 sub-period after controlling for factors such as size and profitability. The decline in the percentage of dividend payers in the U.K was not as great as that reported for the U.S.

2.7.2 EVIDENCE FROM OTHER MARKETS

Ho and Wu (2001) conducted a study in Singapore on The Earnings Information Content of Dividend Initiations and Omissions examining the relationship between unexpected dividend changes and the subsequent earnings performance of dividend initiating and omitting firms. The sample covered a period of 1964 to 1995. For dividend initiating firms the authors found no significant earnings increases after the dividend initiation. This is contrary to Healy and Palepu (1988)'s finding that earnings changes remain significantly positive for at least two years after a dividend initiation. For dividend omitting firms, the mean earnings changes three years before the dividend omission announcement were all negative and statistically significant. The mean earnings change in year t (includes the earnings in the quarter of the dividend announcement and three quarterly earnings after the dividend announcement) was found to also be negative and significant. These results are similar to Healy and Palepu (1988) but the earnings reversal is less persistent. Healy and Palepu (1988) found earnings to be positive for three consecutive years after the dividend omission, whereas Ho and Wu (2001) found earnings to be positive for two years.

Balachandran, Krishnamurti, and Vidanapathirana (2007) examined the stock price reactions to interim and final dividend reductions in Australia. The authors identified 269 dividend reductions 125 interim dividend reductions (75 cuts and 50 omissions) and 144 final dividend reductions (110 cuts and 34 omissions) for the period of January 1995 and December 2006. The final sample consisted of only initial dividend reductions announcements and not subsequent ones since the initial reduction announcements are not anticipated and are likely to evoke a stronger stock price reaction. The market was found to react more negatively to interim dividend reductions than final dividend reductions suggesting that market participants anticipated deterioration in the profitability of firms that announced interim dividend reductions. The size of the dividend reduction was found to depend on factors such as the idiosyncratic risk of the firm, the size of the firm, the firm's profitability from the previous year and changes in the profitability. The findings indicate that firms that omit dividends faced an urgency in conserving cash due to their lower profitability and tend to be more vulnerable due to their smaller size and higher risk.

Mollah, Bhuyan, and Sharp (2007) studied the price reaction to dividend initiation and omission in Bangladesh. The sample consisted of all firms listed on the Dhaka Stock Exchange between the periods of 1988-2003. Overall, the empirical results failed to reject the announcement effect hypothesis that the security returns in the Bangladesh stock market decreased after dividend initiations, omissions, and dividend maintenance in the pre-crisis sample. For the post-crisis sample, security returns were found to increase for dividend initiations and maintenance but decreased in dividend omissions. The dividend announcement in Bangladesh was found to be ineffective in conveying new information to the market.

2.7.3 EVIDENCE FROM SOUTH AFRICA (S.A)

Firer, Gilbert, and Maytham (2008) examined the dividend policy in South Africa. The study utilised a questionnaire based on that utilised by Brav et al., (2005). It was found that managers would rather raise external funds to undertake profitable investments than to reduce dividends, confirming that dividend reductions send of a negative signal to the market. South African managers view paying dividends as a preferred method of returning cash to shareholders. Dividend policy in S.A is still conservative and managers avoid reducing the dividend per share paid out to investors. Managers would rather maintain a consistent dividend pay-out policy. This studies results are in line with Lintner (1956) and Brav et al., (2005) were managers target a pay-out ratio and are reluctant to cut dividends as this conveys some information to the market. Managers are found to only increase dividends once management is confident that earnings increases are permanent.

Wolff and Auret (2009) investigated whether dividend changes signalled future earnings in South Africa. They used a sample of 107 firms and 749 firm years on JSE traded firms over the sample period of 2000 to 2007. The authors performed a categorical analysis following Benartzi et al., (1997), and regression analysis, as done by Nissim and Ziv (2001) in order to analyse the relationship between dividends and unexpected future earnings. Following Benatzi et al., (1997), using categorical analysis, the authors found no evidence dividends signalling earnings in year 1 and 2. The regression analysis results were similar to those from the categorical analysis since the authors did not find evidence of dividends signalling earnings in year 1 and 2 (Wolff & Auret, 2009).

2.8 METHODOLOGIES FOR DIVIDEND STUDIES

The relationship between a firm's dividend announcement and earnings information can be determined using various approaches. There are various methodologies that are utilized in dividend studies, amongst a few are: regression analysis is a statistical technique that tests the relationship amongst different variables (dependent and independent variables). Healy and Palepu (1988) ran a regression analysis to test the earnings information conveyed by dividend cuts and omissions and found that investors interpret the dividend announcements as a forecast of future earnings by the firm's management.

A categorical analysis is a non-parametric method used to analyse qualitative data in order to enable one to make inferences about two or more distributions (Benatzi et al., 1997). In South Africa, Wolff and Auret (2009) used two methodologies in order to investigate the relationship between dividend changes and future earnings in South Africa. The authors performed a regression analysis, as performed by Nissim and Ziv (2001) and a categorical analysis aligned to that of Benartzi et al., (1997). Wolff and Auret (2009) found a strong relationship between dividend changes and present earnings changes but there was no significant evidence of signalling with respect to earnings in years one and two for both categorical and regression analysis (Wolff & Auret, 2009). Other authors who used regression analysis in dividend studies are DeAngelo et al., (1996), Hu and Wo (2001) and Grullon et al., (2005) amongst others.

Panel data is used in most dividend studies allowing for the observation of numerous variables over multiple periods. The advantage of panel data is that it gives many data points, reducing the collinearity amongst the explanatory variables (Hsiao, 2014). A German study by Andres, Betzer, Van den Bongard, Haesner and Theissen (2013) made use of panel data to see the share price reaction to dividend announcements. Khan (2006) also made use of panel data to analyse whether there was any systematic relationship between dividends and the characteristics of a firm's ownership and found a strong linear relationship between ownership concentration and dividends.

An event study looks at the changes in the stock prices abnormal return over a period of time or event window. Event studies test the effect of a corporate announcement of the share price (Brown and Warner, 1980, Petit 1972, Aharony and Swary, 1980). Several authors who conducted event studies are Fama, Fisher, Jensen, and Roll (1969) for stock splits, Brown and Warner (1980) for short-term performance studies, Loughran and Ritter (1995) for long-term performance study amongst others. An event study is the most considered methodology in testing for abnormal performance in dividend cut studies.

The control firm approach is one methodology used for testing long run event studies. The control firm approach is used to determine abnormal operating performance and stock returns (Barber & Lyon, 1996). A control firm approach allows one to identify abnormal behaviour in an underlying variable through a comparison of the behaviour of a benchmark sample (DeAngelo et al., 1992). Ho and Wu (2001)'s study on the information content of dividend initiation and omissions made use of the control firm approach and found that for dividend omitting firms, the mean earnings changes for the three years before the announcement were all found to be negative and statistically significant; they, however, found earnings to turn positive three years after the omission. Jensen et al., (2010) made use of both an event study and the control firm approach for firms that paid a quarterly dividend using data from the NYSE, AMEX or NASDAQ. Firms were required to have traded on the NYSE for five consecutive years to have an established dividend. In classifying whether a firm had an established dividend payment, Jensen et al., (2010) required a pre-drop consecutive dividend payment history of five years, which is consistent with Denis and Stepanyan (2009).

2.9 SUMMARY

This chapter has focused on the theory of dividend reductions. The discussion commenced with dividend policy and the dividend irrelevance theory which was found to not be realistic due to its strict assumptions. The empirical results on the dividend signalling theory gave conflicting results as to what dividend changes signal. There is mixed empirical support for the signalling explanation of dividends. Aharony and Swary (1980), Asquith and Mullins (1983), Brickley (1983), and Michaely et al., (1995) documented significant abnormal returns after the announcement of unexpected dividend changes. Benatzi et al., (1997), Nissim and Ziv (2001) and Grullon et al., (2005) found no

support for the signalling theory of dividends. Pettit (1972, 1976), Aharony and Swary (1980), Benesh et al., (1984) and Dhillon and Johnson (1994) found strong support for dividend change announcements sending information to the market.

Modigliani and Miller (1959) and Miller and Modigliani (1961) hypothesized that dividend reductions convey negative information about future earnings prospects. Healy and Palepu (1988); DeAngelo and DeAngelo (1990) and DeAngelo et al., (1992); Pettit, (1972) and Aharony & Swary, (1980) found dividend reductions to be interpreted as a signal of poor performance and a lack of managerial confidence in the firm resulting in a negative firm valuation. Various studies confirmed that dividend reductions are last resort solution as the market views dividend cuts negatively. The main factors that affect dividend cuts such as size, market to book ratio, ROA, profitability, cash flow, and growth options were also discussed. The study also documented empirical evidence on dividend cuts and omission for both emerging and emerged markets. The next chapter discusses the methodology, data sample criteria and the statistical tools and methods that are utilized to understand the effect of dividend cuts and omission on firm value.

3. DATA AND SAMPLE FORMATION

3.1 INTRODUCTION

The study aims to employ an event study and the control firm approach similar to that of Jensen et al., (2010) in order to test the effect of dividend cuts and omissions on the share price. There is not a wide agreement on how many operating years are required to constitute an established dividend payment. For example Jensen et al., (2010) required a pre-drop consecutive dividend payment history of five years, Charest (1978) required two years, Michaely et al., (1995) required six quarters, DeAngelo and DeAngelo (1990) required three or more net or operating losses after a single year of positive dividend and earnings, Yoon and Starks (1995) required no history of dividend payments prior to the drop, Benartzi et al., (1997) required only one year of positive quarterly dividends before the drop.

Following closely to Jensen et al., (2010) the study will utilise firms with a positive five year, non-decreasing pre-drop dividend payment history. The sample will comprise of firms that reduce dividends by 20% or more regular dividends and this is in line with what Jensen et al., (2010) used. The study will test for abnormal returns for the (T_{-1}, T_0, T_{+1}) event period. T_0 refers to the day that corresponds with the dividend decrease or omission announcement whereas T_{-1} and T_{+1} is the day before and the day after the announcement respectively. The study will also test for the relationship between dividend reductions and a firm's perceived growth options, dividend reductions, and the firms operating performance and the relationship between dividend reductions and letting growth options expire.

3.2 DATA SAMPLE SELECTION CRITERIA

The sample comprises of firms listed on the Johannesburg Stock Exchange (JSE) over a 20-year period which cut or omitted a dividend payment. The study also makes use of delisted firms on the JSE to account for survivorship bias. Firms listed on the JSE are subject to three main forms of dividend announcements which are, interim, preliminary and final dividend announcements. This study makes use of firms that paid final dividends. The study will include both annual and semi-annual final dividend payers so to have a large sample size. Firms were included in the data sample regardless of their year-end or time interval as specifying these criteria would have led to a small

sample size, this is inconsistent with Benartzi et al., (1997) who stipulated that firms had to pay dividends at a specific interval to be part of the sample.

The time of this study runs for 20 years (starting from 01/01/1996 to 31/12/2016). The IRESS Research Domain (formerly McGregor BFA) and Bloomberg are used to source data that the study utilised. The study will look at dividend payers with a five-year payment record to fulfil the established dividend criteria but will analyse firms that suffered cut or omission over a (year -3,0,3) event window, like that of Jensen et al., (2010). The dividend data will be analysed from 1996 to 2013 for South African firms since the study looks at performance three years before and three years after the dividend cut and omission event. The sample period is wide enough to cover various market cycles such as the 1998 Asian financial crisis, the 2002 global recession, the 2008 global financial crisis as well as post the crisis period.[1]

The formation of the dividend decrease sample is as follows:

1. The firm had to have traded on the main board of the JSE.
2. A firm must pay a positive, non-decreasing dividend for a minimum of five years to ensure that the firm has an established dividend.
3. A firm had to have a dividend decrease of at least 20% or more in the event year (includes both cuts and omission).
4. The sample includes firms that pay yearly and semi-annual final ordinary dividends.
5. All utilities and real estate investment trusts were excluded from the sample
6. All financial firms were excluded from the sample
7. A firm had to cut or omit dividends at least once during the observation period.

[1] Li and Lie (2005) stated that using a small sample size would impair the statistical power so this study used a larger sample period to mitigate such problems. The use of a longer time frame helps mitigate the risks associated with using a small sample (Wolff & Auret, 2009). Studies by Ap Gwilym et al., (2004), Grullon et al., (2005), Nissim and Ziv (2001) and Li and Lie (2005) all excluded financial firms due to them being highly levered and having a lot of regulatory issues which may distort results. Stepanyan (2011) also excluded utilities and financial firms since they are more highly regulated, the author made use of industrials to increase homogeneity due to a greater diversity of pay-out policies within the group. Bulan and Subramanian (2008) also made use of non-financial and non-utility firms that paid regular dividends to test why firms omitted dividends. Jensen et al., (2010) also excluded utility firms in their sample; this is consistent with the previous literature. Benartzi et al., (1997) and Jensen et al., (2010) however included financial firms in their study. Due to the above studies excluding financials and utilities, this study similarly excluded financials and utilities from the final sample composition. The study will include reductions of 20% or more in regular annual and semi-annual dividends instead of a quarterly dividend.

The formation of the control (peer) firm sample is as follows:

1. The peer firm must be in the same industry factor as the dividend decrease firm;
2. The peer firm had to be of comparable size to the dividend decrease firm, that is, it should have a similar level of book value of total assets as the dividend decrease firm.
3. The peer firm should not decrease dividends during the event year.

The initial sample of both dividend decrease and control firms consisted of a total of 509 observations, this includes listed and delisted firms across eight industry groups. The industry sectors were: oil and gas (6), telecommunications (9), health care (16), technology (43), consumer goods (55), consumer services (91), Industrials (91) and basic materials (163). Following Jensen et al., (2010) sample composition outlined above, the oil and gas industry sector did not make a feature into the final sample composition since a control firm could not be found. Furthermore, if firms did not meet the criteria of cutting 20% or more of their dividends, this led to further firms being cut out of the final sample composition resulting in the final sample of 73 decrease firms and 21 control firms, totalling 94 observations for the analysis. The overall break down of the dividend reduction sample across the years of observation is as follows: six firms reduced dividends in 2001, zero in 2002, two in 2003, four in 2004, four in 2005, twelve in 2006, six in 2007, seven in 2008, six in 2009, two in 2010, three in 2011, six in 2012, four in 2013, two in 2014, three in 2015 and four in 2016.

Table 2: Sample composition

Selection criteria	**Number of firms**
Dividend decrease sample	73
Control(benchmark) firm sample	21
Total number of firms for analysis	94

Table 1 shows the final sample composition used in the analysis of the study. The dividend decrease sample is made up of 73 firms. The control firm sample is constituted of 21 firms in the sample.

Table 2: Industry sector distribution

Sector	No of firms	Percentage of firms
Health Care	2	2.13 %
Telecommunications	3	3.19 %
Technology	7	7.45 %
Consumer goods	15	15.96 %
Basic Materials	15	15.96 %
Industrials	24	25.53 %
Consumer Services	28	29.79 %
Total	**94**	**100 %**

Table 2 shows the breakdown of the different industry classes used for analysis. It is found that the consumer services sector ranked the highest with 29.79% of the firms forming part of the sample followed by industrial firms at 25.53%. Basic material and consumer goods both contribute 15.96 % each. The remaining 12.77% is distributed amongst health care, telecommunications, and the technology sector.

Figure 1: Industry sector illustration

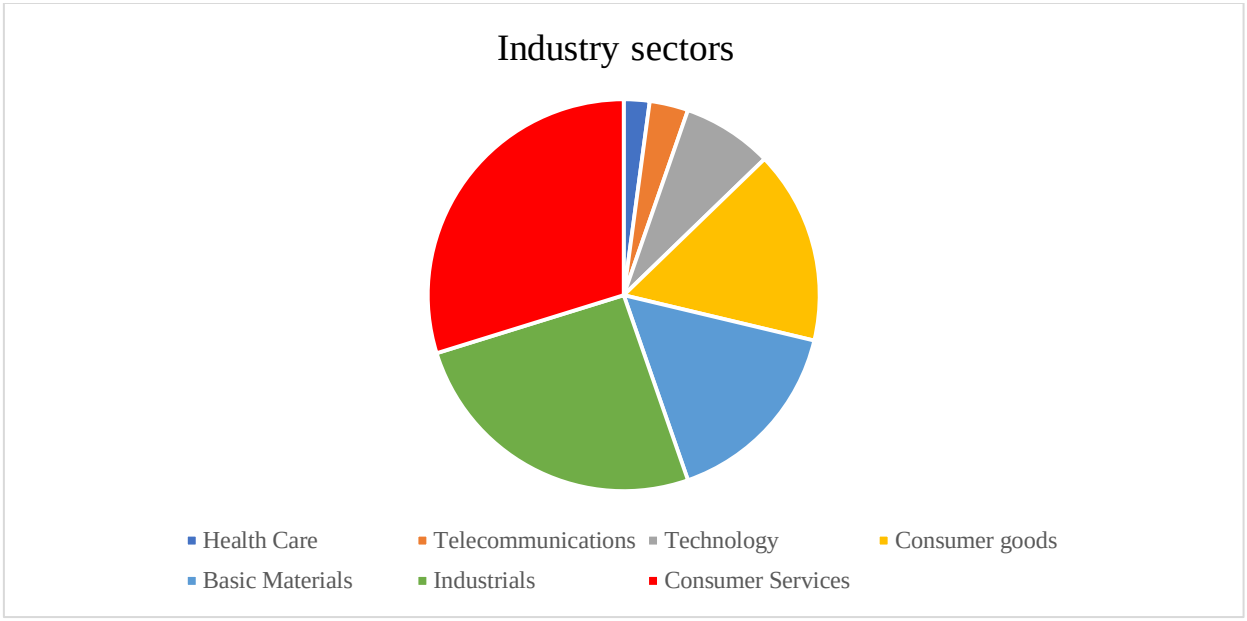

Figure 1 depicts a graphical illustration of the various industry sector classifications that formed part of the final sample composition. The consumer services industry takes a huge chunk of the sample composition whereas health care has the least firms in the sample.

Figure 2: Dividend reduction across years

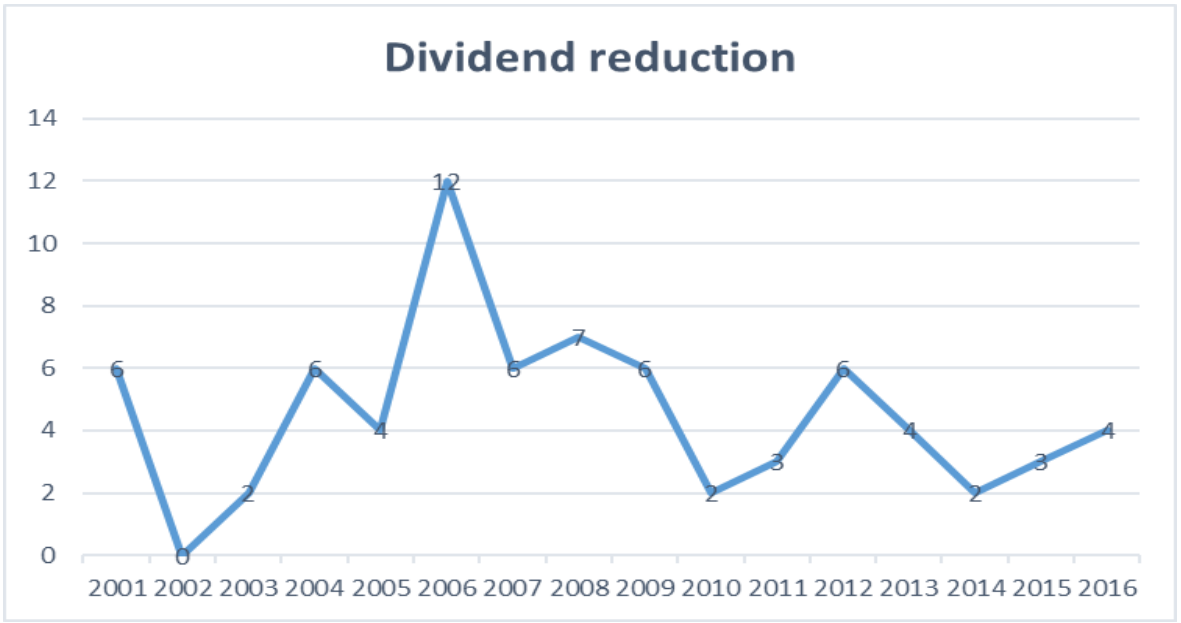

Figure 2 is a graphical representation of the number of firms that cut dividends across the analysis period of 2001 all the way through to 2016. The highest number of cuts occurred in 2006 followed by seven cuts in 2008. In the year 2000, there were no cuts reported. The lowest recorded number of cuts occurred were found to occur in 2003, 2010 and 2014. The next section of this study breaks down the methodology used in the analysis.

4. METHODOLOGY

4.1 EVENT STUDY

The firm's abnormal performance will be measured using the following steps: The steps to conducting an event study as documented by Kothari and Warner (2006) are as follows, one needs to first define the event, in this study the corporate event that is examined is all dividend cuts of 20% or more and how that affects the share price. The next step is to identify the sample period (chosen previously). An optimal sample period is one that is large enough to show as many events as possible. The next step is to define the event date; this refers to the first trading day at which the dividend reduction was announced.

The next step is to define the event window, this study will use a three-day event window for estimating abnormal returns similar to that of Jensen et al., (2010). The next step is to collect event data, this must meet the data selection criteria which was defined previously. This is proceeded by determining the estimation method for the expected return calculation for the period. The next step is calculating the abnormal return (actual returns that occurred because of the dividend reduction minus the returns that would have occurred without the dividend reduction) over the estimation window. The next step is calculating the average abnormal returns (AAR) and the cumulative abnormal returns (CARS) for the test statistic. The ultimate step is determining the statistical significance of the average abnormal returns (AARS) and cumulative abnormal returns (CARS).

4.1.1 ESTIMATING ABNORMAL RETURNS

Convert prices to returns for both the dividend cut and omission sample and the peer (control) firm sample for the (days -1, 0, and +1) announcement period using:

$$R_{it} = ln\frac{p_t}{p_{t-1}} \quad (3)$$

Where:

R_{it} = the normal return of security *i* at time *t*

pt = the closing price on the day of investigation

$pt - 1$= the closing price of the previous day

4.1.2 CALCULATING ABNORMAL RETURNS

Abnormal returns are calculated as the return (R_{it}) minus the benchmark, which is the normal return (NR_{it}) and is denoted by:

$$AR_{it} = R_{it} - NR_{it} \quad (4)$$

Where:

R_{it} = actual returns that occurred because of the dividend reduction (return on reduction sample)

NR_{it} = the returns that would have occurred without the dividend reduction (return on control sample)

4.1.3 CALCULATING THE AVERAGE ABNORMAL RETURN

The average abnormal returns were calculated by summing the peer sample and the dividend decrease sample and taking the average.

$$AAR_{it} = \frac{1}{N}\sum_{t=1}^{N} AR_{it} \quad (5)$$

Where:

N= the number of events in the sample

$\sum_{t=1}^{N} AR_{it}$= is the sum of all abnormal returns of *i* at time *t*

4.1.4 CALCULATING THE CUMULATIVE ABNORMAL RETURN

The cumulative abnormal return is the sum of all abnormal return and it is denoted as:

$$CAR_i = \sum_{t=t_1}^{t_2} AR_{it} \quad (6)$$

The cumulative abnormal return was calculated by summing the abnormal returns over the announcement window (-1, 0, 1)

4.1.5 DETERMINING THE STATISTICAL SIGNIFICANCE OF THE AAR AND CAR

To test for the statistical difference between the dividend decrease sample and the control firm sample, the t-test has to be run. The two-sided t-test is used to see if there is any statistically significant difference between the dividend decrease sample and the control firm sample.

4.2 RELATIONSHIP BETWEEN DIVIDED REDUCTION AND FIRM VARIABLES

4.2.1 PERCEIVED GROWTH OPTIONS

The study will also test the relationship between dividend reductions and perceived growth opportunity. The M/B ratio is used as a proxy for growth opportunities to identify the relationship between dividend cuts and omission and the growth opportunity. Authors such as Adam and Goyal (2008) used the M/B ratio as a proxy for investment opportunities because it gives higher information content than the price to earnings ratio (P/E) which some studies employ as a measure of growth/ investment opportunities.

The market to book ratio will be subdivided into terciles to see if cuts and omissions have a higher effect on firms with a large market to book compared to a smaller one. The terciles are formed by ranking the firms market to book from smallest to largest across the years. Firms in tercile1 have the highest control adjusted market to book ratios and are viewed to have the most relative growth

opportunities. Firms in tercile 3 have the lowest control adjusted market to book and are viewed to have the least relative growth opportunities.

4.2.2 FIRM OPERATING PERFORMANCE

The relationship between dividend reductions and operating performance will also be tested. Barber and Lyon (1996) found ROA to be the best measure in detecting abnormal operating performance. ROA which is measured as the EBITDA divided by total assets will be used to proxy for operating performance (Grullon et al., 2005). This is tested for within the seven years event window (-3, 0, 3).

4.2.3 GROWTH OPTIONS

To test for the relationship between dividend reductions growth capital expenditures will be used to proxy for growth options exercised by the firm. This is tested for within the seven years event window (-3, 0, 3).

5. EMPIRICAL RESULTS

5.1 INTRODUCTION

This section of the study presents the results of the event study research and the relationship between dividend decrease announcement and different firm variables. Section 5.2 reports findings on dividend reduction and announcement period returns. This is done through the analysis of the abnormal returns in a three-day event window. Section 5.3 presents results on the event study conducted based on the Capital Asset Pricing Model. Section 5.4 reports findings on the perceived growth opportunities and dividend reductions by analysing the changes in the market to book ratio (M/B) over a seven-year event window. Section 5.5 reports findings on the firms' operating performance and dividend reductions using ROA over a seven-year event window. Section 5.6 reports findings on the relationship between growth options and dividend reductions during a seven-year event window.

5.2 DIVIDEND REDUCTION AND ANNOUNCEMENT PERIOD RETURNS

The study examined the abnormal returns for the three-day dividend announcement event window using an event study and the control firm approach. This was then followed by examining the cumulative abnormal returns for the three-day event period. This was done to be able to compare this study with previous dividend reduction studies. Previous literature suggests that if information asymmetries exist, then a dividend decrease announcement may convey negative information concerning how managers view their firm's future prospects (Bhattacharya, 1980, Miller & Rock 1985).

Table 3: Abnormal Return

Control adjusted (abnormal) return			
Day -1	Day 0	Day +1	Day -1 through +1
-0.25%	-0.43%	0.29%	-0.40%
(0.601)	(0.425)	(0.549)	(0.623)

Table 3 documents the stock returns for firms that reduced or omitted their dividend payments over the 3-day announcement period. The cumulative abnormal return for the 3-day period is also documented. The abnormal returns were calculated by taking the difference between the dividend decrease sample's return and the control (peer) firm's return. The cumulative abnormal return was calculated by summing the 3-day event windows abnormal returns. The p values reported were based on the two-tailed t-tests and are reported in parentheses. Day 0 represents the day the dividend reduction was announced. The day of the announcement (declaration date) is important as it captures much of how the share price behaved around the announcement day opposed to the record day of the dividend announcement which does not tell us much as the changes in the movement are already incorporated in the price.

This study found a small negative abnormal reaction as evidenced by abnormal returns of -0.253% and -0.431% on the day before and the day of the dividend cut. The results in this study are consistent with those of various authors such as Bessler and Nohel (2000) who found negative excess returns on the day of the cut amounting to -4.64%. Kohers (1999) reported negative average abnormal returns for the 3-day event window for firms that announced dividend omissions and day -1 had abnormal returns of -0.596% significant at the 0.1 level. The actual day of the cut had experienced an abnormal return of -5,979% which was significant at the 0.05 level. The study's results are also consistent with Balachandran et al., (2007) who reported a negative reaction to dividend reductions for the two-day period before and after the dividend announcement. The results are also consistent with those of Jensen et al., (2010) who reported abnormal return results on the day before the dividend cut of -0.164% and-3.579% on the day of the cut.

The results in this study are consistent with Lie (2005) who found the mean (median) abnormal stock returns reported for the 3-day announcement period (day -1 through +1) to be -3%, (-2.9%) for firms that decreased dividends and -5.7% (-4.5%) for firms that omitted dividends. The results in this study suggest that dividend decreases and omissions are viewed unfavourably by the market. The results in this study are also consistent with results by Yoon and Starks (1995) who found negative share price reaction around dividend decrease announcement with abnormal returns of -3.197% and -2.689%. The negative abnormal returns found are also consistent with those reported by Pettit (1972), Charest (1978), Aharony and Swary (1980), Christie (1994), and Michaely et al., (1995), who reported excess returns of −6.32%, −6.02%, −3.29%, −6.78%, −7.0% respectively. The abnormal returns reported in this study might not be as large as those reported in previous studies but they support the theory that dividend omissions and cuts are viewed negatively by investors hence the negative abnormal returns.

This study reported a positive abnormal return of 0.288% the day after the dividend cut announcement. The positive abnormal return found the day after the dividend cut announcement is not consistent with results by previous studies. Kohers (1999) reported an abnormal return of -2.180%, significant at the 0.01 level. Bessler and Nohel (2000) reported a negative excess return of -3.38% the day after the announcement. Jensen et al., (2010) also reported abnormal returns of -2.707% on the day after the dividend cut announcement. The positive abnormal return found on day 1 could indicate that the event period window over days -1 and day 0 captures the primary information effect of the dividend news better.

The cumulative abnormal return (CAR) for the 3-day event window in this study was negative and was reported at -0.396%. The CAR results of this study are consistent with those reported by Kohers (1999), Balachandran et al., (2007) and Jensen et al., (2010) who reported CARs of -0.55%, –2.15% and −5.934% respectively. Yoon and Starks (1995) also reported mean cumulative abnormal returns of -0.70%. The negative CAR found in this study is in support with theories that dividend cuts and omissions are viewed negatively by investors. Overall the results in this study support the notion that dividend reductions convey some sort of negative information to the market, implying that the dividend reduction announcement does carry some element surprise.

5.3 CAPM ABNORMAL RETURNS

The abnormal return results from the event study above are very small when using firms that did not cut dividends as the peer sample. This section of the study makes use of Sharpe (1964)'s Capital Asset Pricing Model (CAPM) in conjunction with the event study methodology. The abnormal return is calculated through the use of the Johannesburg Stock Exchange All-Share Index (JSE ALSI) as the return on the market, the 3-month Treasury bill rate as the risk-free rate and the beta of the assets. The Treasury bill rate data was sourced from the South African Reserve Bank and the JSE ALSI data was sourced from the IRESS research domain.

5.3.1 CALCULATING RETURNS

The abnormal return is calculated as the difference between the actual return and the expected return. Prices are converted to returns for both the dividend decrease (cut and omission) and the control (JSE ALSI) firm sample for the (days -1, 0, 1) announcement period using:

$$R_{it} = ln\frac{p_t}{p_{t-1}} \quad ; \quad R_{mt} = ln\frac{Pm_t}{Pm_{t-1}} \tag{7}$$

Where:

R_{it} = the normal return of security *i* at time *t*
pt = the closing price on the day of investigation
$pt - 1$= the closing price of the previous day
Pmt = market price on day t
$Pmt - 1$= market price of the previous day

5.3.2 ABNORMAL RETURN

Abnormal returns are calculated as the return (R_{it}) minus the benchmark, which is the expected return of the firm ($E(R_{it})$) and is denoted by:

$AR_{it} = R_{it} - E(R_{it})$ (8)

Where:

R_{it} = Actual returns that occurred because of the dividend reduction (return on reduction sample)

$E(R_{it})$ = The expected return of the benchmark (JSE ALSI)

The expected return is calculated using the CAPM:

$$R_i = R_f + \beta_i(R_m - R_f) \quad (9)$$

Where:

R_f is the risk free rate (3 month treasury bill)

R_m is the return on the market (JSE ALSI)

β_i is the beta of stock *i* relative to the market

The beta of the stock is given by:

$$\beta_i = \frac{COV(R_{mt}, R_{it})}{\sigma^2(R_{mt})} \quad (10)$$

Where:

$COV(R_{mt}, R_{it})$ relates to the covariance of the returns of stock *i* and the market (JSE ALSI)

$\sigma^2(R_{mt})$ is the variance of the return of the market (JSE ALSI)

5.3.3 AVERAGE ABNORMAL RETURN

The average abnormal return is calculated by summing the peer sample and the dividend decrease sample and taking the average as denoted by:

$$AAR_i = \frac{1}{N}\sum_{t=1}^{N} AR_{it} \quad (11)$$

Where:

N= the number of events in the sample

$\sum_{t=1}^{N} AR_{it}$= is the sum of all abnormal returns of *i* at time *t*

5.3.4 CUMULATIVE ABNORMAL RETURN

The cumulative abnormal return is calculated as the sum of all abnormal return and it is denoted as:

$$CAR_i = \sum_{t=t_1}^{t_2} AR_{it} \quad (12)$$

The cumulative abnormal return was calculated by summing the abnormal returns over the announcement window (-1, 0, 1).

Table 4: CAPM Abnormal Return

CAPM (abnormal) Return			
Day -1	Day 0	Day +1	Day -1 through +1
-5.69%	-5.96%	-5.73%	-17.38%
0.0001	0.0001	0.0001	0.0001

From Table 4, the abnormal return for each company in the sample was calculated using the CAPM. The JSE ALSI was utilised as the benchmark market index for the sample. The p values reported were based on the two-tailed t-tests and are reported in parentheses. Day 0 represents the day the dividend reduction was announced and day -1 and day +1 is the day before and after the dividend reduction announcement. Using the CAPM expected return as the control sample, the results show a more pronounced effect of the dividend cut announcement on the share price compared to the results in Table 3 which are much smaller. Using the CAPM as a benchmark, the abnormal returns for day -1, 0 and 1 were all negative and statistically significant with returns of -5.69%, -5.96% and -5.73% respectively.

The cumulative abnormal return was found to be -17.38% over the three-day event window. The cumulative abnormal return of -17.38% indicates that there is, on average, there is a significant degree of dividend surprise associated with dividend decrease announcements. The CAR was found to be statistically significant at the 0.05 level. These results are consistent with those of Kohers (1999), Balachandran et al., (2007) and Jensen et al., (2010).

5.4 PERCEIVED GROWTH OPPORTUNITIES AND DIVIDEND REDUCTIONS

The study makes use of the market to book ratios and the abnormal return for dividend drop firms relative to control firms to determine how investors view dividend cuts with respect to the company's growth prospects. The median change in the decrease sample market to book, the control sample market to book, the control-adjusted market to book and the median cumulative abnormal returns are recorded around the dividend reduction period of year -3 to 3. The calculation of the CAR is given by the mean abnormal return around the announcement period and is shown in percentages. Tercile 1 (Q1) firms have the highest control adjusted market to book and tercile 3 (Q3) firms have the lowest control adjusted market to book.

Table 5: M/B Ratio Decrease Sample

Tercile	ΔM/B (-3, -1)	ΔM/B (-1,1)	ΔM/B (1,3)
1	0.91	-0.002	-0.331
2	0.16	-0.043	-0.192
3	-0.37	-0.230	-0.142

Table 5 gives the results for the changes in the market to book ratios for the dividend decrease sample. Firms with high market to book ratios (Q1) were found to improve from the period (-3, -1) as shown by 0.91 whereas firms with a low market to book ratio (Q3) decreased by -0.37 for the same period. For the period (-1, 1), firms with both a high and low market to book ratios were found to decrease by -0.002 and -0.230 respectively. Across the different years, it was found that high market to book ratios firms only experienced an increase by 0.91 in growth prospects around the period of (-3, -1).

Firms with a low market to book ratio (Q3), experienced negative growth options across all the years under observation with the highest decline being around the years before the dividend cuts (-3, -1). For the period after the dividend cut announcement (1, 3) the growth prospects continued to deteriorate for both Q1 and Q3 firms by -0.331 and -0.142 respectively. Overall, the dividend decrease sample experienced an increase in the market to book ratio years prior to the cut and experienced a decrease in the market to book ratio post the dividend cut announcement. The results found in this study are not consistent with those by Bulan (2010) who found that dividend cut firms experienced a decline in the market to book ratio three years before the cut and were found to recover slightly post the dividend cut event which is the period within three years from the dividend cut event.

Table 6: M/B Ratio Control Sample

Tercile	ΔM/B (-3, -1)	ΔM/B (-1,1)	ΔM/B (1,3)
1	1.249	0.696	1.571
2	0.679	0.062	1.233
3	-0.158	0.276	0.049

The results in Table 6 reports the changes in the market to book ratio for the control sample. For the period (-3, -1), firms with a high market to book ratios were found to increase by 1.249 and firms in tercile 2 increased by 0.679. The opposite is found for the low market to book ratio firms which were found to decrease by -0.158. There is a noticeable increase of 1.571 and 0.049 in the period (1,3) for both high and low market to book ratio firms when compared to the years before the dividend reduction period (-3, -1). High market to book ratio (Q1) firms were found to increase 3 years prior to the cut (-3, -1), slightly decrease (still positive) around (-1, 1) which also includes the year of the cut then increased a year after the cut until year 3 (period 1, 3).

The opposite is seen for firms with a low market to book ratio (Q3) for years before the cut. These firms experience a dividend reduction of -0.158, then for the period (-1,1), there was an increase of 0.276 followed by a slight decrease of positive 0.049 after the dividend cut year as shown by period (1,3). Overall, these results are consistent with those by Bulan (2010) where control firms were found to maintain a stable operating performance level over the seven-year event period of observation.

Table 7: Control Adjusted Market to Book

Tercile	ΔM/B (-3, -1)	ΔM/B (-1,1)	ΔM/B (1,3)	CAR (-1, 1) (%)
1	-0.338	-0.698	-1.902	-2.94%
2	-0.519	-0.106	-1.426	-2.05%
3	-0.211	-0.507	-0.192	-0.91%

Table 7 denotes the results for the control adjusted market to book ratios. The results show that firms with both a high and low market to book ratio decreased for the period -3 to -1 by -0.338% and -0.21%, respectively. The decrease in the low market to book ratio firms is not as great as the decrease in the high market to book firms. Again, firms with a high and low market to book ratio for the period -1 to 1 and 1 to 3 also experienced a decrease. The results for the control adjusted market to book ratio as represented in table 7 are contrary to those by Jensen et al., (2010). Jensen et al., (2010) reported that for firms within the -3 to -1 event window, firms with a low market to book improved whereas firms with a high market to book decreased. For the period -1 to 1, firms with a low market to book ratio still increased and firms with a high market to book continued to fall.

The dividend cut announcement seems to have affected the high market to book ratio firms worse throughout the years. The cumulative abnormal return of -2,940% confirms this finding. Low market to book ratio firms started with a decrease of -0,211 in the period of (-3, -1) further decreased to -0,507 in the period of (-1, 1) and still decreased their growth prospects years after the cut and this is shown by a decrease of -0,192. The results of this study are consistent with the notion that dividend reductions coincide with a decrease in funding for growth options. Overall, there is a decrease in growth prospects across the different terciles meaning that South African investors view dividend reductions in a negative light.

5.5 FIRM OPERATING PERFORMANCE AND DIVIDEND REDUCTIONS

The operating performance for firms that reduced established dividends is reported through ROA. Similar to Grullon et al., (2005) and Jensen et al., (2010), the ROA in this study is measured as EBITDA divided by total assets. The median ROA values are reported in the top half of the table. The bottom of the table reports temporal changes in the ROA across the years. The p-values in the parenthesis are reported from the two-tailed Wilcoxon Signed Rank tests.

Table 8: ROA

Year	Decrease firm ROA	Control firm ROA	ROA difference
-3	13.29%	11.52%	1.76%
			(0.0001)
-2	13.49%	13.61%	-0.13%
			(0.0001)
-1	13.33%	14.75%	-1.41%
			(0.0001)
0	10.80%	15.26%	-4.46%
			(0.0001)
1	10.44%	15.93%	-5.49%
			(0.0001)
2	8.89%	12.76%	-3.89%
			(0.0001)
3	8.76%	17.46%	-8.69%
			(0.0001)
Temporal change in ROA			
(-3 to 0)	-2.49%	3.74%	-6.22%
	(0.0001)	(0.0001)	(0.0001)
(0 to 3)	-2.04%	-2.20%	-4.23%
	(0.0001)	(0.0001)	(0.0001)

Table 8 results are reported following the same methodology as that of Jensen et al., (2010). Three years before the dividend cut, the decrease sample had a median ROA of 13.29% and the control sample had a median ROA's of 11.52% suggesting that dividend decrease firms had a similar performance to dividend control firms at the beginning of the study. From period t-3 going forward until the year of the cut (-3, 0), the median operating performance for dividend drop firms experienced a substantial deterioration with a corresponding median change in ROA of -2.49% whereas control firms also experienced an increase in the median change in ROA of 3.74%. This suggests that for the period before the cut, only firms that cut dividends went through adversity. These results are contrary to Jensen et al., (2010) who found that control firms also experienced a deterioration in the median change in ROA of -1, 04% whereas, in this study, only the dividend decrease sample experienced the drop in ROA.

The relative change in ROA was -6.22% which was highly statistically significant and confirmed that dividend drop firms suffered a relative deterioration in profitability compared to control firms. This study's results are consistent with Lie (2005) who found that firms that decrease and omit dividends were found to experience a decline in operating performance prior and post the announcement quarter when compared to industry peers. The decrease in the operating performance of the dividend decrease sample signals unfavourable information about current earnings and future earnings as it is seen to continue decreasing even after the announcement period. When evaluating the period t0 to t3, earnings remained somewhat the same after the dividend reduction for dividend drop firms shown by the decrease of -2.04% in the ROA. The post dividend cut ROA for control firms was 2.20%, which was statistically significant. These results are contrary to Jensen et al., (2010)'s results who found a noticeable rebound in earnings that following the reduction for the period after the dividend cut (0, 3) for both the decrease and control sample.

In this study, firms that started with high performance (decrease sample firms) had the worst ROA pre and post-event period whereas those that had a slightly lower performance (control sample) maintained good operating performance pre and post the event period. The study's results are also contrary to Bulan (2010) who evaluated the median operating performance of dividend decrease firms and control firms seven years around the dividend event year. For dividend decrease firms, a sharp decline in ROA was found in the three years before the dividend cut, and these firms were found to achieve their lowest levels below the industry median. The ROA was found to bounce back after the cut, even though it did not return to original levels.

Control firms were found to have stable operating performance levels that remained at or above industry levels over the seven-year event period. In the years leading into and after the dividend event, control firms were better off in terms of operating performance compared to the dividend decrease firms. Overall, the results in this study show that the dividend decrease sample had poor operating performance years prior the dividend cut announcement and continued to experience poor operating performance years after the cut, suggesting that dividend decrease firms were not as profitable and hence the reason to cut dividends.

5.6 GROWTH OPTIONS AND DIVIDEND REDUCTIONS

5.6.1 CAPITAL EXPENDITURES

Table 9: Capital Expenditures

Year	CAPEX decrease firms	CAPEX control firms	CAPEX difference
-3	151.12	60,60	90.52
			(0.0001)
-2	164.30	71.932	92.37
			(0.0001)
-1	141.86	82.93	58.92
			(0.0001)
0	154.62	78,6	76.02
			(0.0001)
1	196.40	78,56	117.84
			(0.0001)
2	151.00	144.44	6.55
			(0.0001)
3	191.50	64.69	126.80
			(0.0001)
Temporal change in capital expenditures			
(-3 to 0)	3.50	18.00	-14.49
	(0.0001)	(0.0001)	(0.0001)
(0 to 3)	36.87	-13.90	50.78
	(0.0001)	(0.0001)	(0.0001)

Table 9 reports on the median capital expenditures of the dividend decrease and control sample measured. Capital expenditure is measured as the purchase of fixed assets such as land, buildings amongst others. Prior to the dividend cut, dividend decrease firms had a positive capital expenditure of R3, 50 million and the control firm had capital expenditures worth R18 million. The dividend drop firms were found to increase their capital expenditures by R36, 87 million whereas the control sample decreased by R13, 90 million years after the cut. This study's results are contrary with those of Jensen et al., (2010) who found that dividend drop firms dramatically reduce capital expenditure years after the dividend drop announcement firms suggesting that these firms allow more growth options to

expire. The control firms were found to perform well for both three years before and three years after the dividend drop announcement.

This study's results are also contrary to those by Bulan (2010) who found that capital expenditures decline in the year of and after the dividend cut, and then recovers slightly thereafter. Control firms were found to maintain a stable operating performance level over the seven-year event period. On average, dividend reducing firms were poorly performing firms with profitability and sales growth levels that were below their industry peers. This study's results are also not consistent with those by Yoon and Starks (1995) who find that dividend decreases are associated with subsequent decreases in capital expenditure years after the dividend change announcement. From this study's results, it can be inferred that South African firms are less likely to sacrifice future market share by letting growth options expire and which in turn can diminish their industry position. The results suggest that firms in the decrease sample would rather reduce or omit a dividend to take on more positive net present value projects that will in turn increase revenue and market share.

5.7 SUMMARY OF RESULTS

The study utilised an event study methodology to test for the effects of dividend cuts and omissions on the share price over a 3-day event window. The study found negative abnormal returns for the control adjusted and the CAPM adjusted abnormal return methodology. The study also tested for the relationship between dividend reductions and growth options, the operating performance, and the perceived growth opportunities for a seven-year event window. A decrease in the in the growth prospects was noted both high and low market to book ratio firms. Dividend decrease firms were found to experience poor operating performance years prior and post the dividend reduction announcement. The capital expenditures are seen to reduce drastically for dividend drop firms years after the dividend drop announcements. The results of this study suggest that dividend decrease announcements are accompanied by negative market reactions.

6. CONCLUSION AND SUMMARY

This study investigated the share price reaction to dividend reductions reaction in South Africa for firms that are listed on the Johannesburg Stock Exchange during the period of 1996 to 2019. Following Jensen et al., (2010), a final sample of 94 firms, which included both a dividend decrease sample and a control sample, was constructed. After defining the composition of the final sample, the study analysed the immediate abnormal return reaction of the share price due to the dividend decrease announcements for a three-day window. The relationship between growth options and dividend reductions, operating performance and dividend reductions, perceived growth opportunities and dividend reductions and dividend reductions was tested for across a seven-year event window.

Abnormal return results in the analysis showed that there was a significant negative reaction to the dividend decrease announcement the day before the cut and the day after the cut. The reaction was found to be positive the day after the cut suggesting that the negative reaction is captured only on the day before the announcement and the day after. The cumulative abnormal return for the three- day event window was negative and significant. There is an overall finding of a significant relationship between dividend reduction announcement and the cumulative abnormal return findings. Dividend reductions are found to be associated with negative price reactions.

The study analysed the relationship between perceived growth options and dividend decrease announcements using the market to book ratios. This study ranked the market to booked ratios in three terciles, with tercile 1 being the largest and tercile 3 as the lowest ranking. For the dividend decrease sample, firms experienced positive returns on the market to book ratios before the cut, after the cut firms had negative market to book ratios. This is contrary to results by Bulan (2010) who found that dividend decrease firms only experienced a decline in the market to book ratio three years before the cut, afterward they were found to slightly recover. The control adjusted firms in this study experienced a decline in the market to book ratios regardless of the tercile ranking across the event window period. These results are also contrary to those of Jensen et al., (2010) since high market to book firms (Q5) were the ones with reduced market to book ratios across the sample period and low market to book ratio firm (Q1) had increased market to book ratios across years.

The relationship between the firms operating performance and dividend decreases was tested for using the ROA as a proxy for profitability. The ROA was used as a performance measure based on the evaluation by Grullon et al., (2005) where the ROA was calculated as EBITDA divided by total assets. There was no rebound in earnings found for the years after the announcement of the dividend decrease event. This study's results are consistent with traditional dividend signalling theory which suggests that following a dividend reduction, there is a decline in earning/profits. This is confirmed by a continued decrease in the ROA years after the dividend cut. These results are also in line with the theory that when there is an unexpected dividend cut, this is perceived as bad news by investors (Bhattacharya, 1979; Ambarish, John & Williams 1987; John & Williams, 1985; Miller & Rock, 1985).

The relationship between dividend reductions and growth options was evaluated through the analysis of the changes in the capital expenditures acquired. Similar to Mayers (1998), Anderson and Garcia-Feijoo (2006), and Jensen et al., (2010), capital expenditures were used as a proxy for growth options exercised by the firm. Dividend-drop firms were found to increase capital expenditures in the years before and after the dividend decrease announcements. The event study examines the short-term event window for the effects of dividend reduction announcement on the share price.

6.1 RECOMMENDATIONS FOR FURTHER RESEARCH

This study is limited to a South African context, an area for future research would be to further extend the investigation of dividend cuts and omissions to other African countries. The event study focused on the short term stock price reaction, testing for these effects over a longer event window might produce interesting results. The study did not exhaust all the firm factors that can be affected by the dividend reduction announcements and as such one can go further to explore the impact of dividend cuts and omissions on variables such as the number of employees, fixed and intangible assets.

REFERENCES

Adam, T., & Goyal, V. K. (2008). The investment opportunity set and its proxy variables. *Journal of Financial Research*, *31*(1), 41-63.

Aharony, J., & Swary, I. (1980). Quarterly dividend and earnings announcements and stockholders' returns: *An empirical analysis. The Journal of Finance*, *35*(1), 1-12.

Ambarish, R., John, K., & Williams, J. (1987). Efficient signalling with dividends and investments. *The Journal of Finance*, *42*(2), 321-343.

Anderson, C. W., & Garcia-Feijóo, L. (2006). Empirical evidence on capital investment, growth options, and security returns. *The Journal of Finance*, *61*(1), 171-194.

Andres, C., Betzer, A., Bongard, I., Haesner, C., & Theissen, E. (2013). The information content of dividend surprises: Evidence from Germany. *Journal of Business Finance & Accounting*, *40*(5-6), 620-645.

Ap Gwilym, O., Seaton, J., & Thomas, S. (2004). *Dividends aren't disappearing: Evidence from the UK*.

Asquith, P., & Mullins, D. W. (1983). The impact of initiating dividend payments on shareholders' wealth. *Journal of business*, 56(1).

Baker, H. K., & Powell, G. E. (2000). Determinants of corporate dividend policy: a survey of NYSE firms. *Financial Practice and education*, 10, 29-40.

Baker, H. K., Powell, G.E., & Veit., E.T. (2002), Revisiting the Dividend Puzzle: Do All of the Pieces now fit?, *Review of Financial Economics*, 11, 241-261.

Balachandran, B. (2003). UK interim and final dividend reductions: a note on price reaction. *The European Journal of Finance*, *9*(4), 379-390.

Balachandran, B., Krishnamurti, C., & Vidanapathirana, B. (2007). *The Impact of Dividend Reduction on Shareholders Wealth-Evidence from Australia*.

Barber, B. M., & Lyon, J. D. (1996). Detecting abnormal operating performance: The empirical power and specification of test statistics. *Journal of Financial Economics*, *41*(3), 359-399.

Barber, B. M., & Lyon, J. D. (1997). Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of financial economics*, *43*(3), 341-372.

Benartzi, S., Michaely, R., & Thaler, R. (1997). Do changes in dividends signal the future or the past?. *The Journal of Finance*, *52*(3), 1007-1034.

Benesh, G. A., Keown, A. J., & Pinkerton, J. M. (1984). An examination of market reaction to substantial shifts in dividend policy. *Journal of Financial Research*, *7*(2), 131-142.

Benito, A., & Young, G. (2003). Hard times or great expectations? Dividend omissions and dividend cuts by UK firms. *Oxford Bulletin of Economics and Statistics*, *65*(5), 531-555.

Bessler, W., & Nohel, T. (2000). Asymmetric information, dividend reductions, and contagion effects in bank stock returns. *Journal of Banking & Finance*, *24*(11), 1831-1848.

Bhattacharya, S. (1979). Imperfect information, dividend policy, and "the bird in the hand" fallacy. *Bell Journal of economics*, 10(1), 259-270.

Black, F. (1976). The dividend puzzle. *Journal of portfolio management*, *2*(2), 5-8.

Brav, A., Graham, J. R., Harvey, C. R., & Michaely, R. (2005). Payout policy in the 21st century. *Journal of financial economics*, *77*(3), 483-527.

Brealey, R.A., & Myers, S.C. (2003). *Principles of Corporate Finance.* 7th Ed. New York, NY: McGraw-Hill Co.

Brickley, J. A. (1983). Shareholder wealth, information signaling and the specially designated dividend: An empirical study. *Journal of Financial Economics*, *12*(2), 187-209.

Brown, S. J., & Warner, J. B. (1980). Measuring security price performance. *Journal of financial economics*, *8*(3), 205-258.

Bulan, L. T. (2010). To cut or not to cut a dividend. *Available at SSRN 1712019*.

Bulan, L. T., & Subramanian, N. (2008). *A closer look at dividend omissions: payout policy, investment, and financial flexibility*.

Charest, G. (1978). Dividend information, stock returns and market efficiency-II. *Journal of Financial Economics*, *6*(2-3), 297-330.

Che, X., Liebenberg, A. P., Liebenberg, I. A., & Morris, B. C. (2018). The effect of growth opportunities on the market reaction to dividend cuts: evidence from the 2008 financial crisis. *Review of Quantitative Finance and Accounting*, *51*(1), 1-17.

Chowdhury, R.H, Maung, M., & Zhang, J. (2014). Information content of dividends: a case of an emerging financial market. *Studies in Economics and Finance, 31*(3), 272-290.

Christie, W. G. (1994). Are dividend omissions truly the cruelest cut of all?. *Journal of Financial and Quantitative Analysis*, 29(3), 459-480.

Collins, M. C., Saxena, A. K., & Wansley, J. W. (1996). The role of insiders and dividend policy: a comparison of regulated and unregulated firms. *Journal of Financial and Strategic Decisions*, *9*(2), 1-9.

Daniel, N., Denis, D., & Naveen, L. (2007). *Dividends, Investment, and Financial Flexibility*.

DeAngelo, H., & DeAngelo, L. (1990). Dividend policy and financial distress: An empirical investigation of troubled NYSE firms. *The Journal of Finance, 45*(5), 1415-1431.

DeAngelo, H., & DeAngelo, L. (2000). Controlling stockholders and the disciplinary role of corporate payout policy: A study of the Times Mirror Company. *Journal of financial economics, 56*(2), 153-207.

DeAngelo, H., & DeAngelo, L. (2006). The irrelevance of the MM dividend irrelevance theorem. *Journal of financial economics, 79*(2), 293-315.

DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1992). Dividends and losses. *The Journal of Finance, 47*(5), 1837-1863.

DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1996). Reversal of fortune dividend signaling and the disappearance of sustained earnings growth. *Journal of financial Economics, 40*(3), 341-371.

DeAngelo, H., DeAngelo, L., & Skinner, D. J. (2000). Special dividends and the evolution of dividend signaling. *Journal of Financial Economics, 57*(3), 309-354.

DeAngelo, H., DeAngelo, L., & Skinner, D. J. (2004). Are dividends disappearing? Dividend concentration and the consolidation of earnings. *Journal of financial economics, 72*(3), 425-456.

DeAngelo, H., DeAngelo, L., & Skinner, D. J. (2009). Corporate payout policy. *Foundations and Trends® in Finance*, *3*(2–3), 95-287.

DeAngelo, H., DeAngelo, L., & Stulz, R. M. (2006). Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *Journal of Financial economics, 81*(2), 227-254.

Denis, D., & Stepanyan, G. (2009). Factors influencing dividends. *Dividends and Dividend Policy*, 55-69.

Deshmukh, S. (2005). The effect of asymmetric information on dividend policy. *Quarterly Journal of Business and Economics*, 107-127.

Dhillon, U. S., & Johnson, H. (1994). The effect of dividend changes on stock and bond prices. *The Journal of finance, 49*(1), 281-289.

Dielman, T. E., & Oppenheimer, H. R. (1984). An examination of investor behavior during periods of large dividend changes. *Journal of Financial and Quantitative Analysis, 19*(2), 197-216.

Easterbrook, F. (1984). Two Agency-Cost Explanation of Dividends. *The American Economic Review, 74*(4), 650-659.

Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay?. *Journal of Financial economics, 60*(1), 3-43.

Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The adjustment of stock prices to new information. *International economic review, 10*(1), 1-21.

Firer, C., Gilbert, E., & Maytham, A. (2008). Dividend policy in South Africa. *Investment Analysts Journal, 37*(68), 5-19.

Ferris, S. P., Sen, N., & Yui, H. P. (2006). Are fewer firms paying more dividends?: The international evidence. *Journal of Multinational Financial Management, 16*(4), 333-362.

Ghosh, C., & Woolridge, J. R. (1988). An analysis of shareholder reaction to dividend cuts and omissions. *Journal of Financial Research, 11*(4), 281-294.

Ghosh, C., & Woolridge, J. R. (1989). Stock-market reaction to growth-induced dividend cuts: Are investors myopic?. *Managerial and Decision Economics, 10*(1), 25-35.

Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: evidence from the field. *Journal of financial economics, 60*(2-3), 187-243.

Grullon, G., Michaely, R., & Swaminathan, B. (2002). Are dividend changes a sign of firm maturity?. *The journal of Business, 75*(3), 387-424.

Grullon, G., Michaely, R., Benartzi, S., & Thaler, R. H. (2005). Dividend changes do not signal changes in future profitability. *The Journal of Business, 78*(5), 1659-1682.

Gunasekarage, A., & Power, D. M. (2002). The post–announcement performance of dividend–changing companies: The dividend–signalling hypothesis revisited. *Accounting & Finance, 42*(2), 131-151.

Healy, P. M., & Palepu, K. G. (1988). Earnings information conveyed by dividend initiations and omissions. *Journal of financial Economics, 21*(2), 149-175.

Hillier, D., Grinblatt, M., & Titman, S. (2012). *Financial markets and corporate strategy*. London: McGraw-Hill Higher Education.

Ho, S. J. K., & Wu, C. (2001). The earnings information content of dividend initiations and omissions. *Journal of Business Finance & Accounting, 28*(7-8), 963-977.

Holder, M. E., Langrehr, F. W., & Hexter, J. L. (1998). Dividend policy determinants: An investigation of the influences of stakeholder theory. *Financial management, 27*(3), 73-74.

Hsiao, C. (2014). *Analysis of panel data*. Cambridge university press.

Impson, M. (1997). Market reaction to dividend-decrease announcements: public utilities vs. unregulated industrial firms. *Journal of Financial Research, 20*(3), 407-422.

Iqbal, Z. R., & Habibur, M. (2002). Operational actions and reliability of the signaling theory of dividends: An investigation of earnings anomaly following dividend cuts and omissions. *Quarterly Journal of Business and Economics, 41*, 13–26.

Jensen, G. R., & Johnson, R. R. (1995). Discount rate changes and security returns in the US, 1962–1991. *Journal of Banking & Finance, 19*(1), 79-95.

Jensen, G. R., Lundstrum, L. L., & Miller, R. E. (2010). What do dividend reductions signal?. *Journal of Corporate Finance, 16*(5), 736-747.

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review, 76*(2), 323-329.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics, 3*(4), 305-360.

John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signalling equilibrium. *The Journal of Finance, 40*(4), 1053-1070.

Khan, T. (2006). Company dividends and ownership structure: Evidence from UK panel data. *The Economic Journal, 116*(510).

Kohers, N. (1999). The industry-wide implications of dividend omission and initiation announcements and the determinants of information transfer. *Financial Review, 34*(1), 137-158.

Kothari, S. P., & Warner, J. B. (2007). Econometrics of event studies. In *Handbook of empirical corporate finance*, (pp. 3-36). Elsevier.

Li, W., & Lie, E. (2006). Dividend changes and catering incentives. *Journal of financial economics, 80*(2), 293-308.

Lie, E. (2005). Operating performance following dividend decreases and omissions. *Journal of Corporate Finance, 12*(1), 27-53.

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review, 46*(2), 97-113.

Loughran, T., & Ritter, J. R. (1995). The new issues puzzle. *The Journal of finance, 50*(1), 23-51.

Mayers, D. (1998). Why firms issue convertible bonds: the matching of financial and real investment options. *Journal of financial economics*, *47*(1), 83-102.

Michaely, R., Thaler, R. H., & Womack, K. L. (1995). Price reactions to dividend initiations and omissions: Overreaction or drift?. *The journal of finance, 50*(2), 573-608.

Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of finance, 40*(4), 1031-1051.

Miller, M., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *The Journal of business, 40*(4), 411- 433.

Mitton, T. (2004). Corporate governance and dividend policy in emerging markets. *Emerging Markets Review, 5*(4), 409-426.

Modigliani, F., & Miller, M. H. (1959). The cost of capital, corporation finance, and the theory of investment: Reply. *The American Economic Review, 49*(4), 655-669.

Mollah, S., Bhuyan, R., & Sharp, P. (2007). Testing the relevancy of agency theory on dividend policy in the emerging market of Bangladesh. *Journal of Applied Finance, 13*(12), 5-15.

Nissim, D. (2004). *The Information Content of Dividend Decreases: Earnings or Risk News?*. Working Paper, Columbia University.

Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. *The Journal of Finance, 56*(6), 2111-2133.

Pettit, R. R. (1972). Dividend announcements, security performance, and capital market efficiency. *The Journal of Finance, 27*(5), 993-1007.

Raei, R., Moradi, M., & Eskandar, H. (2012). Do dividend policies signal Corporate Operating Characteristics?. *Journal of Applied Finance and Banking, 2*(4), 13.

Robinson, C. J. (2006). "Dividend policy among publicly listed firms in Barbados". *Journal of Eastern Caribbean Studies,31,* 1-36.

Ryan, P. A., Besley, S., & Lee, H. W. (2000). An empirical analysis of reactions to dividend policy changes for NASDAQ firms. *Journal of Financial and Strategic Decisions, 13*(1), 35-44.

Sant, R., & Cowan, A. R. (1994). Do dividends signal earnings? The case of omitted dividends. *Journal of Banking & Finance, 18*(6), 1113-1133.

Skinner, D. J., & Soltes, E. (2011). What do dividends tell us about earnings quality?. *Review of Accounting Studies, 16*(1), 1-28.

Sharpe, W. F. (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk. *The Journal of Finance, 19*(3), 425.

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, 87 (3). 355-374.

Stepanyan, G. (2011). Do Managers Cut Dividends Because They 'Have To'?.

Van Eaton, R. D. (1999). Stock price adjustment to the information in dividend changes. *Review of Quantitative Finance and Accounting, 12*(2), 113-134.

Wolff, J., & Auret, C. J. (2009). Do dividend changes in South Africa signal earnings changes?. *Studies in Economics and Econometrics, 33*(3), 19-38.

Yoon, P. S., & Starks, L. T. (1995). Signaling, investment opportunities, and dividend announcements. *The Review of Financial Studies, 8*(4), 995-1018.