Essays on the Corporate Dividend Policy using data from the Gulf Cooperation Council (GCC) countries

By

Razaz Houssien Felimban

M00459297

Director of Studies: Dr Sina Badreddine

Advisor: Dr Christos Floros

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"وَقُلْ رَبِّ زِدْنِي عِلْمًا" [طه : 114]

and say, “My Lord, increase me in knowledge.” (Taha, QS 20:114)

ABSTRACT

The main aim of this doctoral thesis is to carry the dividend debate into an emerging market context and contribute more evidence to dividend literature. However, this is done differently from prior research by examining the dividend policy behaviour of an emerging market over a period of time and, therefore, attempting to uncover the behaviour of dividend policy in emerging markets. In particular, the dividend policy of the listed firms on the GCC stock market are analysed. This thesis consists of three empirical chapters that investigate the impact of dividend announcements, dividend smoothness, and the prediction of dividend changes.

The first empirical chapter examines the market response to dividend announcements in an environment where there are no taxes on capital gains and dividends. The hypotheses are tested using the event study methodology is used to estimate abnormal returns to the shares and abnormal trading volume around the announcement date. The results provide evidence for a share price reaction that partially supports the signalling hypothesis because there is no signalling effect to the public dividend announcement, but there is a signalling effect to another event (board meeting) that is reflected in the stock price. In addition, the results show that the GCC stock market is inefficient because of the leakage of information before the announcement of bad news and the delay of share price adjustment when there is good news. Further, the trading volume reacts to dividend change announcements in all three announcements clusters—where dividends increase, decrease, and are constant—thereby lending support to the hypothesis that the announcements of dividend change have an impact on trading volume response due to different investors' preferences.

The second empirical chapter examines the dividend smoothing behaviour in GCC countries, in emerging markets where the response to news and the economic environment are different from those of developed countries. The empirical evidence shows that the dividend smoothing decision is influenced not only by public information but also by private information. In addition, for the regression analysis, the hypotheses are tested using panel regressions and GMM estimation. The empirical results can be summarised in the following manner: First, the Lintner model shows that the degree of dividend smoothing in GCC firms is approaching the degree of dividend smoothing of a developed market. Second, the results of the determinants of dividend

smoothing indicate that agency-based models and information asymmetry theories affect the decisions to smooth dividends in GCC stock market. Finally, and importantly, the results reveal that the dividend smoothing in GCC firms is sensitive to private information of share prices.

The third empirical chapter attempts to investigate the factors associated with a propensity to cut or increase dividends. We use the random effect probit model estimation procedure with unbalanced panel data. We find that the longer (shorter) the time interval between dividend announcements, the larger the probability of a cut (increase) in the dividend, consistent with the view that firms delay (early) the release of bad (good) news. A further contribution to our analysis that we investigate the association between managerial proceedings (change in the capital structure) and dividend decisions. We find that, first, firms that pay back their debt using equity either pay a steady dividend or avoid cutting dividends. Second, firms that attempt to transfer wealth from debtholders to shareholders either pay a steady dividend or do not increase the dividend. The findings further indicate that the size, tangibility, leverage, free cash flow, profitability, and growth are considered the main predictors that help to understand the dividend changes that will likely occur. We further report that a few common factors influence dividend changes in both financial and non-financial firms, while certain factors affect only one group.

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" May ALLAH reward them all."

DEDICATION

I dedicate this work:

To my great parents' soul Houssien and Alawiah (May Allah have mercy on them),

To my lovely husband and my intimate friend: Basim,

To my dear brothers: Hani and Hazim,

To my nieces and nephews,

For their endless support, love, and encouragement

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ABBREVIATIONS

AAR- Average Abnormal Return
AATV- Average Abnormal Trading Volume
AR - Abnormal Return
ASMA- Arab Stock Markets Analysis
ATV- Abnormal Trading Volume
BA- Bahrain
BAPS- Bid-Ask Price Spread
BITH- Bird-in-the-Hand
CAAR- Cumulative Average Abnormal Returns
CAR- Cumulative Abnormal Return
CATV- cumulative average abnormal trading volume
CD- Constant Dividend
DD- Dividend Decrease
DI- Dividend Increase
EMH- Efficient Market Hypothesis
FCF- Free Cash Flow
FE- Fixed Effects
GCC- Gulf Cooperation Council
GMM-Generalized Method of Moments
KU- Kuwait
NPV- Negative Present Value
OLS-Ordinary Least Square
OM- Oman
PIT- the private information trading
QA- Qatar
RF- Random Effects
SA- Saudi Arabia
SOA- Speed of Adjustment
SPI- Share Price Informativeness
UA- United Arab Emirates
UK- United Kingdome
US- United States of America

DISSEMINATION

Articles published

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Chapter One: Introduction

1.1 Background of the Study

Dividend policy is one of the most challenging aspects of corporate finance. Black (1976, p.8) argues, "*The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that do not fit together*." Dividend policy has attracted the attention of financial scholars in various theoretical and empirical studies. However, there is no consensus among them about the most controversial issues of dividend policy. Brealey, Myers and Allen (2006) claim that dividend policy has been viewed as one of the ten most crucial issues that remain unresolved in corporate finance. The various theories that have emerged to answer the different questions of dividend policy have resulted in a large number of theoretical and empirical research papers, but no consensus has been achieved in this regard (Allen and Michaely, 1995). Consequently, three schools of thought have been developed on whether dividend policies influence firms' values. The first school was led by Miller and Modigliani (1961), who set out the "irrelevance theory." They report that a managed dividend policy is irrelevant under the circumstance of a perfect capital market, with rational investors and absolute certainty (Modigliani and Miller, 1958; Miller and Modigliani, 1961; Miller and Scholes, 1978; and Bernstein, 1996). The other two schools generally proclaim that dividends do affect the value of the firm either positively or negatively.

Some researchers (Graham, Dodd, Buffett and Klarman, 2009; Gordon and Shapiro, 1956; Gordon, 1959, 1963; Easterbrook, 1984; Jensen, 1986; Crutchley and Hansen, 1989) suggest that dividends can increase shareholder wealth and firm value. This is because more certainty is attached to dividend payments received today against earnings retention for investment in projects whose future earnings are uncertain. Therefore, firms should set a high dividend payout ratio and offer a high dividend yield to maximise their share prices. This explanation is labelled as the bird-in-the-hand hypothesis. However, according to theories such as the tax preference theory (Brennan, 1970; Elton and Gruber, 1970; Litzenberger and Ramaswamy, 1979, 1980; Poterba and Summers, 1984) and the transaction cost theory (Higgins, 1972; Fama, 1974; Bhattacharya, 1979; Rozeff, 1982; and Scholz, 1992), with the existence of market imperfections such as transaction costs and uneven tax treatments, dividend payments can decrease the firm value as well as cause negative consequences for shareholder

wealth. Therefore, based on these theories, firms should, therefore avoid or make minimal dividend payments if they wish to maximise their share prices.

Other researchers (Lintner, 1956; Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985) indicate that information asymmetry exists when a firm's management has a better understanding of the firm's actual value than outsiders who have access to only public information. Hence, managers use dividend payments to convey useful information regarding the current and future prospects of their firm, which is called the signalling hypothesis. Furthermore, Jensen and Meckling (1976), Rozeff (1982), Easterbrook (1984), and Jensen (1986) developed the agency cost theory of dividends, which derives from problems associated with the separation of management and ownership as well as differences in managerial and shareholder priorities. Suggesting that an effective dividend policy minimises agency costs by reducing funds available for managers who may spend unnecessarily on unprofitable investments or even misuse funds for personal consumption. Therefore, managers are required to seek financing in capital markets. Numerous researchers have developed various competing theories such as the pecking order theory (Myers, 1984; and Myers and Majluf, 1984), residual dividend theory (Preinreich, 1932; Sage, 1937), catering theory of dividends (Baker and Wurgler, 2004a, 2004b), and maturity hypothesis (Grullon, Michaely and Swaminathan, 2002), all of which add more complexity to the dividend controversy.

The vast majority of studies on dividend policy have been conducted in developed markets (see, e.g., Goergen, Renneboog and Da Silva, 2005 for Germany; Nicolosi, 2013 Florackis, Kanas and Kostakis, 2015, Larkin, Leary and Michaely, 2016 for the US; David and Ginglinger, 2016 for France; Akhtar, 2018 for Australia), while numerous studies have been conducted in emerging markets (see, e.g., Aivazian, Booth and Cleary, 2003a for different emerging markets[1]; Al-Malkawi, 2007 for Jordan; Fairchild, Guney and Thanatawee, 2014 for Thailand; Baker, Kilincarslan and Arsal, 2018 for Turkey). However, only a few studies focus on the GCC stock market (see, e.g., Al-Ajmi, 2010; Sahut and Teulon, 2017; Hamdan, 2018; Guizani, 2018).

[1] The emerging markets for the study are India, Jordan, Korea, Malaysia, Pakistan, Thailand, Turkey, and Zimbabwe.

As Glen, Karmokolias, Miller and Shah (1995) state, a substantial amount of additional research is required to provide a better understanding of dividend behaviour in these developing countries. Aivazian, Booth and Cleary (2003b) highlight the inconsistencies in the influence of contextual factors associated with various countries, markets, or industries. There has been a recent increase in the number of empirical studies conducted in the context of developing markets. This doctoral thesis aims to carry the dividend debate into the emerging market context, particularly in GCC[2] Countries. Although the literature on dividend policy in emerging markets is growing, studies on the GCC stock market are rare. To have a clear picture of GCC dividend policy, we investigate the (1) impact of dividend announcements, (2) dividend smoothness, and (3) prediction of dividend changes.

1.2 Motivations

Michaely, Thaler and Womack (1995), Akhigbe and Madura (1996) and Lipson, Maquieira and Megginson (1998) find evidence consistent with the signalling hypothesis of dividends—that announcements of dividend policy changes do convey information regarding the firm's future prospects. However, Miller and Modigliani (1961) demonstrate that dividend payments do not affect firm value and no dividend policy is superior to another under perfect capital market assumptions[3]. This has led to perplexity for the issue of informativeness due to mixed views. Therefore, analysing the market reaction to dividend announcements is rather important for managers and shareholders. Further, price reaction to dividend announcements is important for managers and could have consequences on investors and their trades. This motivates us to investigate the impact of dividend change announcements on share price and trading volume in the first empirical chapter.

As shareholders are concerned about dividend payments, managers are expected to do their best to adjust their dividends to match shareholder preference regularly. Shareholders evaluate firms based on their dividend behaviour, which is characterised by dividend stability and frequency. Lintner (1956) argues that managers believe that

[2] GCC is a regional intergovernmental political and economic union consisting of all Arab states of the Arabian Gulf. Its member states are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. These members share similar demographic, economic, geographical, social, and religious features.

[3] Yet, in the real world where market frictions exist—such as agency problems, differential tax rates, information asymmetries, and transaction costs—their argument becomes highly debatable.

shareholders deserve a fair share of the firm's earnings through dividends, and managers assume that shareholders prefer a steady increase in dividends. Consequently, managers tend to prevent making changes in their dividend rates that may have to be reversed in the future. Therefore, they make partial adjustments toward a target payout ratio to smooth dividend payments.

Further, numerous studies have analysed the behaviour of dividend smoothing. For example, Brittain (1964, 1966), Fama and Babiak (1968), John and Williams (1985), Kumar (1988), Marsh and Merton (1987), and Garrett and Priestley (2000) are among the main studies that developed the dividend smoothing concept. Dividend smoothing behaviour remains a rich topic of research (Leary and Michaely, 2011). Numerous studies focus their research on dividend smoothing behaviour (see, Dewenter, and Warther, 1998 for the US and Japan; Andres, Betzer, Goergen and Renneboog, 2009 for Germany; Chemmanur, He, Hu and Liu, 2010 for the USA and Hong-Kong; Jeong, 2013 for Korea; Javakhadze et al., 2014 for 24 countries[4]; Benavides, Berggrun and Perafan, 2016 for Latin America[5]). It is evident that prior literature has not covered GCC markets; therefore, we are motivated to analyse the dividend behaviour of GCC firms in terms of dividend smoothing and its determinants, which are the secondary motivation for our study.

Lintner (1956) argues that most managers smooth their dividend to avoid a dividend cut. If firms decrease or omit dividends, the firm value will be negatively affected, and the reputation of the firm's manager will also be affected. Thus, the dividend cut is crucial for investors who prefer to receive cash dividends. Increasing, decreasing, and maintaining dividend payments could be attributed to investment opportunities, financing constraints, agency problems, conveying information, or other factors. Therefore, it is important to explore the circumstances surrounding a change in dividend policy as well as the ability to predict such changes in advance for investors and, in particular, for shareholders. This raises an interesting question: Can we predict the dividend cut? We are motivated to investigate the predictions of dividend change (decrease or increase) in the third empirical chapter.

[4] The 24 countries include Australia, Austria, Bermuda, Cayman Island, China, Denmark, Finland, Germany, Hong Kong, India, Ireland, Japan, Malaysia Netherlands, New Zealand, Nigeria, Norway, Pakistan, Singapore, South Africa, South Korea, Sweden, Switzerland, and the United Kingdom.
[5] The six Latin American countries include Argentina, Brazil, Chile, Colombia, Mexico, and Peru.

1.3 Problems Statement and Research Questions

The first empirical chapter analyses the impact of dividend changes announcements on both stock price and trading volume in GCC stock market. Miller and Modigliani (1961) (hereafter M&M) propose the dividend irrelevance theory, which suggests that all efforts spent on dividend decisions are wasted, and a managed dividend policy is irrelevant under the circumstance of a perfect capital market assumptions, where there are no personal or income taxes, there is no difference between taxes on dividends and capital gains, financial leverage has no effect on the firm's cost of capital, and there is no transaction with rational investors and absolute certainty; thus, the dividend policy will not affect the firm's market value (Black and Scholes, 1974; Conroy, Eades and Harris, 2000). This implies that the market will not respond to the level of dividends, whether high, low, or non-existent. Although M&M's theory is logical and consistent within a perfect capital market, various market imperfections are observed in real-world markets—such as information asymmetries, transactions costs, and conflicts of interest between managers and shareholders—which can also be observed in GCC countries. Although, the GCC is tax-free on dividend and capital gain (Al-Hunnayan, 2011; and Rezvanian, Ariss and Mehdian, 2015), other assumptions of perfect capital markets do not hold.

In this respect, the irrelevance theory becomes highly debatable, and these market imperfections might indeed imply that dividend policies do matter. Therefore, the tax-based signalling hypothesis[6] might be applicable to examine the effect of dividend announcements on share price and trading volume in the GCC region. According to Amihud and Murgia (1997, p.397) "*Tax-based signalling models propose that the higher tax on dividends is a necessary condition to make them informative about firms' values*", which implies that dividends would not have information and be informed if it was not for the higher taxes on dividends relative to capital gains. The absence of taxation provides us with an opportunity to examine this prediction. Therefore, we aim to answer the following question through this empirical research: How do stock return and trading volume change around the dividend announcement date in the short- and long-term in a tax-free environment? If we find that the stock price and trading volume react to dividend announcements, then this would suggest that the higher taxation on

[6] Tax-based signalling model argue that higher taxes on dividends relative to capital gains are a necessary condition for dividends to be informative.

dividends relative to capital gains is not a necessary condition for them to have information and be informative. It would also indicate that there are other factors, apart from higher taxation, that makes dividends informative.

In an efficient market, investors are likely to be rational; they will behave by firm performance and tax preferences. Accordingly, investors' behaviour could be expected. However, this is not the case in the GCC market due to the presence of information asymmetry, which in turn causes markets to become inefficient since not all investors have access to the information they need for their decision-making processes. In addition to being a less mature and inefficient market, the behaviour of GCC investors is unexpected. The most important characteristic of GCC firms is that there is an absence of tax on dividend and capital gains (Rezvanian et al., 2015). From the investor's perspective, capital gains and dividends are perfect substitutes, with no confounding effects caused by differential tax policies. In addition, despite recent liberalisation measures, GCC stock markets are less mature than other markets; hence, they continue to be less liberal and inefficient according to the weak form of the (EMH) (see Arouri, Lahiani and Nguyen, 2011; Al-Ajmi and Kim, 2012; Bley, 2011).

Jamaani and Roca (2015) attribute this inefficiency could be due to the weak degree of foreign participation, the high concentration in the banking and financial sectors, high market volatility, and information asymmetry. GCC stock market[7] differs from those of developed and other emerging countries in that they are segmented mainly from the international markets and are hypersensitive to regional political events. These characteristics raise another research question, which can be answered through this first empirical research: How does the inefficiency of GCC stock market affect share prices? As we found in the first empirical chapter that the dividend

[7] In the GCC countries, for instance, there are not personal taxes levied on either capital gains or dividends (Al-Hunnayan, 2011; Al-Malkawi et al., 2014 and Rezvanian et al., 2015), hence investors should be indifferent to capital gains or cash dividends are given the absence of personal taxes. However, the GCC stock markets are less mature, less liberal (Arouri et al., 2011; Al-Ajmi and Kim, 2012) and less efficient (Jamaani and Roca, 2015) than developed markets making them more volatile and entail a higher degree of information asymmetry (Al-Kuwari, 2009; Sahut and Teulon, 2017). At a firm level, GCC firms suffer from low transparency level, weak corporate governance (Al-Malkawi et al., 2014), heavily indebted firms (Spindle, 2008), with high concentration of government ownership (Al-Kuwari, 2009). These factors in addition to the high GCC stock market volatility make the investors' behaviour to be irrational and influenced by herding. Herding happens when investors copy others behaviour and ignoring their personal beliefs. This herding behaviour pushes asset prices apart from their fair economic values (Balcilar et al., 2013). Moreover, market instability and lack of traders' experience exaggerate the herding effect.

announcement is informative for share price and trading volume, and after observing the impact of dividend change announcements on the investors' behaviour that drew their attention toward the dividend, more emphasis should be ascribed to investigating the dividend stability behaviour to identify the main determinants, influencing the said behaviour. Therefore, the second topic focuses on measuring the dividend smoothing behaviour and examining share price informativeness as a determinant of dividend smoothing.

The second empirical chapter analyses the smoothness of dividend in the GCC stock market. Adaoglu (2000) state that while firms are reluctant to downturn their dividends even if they have earnings' decline, they do not increase dividends until they are confident that there is a permanent, sustainable increase in earnings. Consequently, managers tend to prevent making changes to their dividend rates that may have to be reversed in the future. Thus, they make partial adjustments toward a target payout ratio to smooth dividend payments. Several justifications explain managers' tendency to smooth dividends. For example, Fudenberg and Tirole (1995) argue that managers remain busy in maintaining their positions in the firm. Subsequently, their efforts in this regard are a cause for smoothing since, through smoothing, they can depict a beautiful picture of their good performance to stakeholders and, hence, secure their jobs. According to Rozycki (1997) and Karpavičius (2014), the firm's wealth and share prices may be boosted through dividend smoothing. This is because steady dividend payments have a positive influence on share prices (Beer, 1993). When firms reduce their dividend payments to accumulate internal funding for future projects, investors may not perceive such actions as a good sign for their investments (Woolridge and Ghosh, 1985). Thus, a dividend cut has a negative influence on share prices because investors perceive it as signalling reductions in the firm's future earnings. However, the extent of dividend smoothing is considered to be affected by the uncertainty facing the firm. According to the signalling theory, stability in dividend policy is often necessary to eliminate uncertainty and the potentially reduced market valuation by investors associated with unpredictable dividend payments. A decreased dividend often results in a negative market response, as evident from a reduction in the price of the stock. However, the level of the decline in stock price is often dependent on the reason behind the dividend cut, be it weak earnings or future growth potential.

Further, there are three explanations for dividend smoothing. First, the information asymmetry between shareholders and managers prompts dividend smoothing behaviour to enable investors to assess the firm's earnings ability and value and to mitigate the costs of information asymmetry and investor uncertainty (see, e.g., Brennan and Thakor, 1990; Kumar, 1988; Guttman, Kadan and Kandel, 2010). Second, dividend smoothing arises as a means to limit the agency costs of free cash flow (see, e.g., DeAngelo and DeAngelo, 2007; Lambrecht and Myers, 2012). Third, the existence of external finance costs prompts firms to stabilise their dividends (see, e.g., Miller and Scholes, 1978; Aivazian, Booth and Cleary, 2006). Several studies examine the determinants of dividend smoothing factors at the firm level, such as firm size (DeAngelo, DeAngelo and Skinner, 2004), corporate governance (Javakhadze et al., 2014), growth opportunities (Chemmanur et al., 2010), earnings instability (Guttman et al., 2010), cash flow (Al-Najjar and Belghitar, 2012) and business risk (Leary and Michaely, 2011). Others examined the effect of market-wide and country-specific factors, such as inflation (Basse and Reddemann, 2011), interest rate (Jeong, 2013), investor protection and national cultural identity (Javakhadze et al., 2014).

However, the relevance of each determinant is subject to the prevailing economic and legal environment. Thus, the impact of these factors varies from one country to another because of different economic conditions, policies, regulations, the efficiency of the markets, and cultural background. The GCC stock market differs from those of developed and other emerging countries; for instance, stock markets in the Gulf countries are more volatile and entail a high degree of information asymmetry (Al-Kuwari, 2007, 2009, 2010; Jamaani and Roca, 2015; Sahut and Teulon, 2017). Supposedly, where the presence of information asymmetry in GCC, managers would smooth the dividend to reduce information asymmetry, as discussed theories above. Therefore, we extend the work of previous studies by analysing a comprehensive data set of the GCC stock market to identify whether or not firms in GCC smooth their dividend. If so, we examine whether the previously examined determinants of dividend smoothing are relevant to firms from GCC. We consider the GCC stock market, which is less liquid and more volatile than developed markets to explore the determinants that underlie the smoothing activity. This raises the following research question: To what extent do GCC firms smooth their dividends? If so, "What are the determinants of dividend smoothing behaviour in GCC firms?" Although dividend smoothing is a

key element of the dividend policy, there is limited empirical evidence on why firms engage in dividend smoothing (Javakhadze et al., 2014). However, dividend policy decisions are based on both public and private information (De Cesari and Huang-Meier, 2015). Firm size, profitability, cash dividends, and growth opportunities are examples of public information factors that influence dividend policy (Fama and French, 2001; and Grullon and Michaely, 2002), whereas De Cesari and Huang-Meier[8] (2015, p.4) report that "*managers can learn useful private information from variations in share prices*" and that SPI enables firms to reformulate their dividend policy appropriately.

To elaborate, Kumar (1988) and Guttman et al. (2010) show that dividend smoothing can arise when managers withhold private information regarding firm value from shareholders. Brennan and Thakor (1990) focus on a different type of information asymmetry: that between informed and uninformed investors. In their model, individual investors, who are less informed, prefer to receive dividend payments to minimise their informational disadvantage when trading against more informed institutional investors. From the account of the studies above, we highlight share price informativeness as new determinants of dividend smoothing that have not been examined thus far and, investigate their impact on dividend smoothing. This study aims to fill this gap by analysing the influence of SPI on dividend smoothing. Therefore, this research seeks to answer the following question: "Is share price informativeness a determinant of dividend smoothing in the GCC stock market?"

The third empirical chapter analyses the predictions of the dividend change (increase or cut) by investigating what the managerial actions that are in concord with dividend decisions (dividend cut, dividend increase, dividend stickiness[9]). The dividend is the cost to the equity capital contributed by large shareholders. Large-scale firms are not established with a single person. It is the contribution of several investors to earn profit and divide it by their share of capital contributed. Deciding what amount must be paid out as a dividend is always motivated by a variety of factors. Dividends represent a distribution of the book surplus, accompanied by a distribution of assets, or by a

[8] Two variables of the study of De Cesari and Huang-Meier (2015) are used in this study.
[9] The definition of dividend stickiness requires not only that the variation in dividends is lower than the variation in earnings (i.e., dividend smoothing) but also that dividends are occasionally kept unchanged even though earnings have changed (Guttman et al., 2010)

change in the form of equities, or an increase in the liabilities of the firm. The dividend payments and dividend policies are determined by top management. However, they must take into consideration several factors in determining their dividend decisions and variations therein[10]. The dividend decision of a firm determines what proportion of earnings is paid to shareholders by way of dividends and what proportion is ploughed back in the firm for reinvestment purposes. An important aspect of the dividend policy of any firm is the division of net earnings after tax into dividend to be paid to shareholders on the one hand and maintaining retained earnings on the other hand. This is a crucial policy decision; it influences a firm's growth through retained earnings as well as the market value of its equity shares. Dividend payment directly enhances shareholder wealth, whereas retained earnings maximise the firm wealth. The entire wealth of the firm belongs to shareholders, but the shareholders highly anticipate dividends rather than focus on wealth maximisation. Therefore, given this phenomenon, a study on the determinants of dividend policy will remain relevant.

Several studies have shown that numerous factors contribute to dividend distribution decisions (Goergen et al., 2005 for Germany; Fairchild et al., 2014 for Thailand; Hail, Tahoun and Wang, 2014 for 49 countries). Several factors can predict (1) dividend cuts, such as that due to earnings growth[11], operating earnings and operating cash flow[12], leverage[13], dividend yields[14], and option prices[15]. And (2) dividend increase, such as that due to change in firm size, cash holdings, market-to-book ratio[16], ROA[17], market beta[18], and Tobin's Q[19]. However, much of the research thus far has not conducted the managerial actions that concord with dividend cut and dividend increase. When we analyse that proceedings, we have to consider the following inquires: When we analyse the managerial proceedings associated with a change in dividend, we will know what is the firm behaving in case of a dividend cut, dividend

[10] In this study, we focus on the managerial proceedings associated with a change in dividends such as the timing of dividend announcements and the change in the capital structure (i.e. wealth transfer and paying back the debt).
[11] See, e.g., DeAngelo et al. (1992).
[12] See, e.g., Charitou and Vafeas (1998).
[13] See, e.g., Benito and Young (2003).
[14] See, e.g., Li and Lie (2006).
[15] See, e.g., Fodor, Stowe and Stowe (2017).
[16] See, e.g., Deshmukh, 2003; Bulan et al. (2007).
[17] See, e.g., Charitou, Lambertides and Theodoulou (2011).
[18] See, e.g., Kale, Kini, and Payne (2012).
[19] See, e.g., Officer (2011).

increase, and no alteration in the dividend. We will also be able to identify what managers are doing and what are they avoiding. In addition, we need to investigate the following questions: When do they announce? Do they pay from profits or other sources? How do they modify their capital structure in accordance with dividend change? Therefore, this study investigates how managers consider the signalling effect and agency problem when they adjust increase, decrease, unchanged dividends, taking into consideration the following factors: timing of the dividend announcement and changing the capital structure (wealth transfer and paying debt).

As is evident from the previous studies of the prediction of a dividend cut, only a few studies have dealt with the timing of dividend announcement. For example, some managers make decisions before announcing the dividend with regard to whether or not they will delay the dividend announcement, which in turn is based on dividend decisions. In this sense, managers delay the release of bad news (dividend cut) to avoid any possible negative impact on the share price. A dividend cut is consistent with the signalling theory (Kalay and Loewenstein, 1986; Onali, 2016), thereby suggesting that the more firms delay dividend announcements, the higher the likelihood of dividend reduction. A negative announcement conveyed late will have a smaller price effect on the day of the announcement than the same one conveyed early. This is because the market gradually adjusts prices downward between the predicted date and the actual late announcement date. Thus, a manager can reduce the immediate impact of a negative announcement by deferring it (Kalay and Loewenstein, 1986).

To the best of our knowledge, all studies on dividend cut prediction using dividend announcement timing have been conducted only in the US context (Damodaran, 1989; Hull, 2013, 2015; Onali, 2016), the results of which cannot be generalised. Therefore, we believe that more studies need to be conducted in other global markets. This study fills this gap by conducting an empirical examination for emerging markets, as emerging markets differ from developed markets (La Porta, Lopez-de-Silanes and Shleifer, 1999; La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2000; Aivazian et al., 2003a, 2003b; and Claessens and Yurtoglu, 2013).

As GCC are categorised as emerging markets and are profoundly different from the developed market of the US, the findings may be different for developed markets. Dividend announcements in the US are made quarterly. This implies that any dividend

announcement delay is expected to be only for a few days. However, in GCC markets, the dividend announcement of most firms is annual. This implies that announcements could be delayed for a month or so. Consequently, this extended time of delay could create panic for investors and lead to irrational selling decisions; this may negatively impact firm value. This has motived us to study how the GCC annual announcement may have a different impact from the US quarterly announcements and whether the long-time announcement leads to a longer time of delay. Therefore, analysing the dividend announcements timing as the key element to predict dividend changes is a critical and important matter that needs to be investigated. Thus, this enables us to respond to the first question: "Is the timing of dividend announcements considered to be an indicator for a dividend increase or dividend cut?" It is interesting to note that no previous studies have addressed the relationship between modifications in capital structure and dividend change. We study the modifications in terms of wealth transfer (i.e., dividend payments that are financed by a new debt issue or reduced investment) and paying back the debt.

In the first case, due to certain circumstances, if the firms face a deficit in paying a dividend to shareholders, some managers make decisions that benefit shareholders at the cost of debtholders. This implies that they seek to get into debt to fulfil a dividend payment through additional debt (wealth transfer from debtholders to shareholders). This makes it evident that managers prioritise shareholders over debtholders. However, if managers are forced to raise debt to pay the dividend, it will create a conflict between debtholders and shareholders. This implies that the priority here for shareholders over debtholders corresponds to the stewardship theory[20]. In addition, there are other explanations based on the agency and signalling theories to justify this decision from the perspective of managers. Firms may have to borrow the money to pay the dividend to avoid a dividend cut and a consequent negative impact on the share price. Consequently, paying a dividend would maintain a good price for the firm's

[20] Stewardship theory states that a steward protects and maximises shareholder wealth through firm performance. Stewards are firm executives and managers who work for the shareholders and protect and make profits for the shareholders. The stewards are satisfied and motivated when organizational success is attained. This theory emphasizes the position of employees or executives to act more autonomously, thereby ensuring that shareholders' returns are maximised. The employees take ownership of their jobs and work at them diligently.

share even at the expense of the debtholders; this implies that these firms are concerned about the signalling effect[21].

Furthermore, when the managers persist in paying a dividend under any conditions, they want to avoid the agency problem between them and the shareholders[22]. Moreover, because of the uncertainty and imperfect information in the GCC stock market, investors prefer stock dividends to potential capital gains due to the uncertainty of capital gains; this corroborates the hypothesis of a bird in the hand[23]. Therefore, we investigate if debtholder expropriation (wealth transfer) exists in the GCC stock market and, if so, its effect on dividend change. Following on from this, our thesis attempts to answer the following question: "Is the change in dividend associated with wealth transfer or modifications to capital structure?"

In the second case, firms do occasionally have conflicts with debtholders (the creditors) or banks because the latter want their money back or sometimes, the managers want to reduce the asymmetry by paying the money back. In this case, how do managers balance between the financing and dividend decisions, considering the signalling effect and agency problem? Accordingly, the question that arises is what do managers do in the following scenarios: Escaping dividend reduction, which in turn has a negative impact on the share price, avoiding the agency problem between the shareholders and themselves, and avoiding the problem with debtholders. For example, if the firms have to pay back debt and, at the same time, they must pay a dividend to the shareholders to avoid the effects of dividend reduction and achieve shareholder satisfaction. Consequently, such a firm will not cut the dividend to pay off its debt; therefore, it is important to examine whether firms would be willing to cut their dividends to pay outstanding debts. Therefore, we investigate the influence of paying back the debt on dividend change. Consequently, our study attempts to answer the following question: "Is the change in dividend associated with paying back the debt?"

[21] Previous studies have shown that dividend increase (decrease) announcements produce positive (negative) stock price changes (see, e.g., Pettit, 1972; Charest, 1978; Aharony and Swary, 1980).

[22] (i.e. the agency problem occurs because when the shareholder does not possess sufficient information about the firm, and also, they are not sure that managers are pursuing to take the right decisions for shareholders interest rather than their interests).

[23] The bird-in-the-hand explanation reveals that investors generally prefer assured cash dividends today (which represent a "sure thing") to uncertain future price appreciation.

1.4 Objectives and Significance of the Study

The subject of dividend policy is essential in determining the firm's value and has a definite effect on their performance. The firm value is affected by the amount of dividend paid; hence, investors are, in turn, expected to inquire about the dividend. Dividends are used as an indication to help investors in their decision to invest in any firm, just as a dividend policy impacts and is impacted by investing and financing decisions. However, and based on the literature recorded to date in this respect, research on dividend policy and dividend decisions were found to be scarce in developing markets. The markets of GCC countries are regarded as one of those emerging markets, which highlights an important aspect of this study. The present study derives its significance from the fact that it tackles an issue of great importance to investors in the GCC— "dividends"; furthermore, it focuses attention on the most prominent variables that underpin these investors' decisions.

Additionally, the findings of this study could be beneficial and of use in guiding the investors into developing an 'expectations framework' the dividends to be disbursed in the future by concentrating on the variables that are related to a firm's dividend decision. This study expects that it should act as a benchmark for the firms of GCC as well as their investors in a manner that gives more credence and value to dividends. Numerous arguments can be advanced to indicate how important this present study is, as it provides important indicators of dividend policy behaviour of listed firms in the GCC. Moreover, this study discusses the attributes that different theories suggest that may affect a firm's dividend policy. The fact that because dividend policies are expected to affect firm investments through their impact on the capital structures of these firms and, consequently, the costs of capital, it is useful to examine the dividend policy of firms listed in the GCC. This type of analysis enables us to compare the behaviour of the GCC firms in this thesis with their international counterparts and provide certain recommendations that would help GCC firms in their dividend decisions. Finally, as will be explained subsequently, the significance of this study is based on the fact that a firm's dividend policy will be examined using certain econometric methods, which have not been used before in the GCC context.

The main aim of the current study is to explore and critically assess the dividend policy of GCC firms. To have a clear picture of GCC dividend policy, we analyse the impact

of dividend announcements, dividend smoothness, and the prediction of dividend changes. In order to achieve the above aim, this thesis has the following objectives: The research objectives of the first empirical chapter are (1) to examine the effect of dividend announcement changes on share prices over both the short- and long-terms in a tax-free market (GCC); and (2) to examine the effect of dividend change announcements on trading volumes in a tax-free market (GCC). The research objectives of the second empirical chapter are (1) to measure the degree of dividend smoothing in the GCC market; (2) to examine share price informativeness as a new determinant of dividend smoothing; and (3) to identify other determinants influencing dividend smoothing in GCC. The research objectives of the third empirical chapter are (1) to examine the timing of dividend announcements as an indicator for dividend changes in GCC market; (2) to explore any wealth transfer activity that concerns the firm's dividend policy; and (3) to discuss the effects of the paying back debt on the firm's decision to change dividends.

1.5 Contributions of the Study

The first empirical chapter[24] adds new insights to fill the current gaps in the existing literature; To the author's knowledge, this is the first study that examines price and trading volume reactions to dividend change announcements for all GCC countries. Substantially, our results extend of Richardson, Sefcik and Thompson (1986), Bajaj and Vijh (1995), Bowers and Fehrs (1995), and Dasilas and Leventis (2011) by investigating the market reactions surrounding dividend change announcements when there are no tax considerations. Therefore, the first empirical study makes three major theoretical contributions. Firstly, it is the first study on price and trading volume reactions to dividend change announcements that employ a comprehensive dataset of the GCC. It improves our understanding of whether the announcements of dividend policy changes do convey information about a firm's future prospects or not. The findings reveal that the dividend announcements are significantly informative in the GCC market, although it is a tax-free region. Our results of the share price response in the short term confirm that any increase (decrease) in dividends is viewed as a positive (negative) signal to an increase (decrease) in the share price. This is in line with the

[24] The results of this work are published in Felimban et al. (2018).

dividend signalling hypothesis, which suggests that dividend changes should be followed by changes in profitability in the same direction (Michaely et al., 1995).

Secondly, the results of dividend change announcements on trading volume in GCC indicate that the influence could follow the clientele effect rather than the irrelevant theory and the tax-based signalling hypothesis. Further, the clientele effect arises due to the idiosyncratic preferences for dividend policies by different groups of investors. Also, the results of trading volume reactions consistent with Lintner (1962) and Gordon (1963), providing support for Bird in the Hand theory. They argued that investors prefer dividends from a stock to potential capital gain because dividends are less risky. Also, under the Clientele effect Argument, some investors like dividends, either because they value the regular cash payments or do not face a tax disadvantage (Damodaran, 1999), like GCC markets.

Thirdly, this study is the first study that examines the impact of dividend and earnings change relative to the share price on trading volume by using the tax-based signalling model. By doing so, we investigate (1) which changes have more impact on investors' behaviour and (2) whether the announcement conveys new information to investors, which, in turn, influences their trading. In other words, we examine if the investors react based on their interpretations of the announcements. We extend previous studies (see, e.g., Al-Yahyaee, Pham and Walter, 2011b; Dasilas and Leventis, 2011) on trading volume reactions to dividend change announcements by using the model of tax-based signalling. We use abnormal trading volume as a dependent variable instead of abnormal return for the short-term event window. We obtain a significant result that confirms that the news of the dividend contains information further than that contained in earnings in the absence of taxes on dividend and capital gains in the GCC market. This indicates that investors in the GCC have a preference for dividends.

Moreover, the findings of the first empirical study provide several practical contributions, as follows: This study helps analysts to understand the market mechanism in GCC countries by analysing the behaviour of GCC investors as a whole. This study could enable managers to be aware of the GCC investors reactions toward the information content of dividend announcements. Also, it could enable managers to become aware of whether or not the timing of the announcement is appropriate. When the managers know about the market reaction, this helps them to see if they will

continue the same strategy in the announcements, or they should change the strategy of the announcements. It helps analysts to understand the market mechanism in the GCC market by analysing the investors' behaviour in that market. It could increase investors' awareness to avoid following the herding behaviour, and they have to change their strategy for making their decision about a specific stock. For researchers, this study gives more visions on the GCC stock market mechanisms, its efficiency and investors' behaviour. In these markets, misinformation or lack of information would deprive GCC investors of the opportunity of resorting to the fundamental analysis to make sound market decisions.

The second empirical chapter adds new insights to fill the current gaps in the existing literature. There has been no study that examines dividend smoothing for all GCC markets up to this date. Essentially, our results extend of Chemmanur et al. (2010), Leary and Michaely (2011), Javakhadze et al. (2014), and De Cesari and Huang-Meier (2015) by measuring the degree of dividend smoothing in GCC and examining the relationship between share price informativeness and dividend smoothing policy and the determinants of dividend smoothing. Therefore, the second empirical study makes two significant theoretical contributions. Firstly, this study is the first study to measure the degree of dividend smoothing using data for all GCC countries. This empirical investigation compares the results to empirical findings from developed and emerging markets. Our empirical results validate the Lintner model (1956), which is consistent with the signalling hypothesis- firms are more reluctant to cut than to raise dividends. Additionally, as Lintner suggests, dividend increases may be considered as a signal of a permanent rightward shift in the distribution of earnings. Therefore, firms may use dividend stability as a signalling mechanism. The evidence is consistent with Leary and Michaely (2011), Jeong (2013) and Javakhadze et al. (2014), providing support for the signalling theory and the agency cost theory.

Secondly, and importantly, this empirical chapter extends previous literature by empirically investigating the importance of share price informativeness as a new determinant of dividend smoothing that has not been explored before. To the best of our knowledge, no study investigates the existence of a relationship between share price informativeness and dividend smoothing. This study is the first empirical study on the impact of share price informativeness on dividend smoothing. There is a

negative relationship between share price informativeness and dividend smoothing. The current findings provide clear support for the relevance of share price informativeness (SPI). By using the measures of SPI, we determine that GCC firms with a low firm-specific return variation (ψ) but high levels of the bid-ask price spread (BAPS) and private information trading (γ) are more inclined to smooth dividends. The evidence is consistent with Withisuphakorn and Jiraporn (2015) and Ebrahim (2017), providing support for information asymmetry (IA) theory of dividends. Firms with high information asymmetry, have weak share price informativeness (SPI). Consequently, Firms facing higher information asymmetry and less investor knowledge will need to smooth their dividends more to allow investors to assess the firm's earnings ability and value (see, e.g., Kumar, 1988; Brennan and Thakor, 1990; Guttman et al., 2010). Moreover, it is the first study to identify other determinants of dividend smoothing behaviour and to test the agency and information asymmetry explanations for dividend smoothing in GCC listed firms. This study confirms that firm characteristics such as firm age and size, earning variation, dividend level, stock return variation, investment horizon, leverage, growth opportunities, financial slack and profitability affect dividend smoothing in GCC markets.

Furthermore, the findings of the second empirical study provide important practical contributions, as follows: The results reported in this study may help financial analysts to use the share price informativeness as an indicator for the presence of the information asymmetry. If they find that the information asymmetry exists and high in the specific firm, this firm tends to smooth its dividend to reduce the information asymmetry degree. The results of the study may also be significant for researchers in understanding the relationship between dividend smoothing and share price informativeness. This study helps researchers to conduct further research in other determinants of dividend smoothing by looking at the results and limitations of the current study.

The third empirical chapter adds new insights to fill the current gaps in the existing literature; no study analyses the predictions of dividend changes in the GCC stock market. Basically, our results extend of DeAngelo, DeAngelo and Skinner (1992), Benito and Young (2003), Bulan, Subramanian and Tanlu (2007), Charitou, Lambertides and Theodoulou (2011), Onali (2016) and Fodor et al. (2017) by

investigating the managerial actions that are concord with dividend decisions (dividend cut, a dividend increase, dividend stickiness). Therefore, the third empirical study adds three major theoretical contributions to the literature on dividend changes. Firstly, this study provides empirical evidence on whether the delay in dividend announcement can predict dividend cuts and if there exist any discrepancies in the influence of dividend announcement timing across industries. To the best of our knowledge, this study is the first to investigate the predictability of dividend changes using the dividend announcement timing for the GCC markets as frontier and emerging markets. According to Breuer, Rieger and Soypak (2014, p.247), since "*corporate dividend policies vary significantly across different countries*" we posit that dividend policies vary across different countries. The findings indicate that firms with more delayed dividend announcements are more likely to cut their dividends. The evidence is consistent with (Kalay and Loewenstein, 1986; Onali, 2016), and providing support for the signalling theory of dividends, suggesting that a negative announcement conveyed late will have a smaller effect on the share price on the announcement day than the same announcement conveyed early.

Secondly, this study presents a new framework to classify the change of debt relative to the change of assets. Accordingly, this study provides evidence that transferring of debtholders' wealth through raising debt to pay dividends is associated with firms' intention to avoid dividend cuts and reluctance to increase dividends. This is because a firm that seeks to raise debt to meet the expectations of shareholders is not in a position to increase the level of dividends. The finding is consistent with the signalling theory, which indicates that management is reluctant to cut dividends to avoid the signalling effects (a drop-in stock price) and is supportive of the agency theory because the manager attempts to avoid agency problems with shareholders through a dividend cut. Furthermore, this study provides evidence that paying back the debt has the inverse relationship with the probability of a dividend cut. This implies that the firms that can pay back their debts are simultaneously paid dividends to their shareholders. Therefore, when they pay back debt, they distribute the dividend without shortfalls, thereby working to balance the payment of debt and dividends. These findings are consistent with the agency theory, which suggests that prioritising other stakeholders over equity shareholders could increase agency costs.

Thirdly, the finding also indicates that transferring wealth and the paying back the debt has positive effects on maintaining sticky dividends. This suggests that firms that transfer wealth from debtholders to shareholders; they often maintain a stable dividend. Moreover, firms that pay back their debt using equity often pay a steady dividend. This finding supports both the signalling (sticking dividends) and agency theories because a cut of dividends could give rise to agency problems. Importantly, our findings help investors and fellow researchers, who seek useful guidance from the relevant literature, to gain a broad understanding of the effects of debt and equity financing on corporate dividend choices in the GCC market.

Additionally, the third empirical study provides several practical contributions, as follows: This study helps the investors to identify indicators to predict the dividend changes. Moreover, it helps the analysts to know the strategies of the decision-makers in the GCC firms. This study could be an important guide for managers of firms in the GCC in making decisions on the frequency and timing of dividend announcements to avoid any possible negative impact on the share price. In addition, the findings of the study may be useful since it helps investors and researchers, who seek useful to gain a broad understanding of the effects of debt and equity financing on corporate dividend choices in the GCC market. It provides attention to GCC researchers to consider the differences between the financial and non-financial sectors in their future studies.

1.6 Structure of the Study

The thesis is presented in six chapters. The current chapter has provided an overview of the research topic, motivation, research problems, research questions, objectives, and the significance of the study and contributions of the thesis. The remainder of the thesis is structured in the following manner.

Chapter Two provides an overview of the GCC market. It begins with a brief background of the GCC and its economy. The chapter establishes that GCC is highly concentrated in terms of trading volume and market capitalisation. In the second part, this chapter critically reviews the existing literature, both theoretical and empirical, on payout policy. It presents a detailed literature review of main dividend policy theories. These include the dividend irrelevance theory, bird-in-the-hand hypothesis, tax effect hypothesis, signalling theory, agency cost and free cash flow hypothesis, and clientele effects. In the third part, it provides a review of extensive empirical studies, where

these theories were tested to examine the relationship between theory and practice in the context of developed and developing markets. In terms of to the role of directors, the role of firm characteristics and performance, the role of investors, the impact of the economic environment, and the effect of national culture and governance on the dividend policy. In the last part, the chapter provides GCC studies related to dividend policy studies.

Chapter Three presents the first empirical work. It investigates the impact of dividend announcement on share prices, and the trading volume includes six sections: the theoretical background, research hypothesis development, model specification, including the standard event study methodology, estimation results, as well as the introduction and conclusion.

Chapter Four presents the second empirical work. It investigates the smoothness of dividends and includes six sections and addresses the theoretical background of dividend smoothing. After that, it presents the research hypothesis, an explanation of both model specification (panel regression and GMM), and estimation results (including the estimation results for the impact of firms' characteristics on the smoothness of dividends and share price informativeness), along with an introduction and conclusion.

Chapter Five presents the third empirical work. It investigates the determinants of the dividend changes and includes six sections and addresses the theoretical framework and related studies. Next, forming the research hypothesis; model specification—including the Probit estimation—, is used to examine the determinants of the probability of dividends change, estimation results, along with an introduction and conclusion.

Finally, Chapter Six summarises the overall conclusion of the entire thesis based on different empirical chapters, discusses the findings, demonstrates the implications, discusses the limitations of the study, and provides possible opportunities for further development and research.

Chapter Two: GCC Overview, Dividend Theories and Literature Review.

2.1 Introduction

This thesis focuses on corporate dividend policy and uses data from the GCC countries, employing both theoretical and empirical approaches. In order to analyse the context of this thesis, this chapter reviews the theoretical and empirical literature related to corporate dividend policy. Section 2.2 starts by presenting an overview of the GCC countries. This section provides a brief description of the nature of these countries and their financial markets. Section 2.3 discusses the main theories relevant to corporate dividend policy: the dividend irrelevance theory, the bird-in-the-hand theory, tax preference theory, signalling theory, agency theory, and clientele effect theory. Section 2.4 presents empirical studies in the dividend field. The last part of this section—the studies of GCC dividend— provides a brief literature review of dividend policy studies the GCC stock market. Finally, section 2.5 summarises the research gaps from previous studies.

2.2 GCC Overview

The GCC was established on the 25th of May 1981, and the participating countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. It is a political and economic alliance of six states situated in the Arabian Gulf. These states share the same geography, history, ethnicity, language, and traditions. This is because they are neighbouring countries, as shown in figure 2-1. With the advent of the GCC, the laws and regulations, especially those related to the organisation of trade, have become unified to improve the economic cooperation between states.

Figure 2-1 the GCC countries map

Source: Ramadan (2015)

The combined population of the six GCC countries grew from nearly 23 million in 1990 to around 55 million by the end of 2017. Saudi Arabia, by far the biggest GCC country, accounted for approximately 60% of the population at the end of 2017. The United Arab Emirates (UAE) was the second most populated GCC state, accounting for around 17% or nearly 9,400,145 people. The distribution of the total GCC population is estimated at 8% in Oman, 7% in Kuwait, 5% in Qatar and 3% in Bahrain, according to The Statistical Centre for the Cooperation Council for the Arab Countries of the Gulf (GCC-Stat).

Table 2-1 shows that as a bloc, the GCC countries had a combined nominal GDP of 1.46 trillion US dollars and an average GDP per capita of about 193 thousand US dollars in 2017. The largest economy among the GCC countries in terms of population and output is by far that of Saudi Arabia, with a nominal GDP reaching 686.738 billion US dollars and a population of 32,938,213 people in 2017, representing about 47% and 60% of the GCC's aggregate GDP and population, respectively. Meanwhile, Bahrain is GCC's smallest economy, with a nominal GDP reaching 35.3 billion US dollars and population of about 1,492,584 people in the same year, accounting for about 2% and 3% of the GCC's aggregate GDP and population, respectively.

Table 2-1: GCC countries statistics (as of 2017).

Stock exchange	Population	%	GDP (US$ billion)	GDP per capita (US$)	Crude Oil production in barrels per day (bbl/day)	Currency
BA	1,492,584	3%	35.307	23,655.04	44,240	Bahraini Dinars
KU	4,136,528	7%	120.126	29,040.36	2,707,000	Kuwaiti Dinars
OM	4,636,262	8%	72.643	15,668.37	1,007,000	Omani Riyal
QA	2,639,211	5%	166.929	63,249.42	1,523,000	Qatari Riyals
SA	32,938,213	60%	686.738	20,849.29	10,460,000	Saudi Riyal
UAE	9,400,145	17%	382.575	40,698.85	3,106,000	UAE Dirham
GCC	55,242,943	100%	1,464	193,161	18,847,240	

Source[25]: World Bank and The Gulf Cooperation Council Statistical Centre ("GCC-Stat")

2.2.1 The GCC Stock Market

The GCC stock markets are considered the largest in the Middle East by market capitalisation and volume. These markets are advanced in terms of technology. Some markets are electronically linked with commercial banks, clearing and settlement agencies, and brokerage firms to give fast and reliable performances. Moreover, the deregulations, technology, and high liquidity have been the main contributors to the development of the GCC capital markets. Table 2-2 reports that when the GCC financial markets were established; they are relatively new compared to stock markets in developed and emerging countries and some stock markets in the Middle East region.

The first and oldest stock market to be established was the Kuwait Stock Exchange in 1977: the stock exchange was initiated in April 1977, and it was named the Kuwait Stock Exchange (KSE) in 1983. The second market is the Saudi Arabia Stock Exchange, it was established on November 23rd, 1984, as a royal decree was issued to institute the Saudi Share Registration Company (SSRC), which was to be sponsored by local banks under the supervision of the Saudi Arabian Monetary Authority

[25] Source: reported on the GCC-STAT website: http://dp.gccstat.org/ar/DataAnalysis?lDHlZZXEiUetBjEktrNUw.

(SAMA). The SSRC was in charge of managing the records of shareholders and share certificates, as well as providing support facilities for transactions and transferring and registering ownership of transactions automatically. This was the beginning of a new era for establishing a specific regulatory system for electronic share trading. In 2001, SAMA introduced a new system known as "Tadawul" for share trading, clearing, and settlement. The system provided an efficient, accurate and brief trading cycle, and speedy settlement. On the 19th of March 2007, the Council of Ministers approved the formation of the Saudi Stock Exchange (Tadawul) as a joint-share firm. The third market is the Bahrain stock exchange, and it was established in 1987 and officially commenced operations on June 17th, 1989, with 29 listed firms. It operated as an autonomous institution supervised by an independent board of directors, chaired by the governor of the Central Bank of Bahrain. The fourth market is the Oman Securities Market, and it was established on 21st of June 1988, to regulate and control the Omani securities market and to effectively participate with other organisations at setting up the infrastructure of the Sultanate's financial sector. Then, the Qatar Stock Exchange was established in 1995, and the Doha Securities Market (DSM) officially started operations in 1997. Since then, the exchange has grown to become one of the leading stock markets in the GCC region.

Lastly, the United Arab Emirates Stock Exchange is the most recently established—on November 15th, 2000—to trade shares of UAE firms. There are trading locations in Abu Dhabi, Al Ain, Fujairah, Sharjah, and Ras Al Khaimah. The Dubai Financial Market (DFM) is a different exchange that trades shares of other public UAE firms, but investors can also trade ADSM shares with some of the brokers based at DFM. It was founded on the 26th of March 2000. Importantly, in May 2014, the MSCI Qatar Index and MSCI UAE Index were reclassified from Frontier Markets to Emerging Markets. On the 20th of June 2018, MSCI announced the inclusion of the MSCI Saudi Arabia Index in the MSCI Emerging Markets Index. Also, MSCI disclosed that the MSCI Kuwait Index would be included in the 2019 Annual Market Classification Review for a potential reclassification from Frontier Markets to the Emerging Markets status[26].

[26] See, MSCI website: https://www.msci.com/market-classification.

Table 2-2: The GCC stock market.

Market	Country	Year of Establishment
Kuwait Stock Exchange (KSE)	Kuwait	1977
Tadawul (Saudi Stock Exchange) TASI	Saudi Arabia	1984***
Bahrain Bourse (BHB)	Bahrain	1987*
Muscat Securities Market (MSM)	Oman	1988
Qatar Stock Exchange (QSE)	Qatar	1995**
Abu Dhabi Securities Exchange (ADX) Dubai Financial Market (DFM)	UAE	2000

Sources: Compiled from KSE, Tadawul, BHB, MSM, QSE, ADX and DFM.
Note: *Bahrain Bourse was established in 2010, which replaced the Bahrain Stock Exchange (BSE) **Activities started in May 1997. ***The Tadawul platform was launched in 2001, but a regulated stock market existed from 1984.

Table 2-3 reports the number of listed domestic firms, the market capitalisation, the shares traded value, and the turnover ratio for each of the GCC stock markets during 2017. At the end of 2017, the Saudi Arabia Stock Market shared a part of 47% of the total market capitalisation followed by UAE at 25%, Qatar at 14% and Kuwait at 10%. Thus, the Saudi Stock Market is the largest in the GCC region in terms of market capitalisation, followed by the United Arab Emirates Stock Exchange, while the Bahrain Stock Exchange and Muscat Securities Market are the smallest in terms of market capitalisation. However, in terms of the number of listed firms, the Saudi Arabia Stock Exchange is the largest market, whereas the Bahrain Stock Exchange is the smallest market in the GCC region. The market capitalisation of all GCC stock market as a share of GDP at the end of 2017 amounted to 386%, with Qataris ranking first with 102%, followed by Saudi Arabia and the United Arab Emirates at about 69.43% and 63.49%, respectively. Regarding the liquidity of the stock market, the turnover ratio for all GCC stock market is 117% by the end of 2017. Moreover, at the end of 2017, Bahrain is seen to be the least liquid at 2.59%, while Saudi Arabia is the most liquid 48.38% of all GCC equity markets.

Table 2-3: GCC stock market statistics (as of 2017).

Stock exchange	The total value of shares traded (USD)	Stocks traded, turnover ratio	Market Cap (USD billion)	Market Cap of listed firms (% of GDP)	Listed domestic firms
BA	562,999,038	2.59	21.706	60.27	42
KU	40,330,800,000	23.23	97.091	55.79	175
OM	2,385,830,010	11.2	21.299	35.12	112
QA	18,330,180,817	14.03	130.61	102	45
SA	218,380,624,730	48.38	451.379	69.43	188
UAE	43,036,010,000	17.98	239.387	63.49	127
GCC	323,026,444,595	117	961.47	386.1	689

Source: World Bank data. The table reports the number of listed domestic firms, the market capitalisation, the shares traded value, and the turnover ratio for each of the GCC stock markets during 2017.

2.3 Dividend Policy Theories

In this section, the major dividend policy theories are discussed, beginning with the dividend irrelevance theory, and followed by the bird-in-the-hand theory, tax preference theory, signalling theory, agency cost theory, and clientele effect theory.

2.3.1 Dividend Irrelevance Theory

The dividend policy theory is established in 1958 with the publication of the pioneering study of Miller and Modigliani, where they provide a compelling and widely accepted argument for dividend irrelevance in a perfect market. Modigliani and Miller (1961) base their argument upon idealistic assumptions of a perfect capital market and rational investors. The assumptions of a perfect capital market can be summarised as follows: (1) there is no transaction and flotation costs incur when securities are traded; (2) there are no differences between taxes on dividends and capital gains; (3) all market participants have free and equal access to the same information (symmetrical and costless information); and (4) there are no conflicts of interests between managers and security holders (i.e. no agency problem).

Given that in a perfect market, dividend policy does not affect either the price of a firm's stock or its cost of capital. Shareholders wealth is not affected by the dividend decision, and therefore, they would be indifferent between dividends and capital gains. The reason for their indifference is that shareholder wealth is affected by the income generated by the investment decisions a firm makes, not by how it distributes that income. Therefore, in M&M's (1961) world, dividends are irrelevant. M&M argued that investors calculate the value of firms based on the capitalised value of their future earnings (basic earning power and investment decisions), and this is not affected by whether firms pay dividends or not and how firms set their dividend policies. Several empirical studies provide support for the dividend irrelevance theory. For example, Black and Scholes (1974) study the effect of dividend policy on share prices by investigating the relationship between dividend yield and stock returns. They find that dividend increase does not have a permanent impact on share prices. They attribute the temporary changes in prices following dividend changes to investors believes that the change in dividend is an indication of a shift in future earnings. They conclude that neither high-yield nor low-yield dividend policies influence share prices. Hess (1982), Miller and Scholes (1982), and Bernstein (1996) provide evidence to support the

irrelevance theory of dividends and confirm that dividend policy does not affect the firm's share price. Moreover, Miller and Rock (1985) argue that dividends are a tool for signalling information on earnings to the market, and, consequently, the price reaction to dividend changes is a reaction to earnings, rather than dividends.

2.3.2 The Bird-In-The-Hand Hypothesis (High Dividends Increase Stock Value)

One alternative and older view about the effect of dividend policy on the firm value is that dividends payments increase firm value (share price). In a world of uncertainty and imperfect information, paying dividends is more certain than future share price appreciation. In other words, because share prices are highly variable, dividends represent a more reliable form of return than capital gains. As a high current dividend decreases uncertainty about future cash flows, a high payout ratio will decrease the cost of capital and hence increase stock value. That is, according to the so-called "bird-in-the-hand" hypothesis (hereafter BITH) high dividend payout ratios maximise a firm's value. Considering two identical firms, where one pays dividends while the other does not, the stocks of the dividend-paying firm will be safer than the stocks of the non-dividend-paying firm, which in turn will increase the share price of the dividend-paying firm compared to the non-dividend-paying firm. Accordingly, firms should offer higher dividend payouts to maximise their share prices and thus enhance their value (Gordon, 1959; 1963; Gordon and Shapiro, 1956).

Studies that provide support for the BITH include Gordon and Shapiro (1956), Gordon (1959, 1963), Lintner (1962), and Walter (1963). However, Miller and Modigliani (1961) have criticised the BITH, and they claim that the firm's required rate of return is independent of its dividend policy because investors are indifferent to dividends and capital gains. In addition, they claim that a firm's risk is influenced by the riskiness of its operating cash flow, not by the way it distributes its income. Consequently, Miller and Modigliani (1961) call this argument the bird-in-the-hand fallacy. Further, Bhattacharya (1979) suggests that the reasoning underlying the BITH is fallacious. He indicates that the firm's risk affects the level of dividend, not the other way around. That is, the riskiness of a firm's cash flow influences its dividend payments but increases in dividends will not reduce the risk of the firm. The notion that firms facing greater uncertainty of future cash flow (risk) tend to adopt lower payout ratios seems

to be theoretically plausible (see, for example, Friend and Puckett, 1964). Empirically, several studies find a negative relationship between dividends and firm risk (see, e.g., Rozeff, 1982; Jensen, Solberg, and Zorn, 1992; Holder, Langrehr and Hexter, 1998; Ho, 2003; and Aivazian et al., 2003b). That is, as the risk of a firm's operations increases, the dividend payments decrease (Jensen et al., 1992).

2.3.3 Tax-Effect Hypothesis (Low Dividends Increase Stock Value)

The assumptions of the M&M for a perfect capital market exclude any possible tax effect. It has assumed that there is no difference in tax treatment between capital gains and dividends. However, in the real-world taxes exist and may have a significant influence on dividend policy and the firm value. In general, there is often a differential tax treatment between capital gains and dividends, and, because most investors are interested in an after-tax return, the influence of taxes might affect their demand for dividends. Taxes may also affect the supply of dividends when managers respond to this tax preference in seeking to maximise the wealth of shareholder (firm value) through increasing the retention ratio of earnings. The tax-effect hypothesis suggests that low dividend payout ratios contribute to maximising the firm's value. This argument assumes that dividends are taxed at higher rates than capital gains. In addition, dividends are taxed immediately, while taxes on capital gains are deferred until the stock is sold. These tax advantages of capital gains over dividends tend to affect investors who have favourable tax treatment on capital gains to prefer firms that retain most of their earnings rather than pay them out as dividends and are willing to pay a premium for low-payout firms (see, e.g., Brennan, 1970; Elton and Gruber, 1970; Litzenberger and Ramaswamy, 1979, 1980). Therefore, firms should keep their dividend payments low if they want to maximise share prices. Note that, this prediction is almost the exact opposite of the BITH, and of course, challenges the strict form of the M&M hypothesis, which assumes that there are no taxes.

2.3.4 Signalling Theory

Another hypothesis for why M&M's dividend irrelevance hypothesis is inadequate as an explanation of financial market practice is the existence of asymmetric information between insiders (managers and directors) and outsiders (shareholders). M&M assume that all investors possess the same information about the firm and can understand and

translate this information in the same way, and in the same capacity as managers. In real markets, however, information asymmetry between market participants exists, and investors and managers have different information and expectations about the firm's future profitability and risk. Moreover, managers are likely to possess better information than outside investors about the firm's future performance. Since managers can access information that may not be available to outsiders, they may use dividend policy to convey such information to investors (see, e.g., Bhattacharya 1979; Miller and Rock, 1985; Bali, 2003). Therefore, dividend policy can affect firm value by decreasing the information gap between managers and investors. Historically, due to a lack of complete and accurate information available to shareholders, the cash flow provided to an investor often formed the basis for its market valuation (Baskin, Baskin and Miranti, 1999). In this way, dividends came to provide a useful tool for managers to convey their private information to the market because investors used visible (or actual) cash flows to equity as a way of valuing a firm.

According to M&M (1961), when markets are imperfect, share prices may respond to changes in dividends. In other words, dividend announcements may be seen to convey implicit information about the firm's future earnings. This proposition has since become known as the "information content of dividends" or signalling hypothesis. According to the signalling hypothesis, investors can infer information about a firm's future earnings through the signal coming from dividend announcements, both in terms of the stability of and changes in dividends. As managers are likely to have more information about the firm's future prospects than outside investors, they may be able to use changes in dividends as a vehicle to communicate information to the financial market about a firm's future earnings and growth. Outside investors may perceive dividend announcements as a reflection of the managers' assessment of a firm's performance and prospects. An increase in dividend payout may be interpreted as the firm having good future profitability (good news), and therefore, its share price will react positively. Similarly, dividend cuts may be considered as a signal that the firm has poor future prospects (bad news), and the share price may then react unfavourably. Accordingly, it would not be surprising to find that managers are reluctant to announce a reduction in dividends.

According to Lintner (1956), firms tend to increase dividends only when managers believe that earnings have permanently increased. This suggests that dividend increases imply long-run sustainable earnings. This prediction is also consistent with what is known as the "dividend smoothing hypothesis". That is, managers will attempt to smooth dividends over time and not make substantial increases in dividends unless they can maintain the increased dividends in the foreseeable future. Furthermore, managers perceive that the volatile (unstable) dividend payment streams reflect the volatility in earnings that are not good signs about their firms' financial performance to the market. Lipson et al. (1998) confirm that managers do not initiate dividends until they believe future earnings can maintain those dividends.

2.3.5 Agency Cost Theory and Free Cash Flow Hypothesis

One of the assumptions of M&M's perfect capital market is that there are no conflicts of interests between managers and shareholders. In practice, however, this assumption is questionable where the firm owners are distinct from its management. In this case, managers are always imperfect agents of shareholders, and this is because agents (managers) may not always act in the best interest of the firm owners. This induces shareholders to incur agency costs to monitor the behaviour of managers. Moreover, dividend payments may help align the interests of managers and shareholders via cutting down the cash available for use at the discretion of management, and hence protecting the self-interest of management (see, e.g., Jensen and Meckling, 1976; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986; Crutchley and Hansen, 1989; Jensen et al., 1992; Alli, Khan and Ramirez, 1993; and Saxena, 1999). Additionally, paying larger dividends reduces the discretionary internal cash flow. It forces the firm to seek external financing from capital markets and hence, the scrutiny and disciplining effects of investment professionals (Easterbrook, 1984).

Another source of the agency costs problem that may be influenced by dividend policy is the potential conflict between shareholders and debtholders. Shareholders are considered as the agents of debtholders' funds. In this case, excess dividend payments to shareholders may be taken as shareholders expropriating wealth from debtholders (Jensen and Meckling, 1976). Shareholders have limited liability, and may access the firm's cash flow before debtholders; subsequently, debtholders prefer to put constraints on dividend payments to make sure that the firm has sufficient money to

pay its debt to secure their claims (Smith and Warner, 1979; Kalay, 1982). Conversely, for the same reasons, shareholders prefer to have large dividend payments (Ang, 1987).

In most often-cited articles, Jensen and Meckling (1976), Rozeff (1982), Easterbrook (1984), and Jensen (1986) develop the "agency cost theory", which derives from problems associated with the separation of management and ownership, and the differences in managerial and shareholder priorities. They argue that high dividend payments reduce the internal cash flow subject to management discretion and force firms to approach the capital market to meet the funding needs of new projects. The efficient monitoring of capital market (that is, outside professionals such as investment banks, lawyers, regulators, public accountants, and potential investors) also assists in ensuring that managers act in the best interests of the shareholders. Therefore, the agency cost theory implies that firms with high cash flows should pay higher dividends, because a generous dividend payment reduces the amount of free cash flow under the management's control and minimises agency problems, thus enhancing firm value. As noted earlier, M&M suggested that a firm's dividend policy is independent of its investment policy. By contrast, the free cash flow hypothesis implies that the dividend policy and investment decisions are interrelated. It is argued that a dividend payment reduces free cash flow and thus reduces the "overinvestment" problem, which will have a positive impact on the market value of the firm, ceteris paribus (Lang and Litzenberger, 1989).

2.3.6 Clientele Effect

According to the signalling theory, a firm's share price reacts to changes in dividend policies. The clientele effect presumes that different firm policies influence investors, and when a firm's policy changes, investors will adjust their investment strategy to suit their needs, and this affects the share price accordingly (see, Miller and Modigliani, 1961; Elton and Gruber, 1970; Black and Scholes, 1974). The dividend clientele hypothesis does not directly provide a link between dividend policy and firm value, in that whatever policy a firm follows, it will attract investors with matching preferences. Investors tend to keep shares whose dividend policy matches their needs. In Particular, investors have a portfolio of investments, and these investments are attuned to serve the investors' goal, such as capital preservation, high growth, income

generation, and other types of strategies. These goals vary in terms of the investor's age, career, education expenses, employment package, family size, and other characteristics. In other words, investors who prefer certain dividends over uncertain future capital gains will hold shares with a high dividend payout, and vice versa. Hence, the clientele effect is the tendency of a firm to attract the type of investor who likes its dividend policy.

Several studies investigate the issue of dividend clientele, according to Baker, Farrelly and Edelman (1985) who agree with the clientele argument that different investors' preferences form a clientele effect. They highlight two reasons behind the impact, the first reason is the variation in perception towards the risk associated with retaining earnings and the second reason is the taxation effect. Furthermore, Allen, Bernardo and Welch (2000) argue that clienteles consisting of institutional investors tend to be attracted to dividend-paying firms due to their relative tax advantages over individual investors. Similarly, high-quality firms have a preference to attract institutional clienteles (through paying dividends) because institutions are better informed than retail investors and have more ability to monitor or detect firm quality. Furthermore, Brav, Graham, Harvey and Michaely (2005) find that, despite the large tax disadvantage of dividends, retail investors prefer cash dividends. The authors interviewed financial managers who argued that dividends are an essential factor to attract retail investors. They also mention that the preference for dividends grows with age.

2.4 Empirical Studies on Dividend Policy

After having reviewed the main theoretical arguments around dividend policy, this chapter section will present a summary of the empirical studies of dividend policy, grouped into five sub-sections: the role of directors, the role of firm characteristics and performance, the role of investors, the impact of the economic environment, the effect of national culture and governance, and the GCC dividend studies.

2.4.1 The Role of the Directors

The first strand of literature focuses on managers, CEOs and directors as the critical variable influencing dividend policy and takes into account aspects such as demographic and behavioural characteristics, preferences and managerial

compensation schemes. To begin with, according to Hoang and Hoxha (2016), managers by and large tend to prefer dividend smoothing and stable dividend policy. This preference remains even in situations where the firm's income and profitability experience shocks, with managers using debt and investment-based measures to maintain dividend rates in the face of reduced earnings. The authors suggest that the key incentive for smoothing for managers relates to maintaining compensation levels, but the authors provide little evidence to substantiate these claims and research by Karpavičius (2014), offers alternative explanations for this preference, which is attributed to a desire to maintain or increase firm value. Ultimately, Hoang and Hoxha (2016), also conclude that repeated shocks to income will increase variability in dividend payouts as smoothing becomes more and more difficult for US firms.

Research by Caliskan and Doukas (2015), examines the role of CEO compensation type on dividend policy in the US and finds that CEO's who receive deferred compensation (or inside debt) are more likely to offer dividends to shareholders. The research also reveals that CEO's who receive convex returns-based compensation are less likely to pay dividends. The implication is that risk-seeking managers are less likely to favour a pro-dividend policy, and the research established that the desire of investors for dividends does not impact the risk-seeking manager's decision. One key issue with this research is the fact that information regarding the risk preferences of CEO's is derived entirely from compensation packages, and the results may be considered derivative due to this.

Demographic characteristics of managers and their relation to dividend policy have also been assessed by Nicolosi (2013). According to Nicolosi (2013), CEO's of US that are married, Christian and Republican are more likely to support the offering of high dividend payouts. This attributed to over-optimism on the part of these CEO's as the surveyed firms also display deteriorating performance. However, these demographic profiles mostly belong to a US context, and the study does not attempt to construct a global or Western demographic profile that would reflect this behaviour. Somewhat related to the role of managerial and CEO characteristics is the question of the features of the Board of Directors. In this regard, Chen, Leung and Goergen (2017) state that female directors were more likely to offer dividends than males, and the rationale behind this was that female directors were more likely to provide these

dividends to ensure effective governance. Gender-based characteristics of the board were also found to have a strong influence on dividend policy when existing governance structures were weak. A more in-depth understanding of the key variables influencing the firm's dividend policy may be required before accepting the conclusion that the critical factor was the presence of female directors.

2.4.2 The Role of Firm Characteristics and Performance

Key firm characteristics and performance attributes also play an important role in determining dividend policy, and individual studies have focused on this aspect when conducting their analysis. One characteristic that has been evaluated by Florackis et al. (2015) is that of managerial ownership. According to the findings of this study, low levels of managerial ownership correspond with the lower likelihood of dividend payments, but this likelihood increases substantially when levels of managerial ownership are extremely high. However, the authors concede that the pattern is not conclusive with results which are varying significantly based on other firm characteristics such as debt capacity. As a result, managerial ownership cannot be considered as a highly influential variable. The data set that the researchers have used is also limited to US-listed firms.

Conversely, debt capacity or financial flexibility is a firm characteristic that appears to have a significant impact on dividend policy. To begin with, according to, Koussis, Martzoukos and Trigeorgis (2017), retained earnings (through the non-payment of dividends) has a positive impact on the firm's debt capacity and a negative effect on equity value. This can result in conflicts between debtholders and shareholders in firms where profitability is high, and volatility is low, and the level of growth options is high. In other words, the risk of default is low. On the other hand, in situations where profitability is low and default risk is high, awarding of dividends is frequently used by firms to inflate share value, due to the fear of a potential future default. The conclusions reached in this research, are however based on the usage of a predictive model and as a result, this may not reflect actual practice. Debt capacity has also been found to have an influence on dividend policy by Fliers (2019). According to Fliers (2019), high levels of unused debt capacity which are considered to be an element of financial flexibility is considered to have a strong correlation with dividend smoothing, while low levels of debt capacity have the opposite effect in US firms. High debt

capacity is often used to overcome the impact of adverse income shocks on dividends, with debt being used to maintain dividend levels. This is in line with the earlier mentioned research by Hoang and Hoxha (2016). The second element of financial flexibility that has been highlighted by Fliers (2019) is that of capital structure adjustment speeds and Fliers (2019), states that firms with the ability to adjust their capital structure in the face of shocks rapidly can also withstand adverse impact on dividends. However, this research does not make many novel contributions to the field as many of the conclusions had already been predicted by Lambrecht and Myers (2012), whose article was the basis for Fliers (2019) research.

Research by Kumar and Vergara-Alert (2018), also focuses on the financial flexibility or the ability of a firm to acquire external financing rapidly and its relationship with the firm's dividend payout policy. More specifically, the research attempt to measure changes in dividend policy in response to changes in financial flexibility in the US They use a variation (or shocks) in Corporate Real Estate values to identify changes in financial flexibility, as the authors argue that Corporate Real Estate holdings could determine collateral, which would, in turn, impact financial flexibility. The findings of this study demonstrate that positive shocks or increases in real estate value (resulting in increased financial flexibility), would increase dividend payouts and also an increase in dividend policy flexibility. Another key finding of this study indicates that firms with higher leverage are likely to reduce payouts in the face of reduced financial flexibility. However, one potential weakness of this study relates to the fact that it focuses on one narrow indicator of financial flexibility and does not consider the impact of other factors that may influence flexibility.

Cooper and Lambertides (2018) examine the leverage ratio of firms who regularly announce substantial dividend increases and have discovered that these firms tend to finance dividend increases through increased debt, which in turn, increases leverage. This willingness is not attributed to predicted changes in profitability or firm value but instead relates to the agency problem of managerial appropriation of cash flow. This tendency to finance dividends through debt was found to be more significant in large firms where executive compensation was low. These findings are contradicted by arguments that have been included earlier, which suggest that debt-based dividend financing stems from a desire to maintain or increase firm value (Karpavičius, 2014).

A study by Andres and Hofbaur (2017), indicate that US firms who follow a four-quarter structure for their dividend increase announcements are more likely to have a predictable dividend policy and that the announced dividends were not likely to be associated with high returns. They also state that the adoption of the four-quarter structure is related to specific firm characteristics, such as large size, high value and stable earnings. This suggests that these characteristics may have a more significant impact than the adoption of the four-quarter structure, and four-quarter structure adoption may be simply a mediating factor. Akhtar (2018), presents an interesting comparison of the dividend policies of Australian multinationals and domestic firms. According to Akhtar's (2018) findings, multi-nationals are less likely to offer dividends to shareholders than domestic firms. He attributes this to increased foreign taxes and risk exposure of multi-nationals, which prevented them from having a pro-dividend policy. These findings are, however, restricted to the Australian context and research on other countries, or a cross-sectional study may yield different results.

Lastly, an additional characteristic that has been assessed in the literature is corporate social responsibility (CSR). According to Cheung, Hu and Schwiebert (2018), US firms with high (CSR) scores (based on the Environmental, Social and Corporate Governance (ESG) framework) are more likely to pay higher dividends than firms with lower CSR scores. The research, however, does not highlight any specific correlation between CSR activities and a pro-dividend policy on the part of firms. There was also a lack of consideration of other factors that could contribute to the firm's decision to pay dividends. Nonetheless, Benlemlih (2019), has also supported the view that firm's with strong CSR performance tend to pay higher dividends and indulge in smoothing. The results of this study are based on an analysis of individual CSR dimensions, and most of these dimensions are found to be positively correlated between dividend and CSR. However, Benlemlih (2019) could also be accused of incorrectly attributing a greater influence to CSR than is due, as other firm characteristics may have played a higher than their CSR performance.

2.4.3 The Role of Investors

The third strand of research emphasises the role of investors or equity holders on dividend policies. In this regard, the relation of dividends policy with many investor characteristics is examined. The role of institutional investors, in particular, has been

discussed frequently in the literature with various studies examining their impact on dividend policy. According to Amin, Dutta, Saadi and Vora (2015) institutional investors in the US (such as banks and firms), can be differentiated from typical retail investors because of the long-term nature of their investments, which also results in differentiated behaviour. This behaviour is associated with greater patience and a lower focus on short term gain. As a result, they state that institutional investor involvement coincides with a reduction in cumulative abnormal return (CAR), as well as the information content of announcements. Based on this, it can be surmised that institutional investors are unperturbed by lower than usual dividend payouts. Moreover, this research also concludes that institutional investors with a long-term focus do not seek to benefit from inside knowledge. However, this study focuses specifically on dividend surprises or the announcement of dividends over and above what was expected. As a result, these findings may not apply to standard dividend announcements.

Mori and Ikeda (2015), also discuss the role of institutional investors and in this case, minority blockholders (or holders of significant proportions of minority shares within a firm). According to Mori and Ikeda (2015), in a situation where the equity of the firm is highly dispersed, these institutional blockholders perform an important governance function, which is monitoring the activities of the management of the firm. Obtaining the right to be a monitor involves consensus from the other shareholders, and this discussion provides an insight into the politics of these situations and their impact on dividend policy. They also state that small individual shareholders who cannot perform monitoring activities encourage the blockholder to do so through the awarding of dividends. Furthermore, they report that compromises must be made as the model assumes that individual shareholders are dividend averse due to the higher rates of marginal taxation imposed on their dividend returns. At the same time, institutional blockholders must agree to a lower dividend than desired.

Larkin et al. (2016), evaluate the preferences of investors and what impact (if any) this has on managerial tendency to smooth dividends and subsequently on the share value of a firm. According to the results of this study, institutional investors in the US, such as mutual funds were far more likely to hold stock with smooth dividend payments than individual retail investors. Thus, it is concluded that dividend policy determines

the type of investor that is attracted, rather than investors determining dividend policy. This is in contrast, with the findings of the other studies discussed in this section, which suggest that it is investors who influence dividend policy. Larkin et al. (2016), also do not note any significant increase in share price as a result of dividend smoothing, which contradicts the earlier findings of Karpavičius (2014). Instead, Larkin et al. (2016), support the argument that was initially made by Hoang and Hoxha (2016), which is that manager's decisions could be attributed to their desire for increased rent/compensation.

The behavioural characteristics of investors and their impact on dividend policy have also been analysed by Breuer et al. (2014). According to Breuer et al. (2014) investors with loss and ambiguity aversion related characteristics tend to actively lobby for high and frequent dividend payouts while investors who display characteristics such as patience tend to prefer lower dividend payments. Breuer et al. (2014) research also involve a multi-country (29 countries) analysis, which increases applicability. Nonetheless, the list of behavioural characteristics outlined by Breuer et al. (2014), is not exhaustive and a more comprehensive list of characteristics must be assessed before firm conclusions can be made regarding the most influential behavioural characteristics.

2.4.4 The Impact of the Economic Environment

The existing literature also attempts to analyse the impact of important external events on a firm's dividend policy. Additional studies have also attempted to record the impact of changes in the external environment on dividend policy, and one of these is a study by Hail et al. (2014), which evaluates the impact of improvements in information availability- which reduces information asymmetry between managers and shareholders- on dividend policy. The events that were used to represent this change were International Financial Reporting Standards (IFRS) adoption and insider trading laws, both of which mandated the sharing of additional information with investors. According to the results of this study, these external events caused a reduction in the dividend amount and in the likelihood that payments would be made. The study also made use of multi-country (49 countries) data, which increases applicability. However, the view of dividends, solely as an attempt by managers to

reduce conflict related to the free cash flow problem may be problematic as it assigns certain behaviours to managers and excludes other likely explanations.

The financial crisis of 2008-9 provided a significant shock to the global economy, with many industries and businesses having to deal with its consequences. Bliss, Cheng, and Denis (2015) examine the impact that this event had on the dividend policies of firms and discovered that dividend payouts were reduced by a large majority of firms within their chosen sample. Dividend reductions were attributed to increases in the price of credit and that firms instead began to rely on retained earnings to maintain the cash flow and invest in future projects. The reduction effect was found to be more acute for firms with higher leverage, lower cash reserves and growth options requiring investment. One criticism of this study relates to its decision to compare changes that occurred during the 07/08 period with 2005/06. The decision to focus on a single year immediately before the crisis may be flawed as this period coincided with a flurry of credit-related activity, and it is debatable whether this can be included as a typical period of operations.

2.4.5 The Impact of National Culture and Governance

One of the clearest implications of the literature review has been the fact that the national/domestic environment and conditions related to governance and culture have a significant impact on the dividend policy of firms that operate within them. This has been suggested in studies that focus on specific national context and multi-national studies, which seek to identify global trends in dividend policy.

According to Rangvid, Schmeling and Schrimpf (2014), there are key differences that must be noted when analysing changes in global dividend policy and changes in the dividend policy of firms belonging to a particular national context. In Rangvid et al. (2014) study, the relationship between the dividend yield and dividend growth is found to be different in countries with different characteristics, and the authors highlight this as one of the central conclusions of their paper. To begin with, the US dividend yield is found to have no significant relationship with dividend growth predictability, and this was also the case in countries with large and stable equity markets. However, this relationship was overwhelmingly positive for countries where the markets were small, underdeveloped and relatively more turbulent. Firms in these countries were also

found to be smaller, and dividends were also not smoothed frequently. These findings may, however, be disputed using research conducted by Møller and Sander (2017), which argue that the dividend yield was not sufficient to predict dividend growth and that dividend yield should be used in conjunction with earnings yield for this purpose. The study established that combining dividend yield and earning's yield resulted in the identification of a clear relationship with dividend growth and that this extended to the United States as well, which was in contrast with the findings of Rangvid et al. (2014). Møller and Sander's (2017), the study was also based on a sample of multiple countries (14 countries), although these were fewer in number than those included in Rangvid et al. (2014) (50 countries) study. Moller and Sander's study also did not include any non-industrialised nations with underdeveloped market characteristics. Also, it did not delve into the role of firm characteristics or their impact on the relationship.

Byrne and O'Connor (2017) examine the influence of national culture and creditor rights on dividend policy and how these two variables interact with each other to impact dividend policy in certain situations. Byrne and O'Connor's study focuses on prevailing national cultural attitudes regarding dividend policy and how influential these attitudes in situations of weak and strong creditor rights. Two cultural attitudes are included in this study, and these were collectivist and individualistic attitudes. According to the assumptions of the collectivist attitudes, they favoured lower dividends while individualistic attitudes favoured high dividends. The results demonstrate that in situations where creditor rights were strong, creditors would generally tend to accept prevailing attitudes regarding cultural policy but interestingly in situations where creditor rights were weak, creditors would attempt to reduce dividend payments through a variety of mechanisms. This suggests that creditors are more likely to attempt to influence policy when the institutional environment does not provide them with sufficient protection. This study has, however, only considered two cultural archetypes and other cultural dispositions may also have an impact of dividend policy as the countries selected in the sample could have been described using more than one cultural identifier.

Brockman, Tresl and Unlu (2014) identify another important component of the national environment which is governance and according to Brockman et al. (2014)

weak governance results in a tendency to award larger and more regular dividends. The effect of the dividend is compensatory and attempts to address issues related to information asymmetry. Brockman et al. (2014), study, is conducted using 3-year data from 24 countries with ineffective insider trading laws. One key issue with this study is the fact that it did not compare and contrast the situation in weaker institutional environments with environments where stricter regulations exist. This would have enabled the researcher to truly distinguish the unique features of dividend policy in weak regulatory environments. Nonetheless, the conclusions reached in this study have been supported by other research. An example of this was research conducted by Athari, Adaoglu and Bektas (2016), on the dividend policies of Islamic and conventional banks in Arab countries. The research demonstrates that Islamic banks, which are not subject to the same investor protection and insider trading regulations as normal banks, tended to offer higher dividends to compensate investors for weaknesses in the governance environment. However, the competitive environment in which normal banks operate was also considered to be a factor behind lower dividends, and this impacts the institutional environment argument.

The compensatory effect of dividends was also highlighted in research by von Eije, Goyal and Muckley (2017), and this research presents a comparison between dividend policies in Latin America and the US According to the results of the study, policies in Latin America were found to be more flexible with a likelihood of higher payouts. Higher dividends were again viewed as being compensatory, due to increased information asymmetry in the Latin American environment. However, these observations did not apply to all Latin American firms as there was still significant variation in policy with many Latin American firms omitting dividends altogether. Moreover, the information asymmetry or financial immaturity of the Latin American market was not described in detail.

Four additional studies have examined dividend policy in specific national environments. The first of these is research by Jiang, Ma and Shi (2017), which assesses the impact of stock liquidity on dividend policy in Chinese firms, concluding that firms with higher liquidity were more likely to pay higher dividends. The second was a study by David and Ginglinger (2016), which find that French investors did not express dissatisfaction with the decision to award stock dividends rather than cash

dividends. A third examined ex-day abnormal returns in the tax and regulation-free environment of the UAE and find that returns remained abnormal despite the lack of regulations (Dupuis, 2019). The final study established that dividend payments increased as Indian firms grew over time (Ranajee, Pathak and Saxena, 2018). However, these studies had minimal international applicability due to their focus on specific countries and avoidance of comparisons with global trends.

2.4.6 Empirical Studies on Dividend Policy: The case of GCC

After reviewing the main theoretical arguments around dividend policy and the recent empirical dividend studies, this chapter section presents a summary of the existing empirical studies of dividends in GCC stock market in Table 2-4 shown below.

Table 2-4: Studies of Dividend Policy in GCC stock market.

Researcher	Aim of the study	Methodology (data sample and model)	Main findings of the study
Al-Kuwari (2009).	To investigate the determinants of dividend policies.	**Data sample:** a sample of 245 non-financial firms listed on the Bahrain, Kuwait, Oman, Qatar and Saudi Arabia Stock Exchange from 1999 to 2003. **Methodology:** The random Effects Tobit Models for testing dividend policy	• The main characteristics of firm dividend payout policy are that dividend payments are related to government ownership, firm size and firm profitability, but negatively to the leverage ratio. This indicates that firms pay dividends intending to reduce agency problems and maintain firm reputation due to the legal protection for outside shareholders being limited.
Al-Kuwari (2010).	To identify firm characteristics that lead to the decision to pay (or not) dividends.	**Data sample:** a sample of 245 non-financial firms from Bahrain, Kuwait, Oman, Qatar and Saudi Arabia over the five years from 1999 to 2003. **Methodology:** The random-effects **Probit** model	• The results reveal that government ownership, firm profitability, and firm size increase the probability of paying dividends, whereas good investment opportunities decrease the likelihood of paying dividends. Overall, research findings indicate that the GCC listed firms paid dividends to reduce agency conflict, avoid exploiting minority shareholders, and enhance their firm's reputation.
Al-Ajmi (2010).	To investigate the determinants of banks' dividend decisions among banks	**Data sample:** The sample consists of **16** banks in Abu Dhabi between 1997–2006, **6** banks in Bahrain between 1990–2006, **9** in Dubai between 1997–2006, **8** banks in Kuwait between 1994–2006, **5** banks in Oman between 1997–2006, **8** banks in Qatar between 1997–2006 and **10** banks in Saudi Arabia between 1990–2006. So, the total sample is 62 banks. **Methodology:** The dataset is a time-series cross-sectional dataset, and the random effects **Tobit** model was used.	• The relatively low values of SOA in all the markets, except banks in Abu Dhabi, suggest that banks smooth their dividend payments. The results offer mixed evidence on the role of dividends in mitigating agency problems and as a signalling device used by management, but the results support the transaction cost hypothesis. These mixed conclusions provide evidence for the possible effect of country specifics, such as regulations and institutions, on a firm's dividend policies.
Al-Hunnayan (2011).	To define the payout policy of Islamic banks and to identify the factors that influence payout distributions.	**Data sample:** the financial data of 13 Islamic banks in the GCC between 1993 and 2008. **Methodology**: Using investors' survey, managers' survey, and payout model	• The main results of the investors' survey report that investors prefer to receive dividends due to transaction and agency costs, which supports the dividend relevance hypothesis. The results suggest that the agency cost is explained by the uncertainty resolution, window dressing and FCF hypothesis. Investors were found to assess the payouts, including Profit and loss Saving and Investment Accounts (PSIA) profit distributions, by comparing them to market and historical rates.

		(multivariate regression analysis technique).	• Moreover, managers believe that competitors' payouts and historical distributions mainly drive PSIA distributions. The study report that liquidity, profitability, and maturity effects have a minor influence on PSIA distributions. As for dividends, managers said that payout decisions are relevant to the firm's value. Managers believe that investors perceive the stability of the payout policy as a positive signal of the bank's strength. They also believe in the effects of maturity and growth, as new banks have relatively high capital expenditures, which flatten out over time. Consequently, mature banks tend to have higher dividend distributions. Lastly, managers also report that a bank's liquidity and financial ability have a positive relationship with dividend distributions. • The research findings show that to maintain and grow its market share, Islamic banks tend to distribute competitive profits to depositors, even if such distribution would negatively impact shareholders in the short run. This effect is termed as the displaced commercial risk, which has been empirically proved by the results.
Fernandez and Kumar (2016).	To examine the dividend intensity trends in the GCC stock market	**Data sample:** a sample of 759 listed GCC firms during the three years between 2012 and 2014. **Methodology:** Descriptive statistics.	• The study finds that about 60% of the total GCC listed firms has paid cash dividends during the three years 2012–2014. The highest dividend-paying country was Qatar, where 57% firms listed in the Qatar Stock Exchange paid dividends during this period, followed by Oman, where 79% of firms listed on the Muscat Stock market paid dividends. Bahrain followed this with 70%, Saudi Arabia with 57%, the UAE with 53%, and Kuwait, where only 48% of listed firms paid dividends during the study period.
Guizani (2017).	To examine how sharia-compliance mitigates the agency cost of free cash flow by using dividend policy	**Data sample:** The study sample consisted of a panel data from 207 GCC firms during the 2009–2014 period. **Methodology:** Pooled **OLS** and panel model regressions	• The results show that Sharia-compliant firms not only have higher payout ratios but also have a higher likelihood to pay dividends. • Furthermore, consistent with the avoidance of the FCF problem, the results reveal that the dividend payments of Sharia-compliant firms respond more strongly to FCF than make the dividend payments of non-Sharia-compliant firms. • Likewise, Sharia-compliant firms are likely to pay out more of their FCF than non-Sharia compliant firms, which can prevent managers from misusing the resources in ways that may not maximise the wealth of shareholder.
Sahut and Teulon (2017).	To examine the effects of specific corporate governance mechanisms and ownership structures on dividend policy	**Data sample:** a sample of 362 listed firms between 2003 to 2013; 187 of the selected firms come from four East Asian countries: Indonesia, Malaysia,	• For governance mechanisms, the influence of board size, CEO duality and board intensity on dividend decision and/or payouts becomes negative. Moreover, the independence of board members no longer determines dividend policy. For ownership structure, institutional ownership always plays the same role, whereas concentration

		Thailand, Taiwan, and 175 from **four** GCC countries: Bahrain, Kuwait, Oman and Saudi Arabia. **Methodology:** The panel regression model	ownership becomes insignificant and managerial ownership has a significant negative effect on dividend decisions and payouts. These results have strong implications for investors and firms listed in these emerging markets.
Hanifa, Hamdan and Hafar (2018).	To identify the key factors affecting dividend policy in the financial sector that have been neglected in the literature	**Data sample:** Panel data on **621** banks of Group of Seven (G-7) and **68** banks of GCC between 2010 to 2015. **Methodology:** The random-effects regression analysis of the panel data.	• The findings reveal that the dividend payout ratio for the GCC countries is higher than the G-7 countries in every year of the examined period. Additionally, GCC banks demonstrate higher growth opportunity and profitability, while G-7 banks had higher leverage and a larger size. Moreover, for both G-7 and GCC banks, profitability and last year dividend had a significant positive influence while banks' leverage had a significant negative impact on the dividend payout.
Awwad and Hamdan (2018).	To investigate the governance of the energy sectors in the Gulf financial markets.	**Data sample:** eight GCC energy firms in a ten years' time series, 2008–2017 **Methodology:** The multiple regression model	• The results of the study state that there is a positive correlation between dividends and the corporate governance quality in GCC energy sectors firms. Indicating that these firms were working to reduce the agency cost and eliminate conflicts between shareholders and managers through the distribution of excess cash flows that were not used in internal financing. Also, there is a positive effect on both the firm size and its profitability on dividends.
Guizani (2018).	To examine the mediating effect of dividend payout on the relationship between internal governance mechanisms and the FCF level.	**Data sample:** 207 non-financial firms listed on the GCC stock markets between 2009 and 2016 **Methodology:** Panel regression	• The results confirm the significant role of outside directors in corporate governance. This governance mechanism contributes to the protection of shareholders' interests through a generous dividend policy. However, the author finds that large managerial shareholdings increase the level of FCF through lower dividend payouts. This result suggests that powerful managers follow their preference for retaining excess cash in their interest.
Hamdan (2018).	To investigate the moderation role of board independence on the relationship between dividend policy and agency costs.	**Data sample:** a sample of 237 firms from four GCC countries: Bahrain, Oman, Saudi Arabia, and the United Arab Emirates between 2003 to 2015. **Methodology:** The random-effects regression for panel data.	• The findings state that dividends are positively related to asset utilisation; GCC firms resort to dividend policy to reduce FCF, eventually reducing agency costs. Furthermore, findings reveal that the inclusion of board independence as a moderating variable positively influenced the relationship between dividend policy and the reduction of agency costs.

Note: The table shows the summary of studies of the dividend policy in the GCC stock market (In chronological order).

2.5 Summary of Research Gaps from Previous Research on GCC

As demonstrated at the beginning of the present chapter, several possible explanations of the dividend puzzle have been advanced and tested in the literature. Yet the results, primarily based on the US or some developed market data, raise almost as many questions as they answer. Several important gaps have been identified in the existing literature on dividend policy. To begin with, the literature focuses mainly on five key themes and their relation to dividend policy. These include the characteristics of managers, CEOs and directors, the characteristics and performance attributes of individual firms, the role of investors, the role of the economic environment, and the role of the national/cultural environment. In each of these five cases, issues related to the lack of generalisability, focus on narrow research parameters and insufficient consideration of influential variables were raised. However, in terms of overall conclusions, there are limited studies in emerging markets, especially in the GCC. Moreover, the existing literature largely ignores the key objectives of this thesis.

Although there are studies about dividend policy conducted in GCC countries, it is noted that these studies lack some prominent aspects in the field. For example, Dupuis' (2019) study does provide results that contribute to knowledge related to market reactions to dividend announcements in the GCC; nevertheless, it focuses only on the UAE and on price premiums. Athari et al. (2016), in their study, discuss dividend policy in the wider Arab world but do not distinguish between governance and environmental characteristics of the GCC and other Arab nations that were included in the sample. However, their findings contribute to knowledge related to predicting dividend policy through its conclusion that Islamic banks are more likely to use dividends as a substitute for environmental uncertainty. However, the narrow focus on the banking industry does not provide insights into broader dividend policy in the region.

The next part of this section discusses the major topics in dividend policy in the GCC that were covered in the current literature review. Considerable attention has been given to examining the relationship between dividend policy and agency costs in Gulf markets (see, e.g., Al-Kuwari, 2009, 2010; Al-Ajmi, 2010; Guizani, 2017; Hamdan, 2018). These papers find that GCC's firms paid dividend payments to mitigate the agency problem. As shown above, other studies examine the determinants of dividend policy in Gulf countries (see, e.g., Al-Kuwari, 2009, 2010; Hanifa et al., 2018). These studies

suggest that government ownership, firm size, and profitability have a significant positive influence on dividend payout ratio. In contrast, leverage ratio and investment opportunities have a negative impact on paying dividends.

Furthermore, other GCC studies have been interested in the effect of corporate governance on dividend policy[27] (see, e.g., Sahut and Teulon 2017; Awwad and Hamdan, 2018; Guizani, 2018). These studies have different findings: for example, Sahut and Teulon (2017) suggest that the influence of board size, CEO duality and board intensity on dividend decision and/or payouts becomes negative. Whereas, Awwad and Hamdan (2018) find that firms that had increased levels of corporate governance had increased their dividends during the study period. This is indicating that these firms are working to reduce the agency cost and eliminate conflicts between shareholders and managers through the distribution of excess cash flows that are not used in internal financing. Guizani (2018) finds that the governance mechanism contributes to the protection of shareholders' interests through a generous dividend policy.

From the previous discussion, this study addresses several vital shortcomings of the literature, which relate to dividend policy in the GCC region. From Table 2-4, we can identify the following gaps:

- The signalling role of dividends has not been sufficiently explored, especially in countries with a high level of information asymmetry such as GCC. For example, what would be the market's reaction to information concerning dividend announcements, and whether signalling motives are a pervasively significant influence on a firm's payout decisions (e.g., smoothing, stickiness, increasing and decreasing). Hence, literature related particularly to dividend character in developing markets contains gaps that need to be filled.

[27] In the GCC context, for example, the Saudi model of corporate governance has been influenced by the Anglo-American model is also called the unitary board model, generally referred to as a "market model" or "shareholder model," which focuses on maximising owners' wealth (Pillai and Al-Malkawi, 2018).

- Some studies have analysed either stock market reaction around dividend announcements[28] or dividend smoothing[29] in only one of the GCC countries. However, there is no study of the share price and trading volume response to dividend distribution announcements that has ever been done on the overall GCC stock market. The point of covering this gap is to know if the announcements of dividend policy changes do convey information about a firm's future prospects or not. Based on signalling theory, dividend increases (decreases) serve as signals of increased (decreased) current and/or prospective future earnings. Therefore, an announcement of higher (lower) dividend payments should be accompanied by a rise (fall) in share prices.
- Previous studies focus only on measuring the dividend smoothing in GCC banks (see, e.g., Al-Ajmi, 2010; Al-Hunnayan, 2011; Hanifa et al., 2018) and none of them measures dividend smoothing for other sectors. The point of filling this gap is to know if managers strive to maintain smooth dividends because they avoid dividend cuts, and if so, what are the determinants of dividend smoothing in GCC stock market overall.
- Several studies have examined the determinants of dividend smoothing[30], although share price informativeness has been found by De Cesari and Huang-Meier (2015) to be a key determinant of dividend change. However, as far as we know, the impact of share price informativeness on dividend smoothing has not been considered before, either in developed or emerging countries. The point of addressing this gap is to know whether the stock market can affect firm corporate dividend decisions through the informational content of share prices. This would contribute to our understanding of whether and how information flows from the stock market to firms, which is of vital importance to enable a better assessment of the impact of financial markets on the firm.
- Also, no previous study has investigated the determinants of dividend smoothing in both financial and non-financial sectors in GCC. The point of

[28] See, e.g., Al-Yahyaee et al. (2011b) for Oman; Asiri (2014) for Bahrain; Al Qudah and Badawi (2015) for Saudi Arabia, for more details please see section 2, chapter 3.
[29] See, e.g., Al-Yahyaee, Pham and Walter (2010, 2011a); Al-Malkawi, Bhatti and Magableh (2014) for Oman; Al-Ajmi and Abo Hussain (2011) for Saudi Arabia, for more details please see section 2, chapter 4.
[30] See, e.g., Leary and Michaely (2011); Jeong (2013); Javakhadze et al. (2014), for more details please see section 2, chapter 4.

filling this gap is to know if there are differences between the determinants of the two sectors.

- Some studies in developed countries attempt to predict the dividend cut[31] or dividend increase[32]. On the other hand, no study has examined the prediction of dividend change in GCC stock market. The point of filling this gap is to attempt to determine the factors that govern the decision to increase or decrease dividend payment.
- Furthermore, there is no study, to the best of our knowledge, in emerging markets using the dividend announcement timing as an indicator for the prediction of dividend cuts or dividend increase. The point of covering this gap is to know if the managers consider signalling effects, and if so, whether they care about the timing of the dividend announcement.
- In addition, no research has been conducted to investigate the association between modification of capital structure and dividend change in GCC. It is important to cover this gap to understand what the managerial actions are (change in the capital structure) associated with dividend decisions, considering the reduction in information asymmetry and avoiding both the negative signalling effect and the agency problem.
- GCCs studies either cover only a specific sector but not all sectors[33], are conducted for a short sample period[34], or consider some of the Gulf states but not all[35].

In the present thesis, we address all these points, addressing the gaps in existing dividend studies.

[31] See, e.g., DeAngelo et al. (1992); Li and Lie (2006) for the US; Benito and Young (2003) for the UK, for more details please see section 2, chapter 5.
[32]See, e.g., Bulan et al. (2007); Charitou et al. (2011); Officer (2011); Kale et al. (2012) for the US, for more details please see section 2, chapter 5.
[33] See, e.g., Awwad and Hamdan (2018).
[34] See, e.g., Fernandez and Kumar (2016).
[35] See, e.g., Al-Kuwari (2009, 2010); Sahut and Teulon (2017); and Hamdan (2018).

Chapter Three: The Impact of Dividend Announcements on Share Price and Trading Volume

3.1 Introduction

Building on the work of Spence (1973), Bhattacharya (1979) produced an internally consistent model of M&M's (1961) "informational content of dividends hypothesis" demonstrating how dividends could allow insiders to credibly communicate information about the expected future value of the firm to less informed outsiders. The credibility of the signal requires that it does not pay for low-quality firms to mimic the behaviour of high-quality firms. The majority of the empirical studies of the "informational content of dividends hypothesis" have used an event study methodology to investigate the share prices response to the dividend changes announcement. Numerous studies report evidence consistent with the signalling hypothesis of dividends that announcements of dividend policy changes do convey information about the firm's future prospects (Michaely et al., 1995; Akhigbe and Madura, 1996; and Lipson et al., 1998; Bernhardt, Douglas and Robertson, 2005). It is suggested in the literature that in perfect capital markets, dividend announcements should be irrelevant to share pricing (Miller and Modigliani, 1961). However, the literature about imperfect markets argues that dividends signal information on firm prospects, thus share price should react to dividend announcements. This has led to perplexity regarding the issue of informativeness due to the existing mixed views. Therefore, analysing the market reaction to dividend announcements is very important to managers and shareholders. This chapter examines the share price and trading volume reactions to dividend change announcements in the tax-free environment, using data from the GCC region. Given these facts, this study aims to determine how public announcements relating to dividend policy affect share prices and trading volumes in the GCC stock market, using an event study methodology. Therefore, this chapter explores (1) the effect of dividend change announcements on share price over both short and long terms in an absent tax market (GCC), and (2) the impact of dividend change announcements on trading volumes in the GCC stock market.

The remainder of this chapter is organised as follows: Section 3.2 reviews the theoretical and empirical literature, while Section 3.3 presents the research questions and proposed hypotheses. Section 3.4 describes data sources and presents the research

methodology. Section 3.5 presents the empirical findings, while Section 3.6 summarises the results and concluding remarks.

3.2 Theoretical Framework and Literature Review

This part seeks to review the theoretical framework of the study. The theoretical framework of this study provides the reader with the link between research questions, hypotheses and interpreting the findings. Following Chen and Roberts (2010), Al-Bassam, Ntim, Opong and Downs, (2015), and Enache and Hussainey (2020), this study uses more than one theory to explain the results. This is because dividend policy theories complement each other and enhance their potential strengths, where one theory fails to provide a whole explanation (Chen and Roberts, 2010). Therefore, we introduce a multi-theoretical framework that covers different explanations of market reactions to dividend announcements, such as Irrelevant theory, signalling theory, efficient market hypothesis (EMH), and dividend clientele effect hypothesis. According to Miller and Modigliani (1961), under certain limited conditions, a firm's dividend policy does not affect the value of its shares. These conditions include no tax, no transaction cost, no information asymmetry between insiders and outsiders, etc. Dividend irrelevance implies that, in these conditions, the dividend policy will not affect the firm's market value; investors are indifferent about whether the firm decides to reinvest or to distribute its earnings. This means that the market will not respond to the level of dividends, whether high, low or non-existent.

On the contrary, within the dividend signalling paradigm, paying dividends is a way for managers (insiders) to transmit inside information to the general investor (Miller and Rock, 1985). Any unexpected change in dividends can be viewed as a management's forecast of future earnings (Bhattacharya, 1980; John and Williams, 1985). In this case, any increase (decrease) in dividends is viewed as a positive (negative) signal to an increase (decrease) in the share price. Thus, a significant implication of the dividend signalling hypothesis is that dividend changes should be followed by changes in profitability in the same direction (Michaely et al., 1995). According to Fama (1970, p. 383), "*A market in which prices always fully reflect all available information is called efficient*." A capital market is said to be efficient if it fully and correctly reflects all relevant information in determining security prices (Malkiel, 1989). The share prices should reflect all the available information when markets are efficient. The Efficient

Market Hypothesis (EMH)[36] asserts that share prices are an accurate reflection of the information available to investors. Therefore, security prices should change upon the arrival of new information or the release of the announcement. Since new information is unpredictable, price changes will also be unpredictable, resulting in security prices that will follow a random walk. Dividend changes announcements can convey new information to the market, and the theory of the efficient market hypothesis is, therefore, relevant in our study.

Based on a managerial survey, Brav et al. (2005) report that managers consider their investor preferences toward dividends when making dividend-related decisions. Every investor has his or her expectations and needs. As a result, investors tend to prefer stocks of companies that satisfy a particular need. Some investors prefer earnings to be paid out as a dividend and others prefer earnings to be retained in the firm due to different taxation of capital gain and dividend yields. While some firms try to meet the interest of dividend preferred shareholders and other firms try to meet the interest of retained earning preferred shareholder; it draws on dividend clientele effect hypothesis. The investors, who are in a position of the tax advantage of capital gain, will prefer earnings of firm to be retained rather than paid out. In that case, the announcement of the dividends will be seen as negative information for these investors, because they will pay more tax in future. Thus, their response will be a short position in that share to avoid tax, and they will prefer non-dividends paying shares. Accordingly, in the GCC market with the absence of taxes on dividend and capital gains, the investors will prefer the dividends. In that case, the announcement of the dividends will be seen as positive information for these investors, and their response will be efficient with the dividend changes.

3.2.1 Literature Review

Many empirical studies investigate either the long term or short-term impact of dividend announcements on share price and trading volume, proposing several different theories. For example, numerous empirical studies support the signalling theory. They

[36] According to Fama (1970), there exists three relevant informational subsets of market efficiency, (1) The weak form of the EMH asserts that prices fully reflect the information contained in the historical sequence of prices, (2) The semi-strong form of EMH asserts that current stock prices reflect not only historical price information, but also all publicly available information relevant to a company's securities and (3) The strong form of EMH asserts that all information that is known to any market participant about a company is fully reflected in market prices.

found evidence that dividend announcement represents important information to shareholders—news of dividend changes is sufficient to change share prices. Such evidence has been found in studies on several countries, e.g. UK (Lonie et al., 1996), Cyprus (Travlos, Trigeorgis and Vafeas, 2001), Ireland (McCluskey, Burton, Power and Sinclair, 2006), and Pakistan (Khan, Burton and Power, 2013). In the case of increased dividend announcements, there is a positive impact on share price (Michaely et al., 1995; Dasilas and Leventis, 2011 while, decrease dividend announcements have a negative impact on share prices. Bessler and Nohel (2000) explore the shares of US banks between 1975 and 1991 and analysed how announcements relating to dividend cuts affect shares. Their studies show that dividend decrease announcements are associated with negative abnormal returns, whereas Uddin and Chowdhury (2005) report that investors do not gain value from dividend announcement. Dasilas and Leventis (2011) conclude that dividend decreases are associated with average reductions in Greek share prices during 2000–2004. Nevertheless, it should be noted that the evidence which supports the signalling hypothesis is not unanimous. Some studies state that dividend announcements do not convey information to the markets that support dividend irrelevance theory. These studies have been conducted in several developed and emerging markets such as China (Chen, Liu, and Huang, 2009), Bangladesh (Uddin and Chowdhury, 2005), and Slovenia (Mikluš and Oplotnik, 2016). Further, there is no evidence of a significant relationship between dividend policy changes and share prices (see, e.g. Black and Scholes (1974) for the US).

Moreover, Some studies document the significant impact of dividend announcements on trading volume (see Richardson et al., 1986; Karpoff, 1987; Gallant et al., 1992; 1986; Bajaj and Vijh, 1995; Bowers and Fehrs, 1995; and Dasilas and Leventis, 2011). Trading volume is also as important as share price in measuring the market reaction. While equity prices may not react to dividend policy changes, the trading volume may be a good indicator for investor behaviour. According to Richardson et al. (1986), the trading volume increases primarily in response to expected future earnings implied in the dividend in the US firms. Furthermore, Karpoff (1987) explains that volume is significantly and positively related to the magnitude and the value of the price change, which implies that event studies focusing on price alone will tend to have weaker explanatory power than tests that consider both price and volume. Moreover, the empirical examination of Gallant et al. (1992) of the price and volume relationship

shows significant co-movement between the two factors. In addition, Dasilas and Leventis (2011) show that trading volume reaction is positively (negatively) correlated to dividend increases (decrease).

In this sense, although GCC is a tax-free region, it is not a perfect market—in the sense that not all perfect market assumptions are satisfied. One of the main reasons for this in GCC is the information asymmetry between individuals and businesses (Jamaani and Roca, 2015), and several studies examine its causes. For example, Ismail (2002) reports that around 61% of 128 GCC listed firms are unable to publish their financial information to investors as they do not have official websites. Also, the weakness of financial market development in the GCC region comes from the market's low levels of transparency. This leads to the constitution of information asymmetry (Jamaani and Roca, 2015) and consequently, impacts market efficiency.

To the best of our knowledge, about the GCC stock market, there are only three studies on the share price response to dividend announcements. Al-Yahyaee et al. (2011b) suggest that the announcing of dividend increases for the firms listed in the Muscat Securities Market results in a significant positive reaction in share prices, whereas announced dividend decreases lead to a significant fall in prices. In the same vein, another study was conducted by Asiri (2014) for Bahrain. He concludes that the result failed to provide evidence in support of the dividends irrelevancy theory. The research indicates that dividend payments act as positive signals that assure investors of steady cash flow and substantial future earnings. Conversely, AlQudah and Badawi (2015) report different findings: the Saudi Arabia market reaction to dividend announcements is not significant because of the many limitations on dividend policy in this market. In short, the results discussed above are limited within a few GCC stock market; therefore, there is a need to conduct further research to draw interpretative conclusions about the nature of the GCC region.

The studies as mentioned above, focus on one GCC stock market; to have a full picture, we aim to consider the whole GCC stock market. As mentioned above, although GCC is tax-free, not all perfect market assumptions have not existed. Therefore, this raises an important question to be answered: what theory could explain the GCC investors' behaviour by studying the impact of dividend announcement on the market reaction? According to Balcilar, Demirer and Hammoudeh (2013), GCC suffers from investor

herding effects, and therefore, market reactions should be measured by trading volume besides share price. Unlike other studies, this study uses trading volume to consider herding effects in GCC; this is one of our contributions to the existing literature as explained above.

3.3 Research Questions and Hypotheses

This chapter investigates the impact of dividend change announcements on share price and trading volume by trying to answer the following research questions: (1) How do stock returns and trading volume change around the dividend announcement date in the short- and long-term in a tax-free environment? (2) How does the inefficiency of GCC stock market affect share prices? In the next section, the hypothesis relating to each variable in the model will be developed according to the existing theories and literature.

The signalling theory is more appropriate to explain the effect of dividend announcements on the share price. Dividend announcements in the short term can be classified into three different clusters, i.e. increasing, decreasing, or sticking. According to the literature, dividend increase announcements have a positive impact on prices. Lonie, Abeyratna, Power and Sinclair (1996) examine the relationship between dividend increase and decrease announcements of 617 UK firms and their share prices. The results are consistent with those of Michaely et al. (1995) and Dasilas and Leventis (2011), who report that dividend decrease announcements have a negative impact on share prices. Bessler and Nohel (2000) explore the shares of US banks over 1975–1991 and analysed how announcements relating to dividend cuts affected shares. Their studies show that dividend decrease announcements are associated with negative abnormal returns, whereas Uddin and Chowdhury (2005) report that investors do not gain value from dividend announcements. Dasilas and Leventis (2011) conclude that dividend decreases were associated with average reductions in Greek share prices during 2000–2004. Hence, announced dividend increases lead to a significant positive reaction in the share price. Similarly, no dividend change announcements indicate that there are no changes in the share price. In contrast, dividend decrease announcement would refer to a decrease in share price (according to the signalling hypothesis). Therefore, for our empirical analysis, we hypothesise that:

- *H1: In the short term, share prices react in the same direction as dividend change announcements during the event window.*

In contrast to the stream of research that focuses on short term effects, other studies explore long term valuation effects of dividend announcements. In the long term, dividend impact could also be explained by the efficient markets hypothesis besides the signalling theory, as follows. In an efficient market, share prices should react instantaneously to new public information due to the no-arbitrage condition (Fama, 1998). Akhigbe and Madura (1996) confirm that initiating payments of dividends implied positive long-term share price performance. Meanwhile, omitting dividend payments led to the unfavourable performance of share prices. Thus, we may reject the dividend irrelevance hypothesis and confirm the signalling theory of dividends. In addition, Michaely et al. (1995) explore the announcements of 561 dividend initiations and 887 dividend omissions of the US-listed firms during the 1964–1988 period. Their study shows that dividend increase announcements were associated with a positive abnormal return for three years after the event.

Based on EMH, if the amount of information provided by the announcement is significant, share prices should then shift almost immediately to incorporate the information provided. Market efficiency depends upon timely and free availability of information. It would be inefficient if the cumulated abnormal return (CAR) were significant before the event, meaning that an insider was leaking information to the markets. If there are significant CARs after the event within a specified period, the adjustment in prices after the event takes place with a substantial time lag. Therefore, we examine the CAR in different windows around good and bad dividend news; to this purpose, we formulate the following research hypotheses:

- *H2: There is a positive significant market price response in the long term after the announced good news in dividends.*
- *H3: There is a negative significant market price response in the long term after the announced bad news in dividends.*

Investors' preference could also be determinants of trading. Clientele effects theory explains such investor behaviour. Firms attract shareholders who prefer their dividends' distributing patterns and stability. Several types of research have studied the clientele effect theory. For example, Elton and Grubers (1970), claim that the ex-day price adjustments increase (decrease) with dividend yields and, as a result, low (high) tax rates are imposed for high (low) dividend yield. In this way, the tax clientele is

favoured. In other words, the dividend clientele could have an impact on stock activity (Allen and Michaely, 2003).

Moreover, Hotchkiss and Lawrence (2007) find that in the case of announced dividend increase, the stock returns of firms with institutional investors who prefer dividends are higher. These implications could be useful indicators for financial decision-makers. Brav et al. (2005) state that CFOs are reluctant to make revolutionary changes to dividend policy, as these changes would likely change the investor base of the firm, which in turn would negatively impact the share price. In the existence of the clientele effect, changes in dividend policy lead to changes in investor trading behaviour. Thus, investors who are no longer interested in the firm's new dividend policy sell their shares, which will subsequently be purchased by other investors who prefer it. Changes in the volume reflect changes in the expectations of individual investors (Beaver, 1968). Therefore, investors' preference could be indicated by trading volume rather than the share price.

Although several studies have investigated share price reactions around dividend announcements in some of the GCC stock market, none have investigated trading volume, which can be as important as the share price in measuring the market reaction. While equity prices may not react to dividend policy changes, the trading volume may be a good indicator for investor behaviour. Some studies document the significant impacts of dividend announcements on share price and trading volume (Richardson et al., 1986; Gallant et al., 1992; Dasilas and Leventis, 2011). The findings of Richardson et al. (1986) suggest that, in the US, the trading volume increases primarily in response to expected future earnings implied by dividend payments. Furthermore, Dasilas and Leventis (2011) show that the trading volume reaction is positively (negatively) correlated to dividend increases (decrease). According to the clientele effect, a change in dividend policy would lead to an increase in the traded volume as different groups of investors trade their positions in response to the dividend policy change. Thus, we further examine the following research hypothesis:

- *H4: Dividend change announcements have an impact on the trading volume response due to different investors' preference.*

3.4 Data Description and Research Methodology

3.4.1 Data Description

We collected dividend announcements from the Arab Stock Markets Analysis website (ASMA) for GCC stock market. Our sample considers the period from January 2010 to June 2015. Daily closing prices and trading volume data are extracted from *DataStream*. Firms are included in the sample only when the following criteria are fulfilled: (a) The dividend announcements are purely annual cash dividends. (b) There are no announcements of stock splits, or ex-dates of stock splits during the event window. (c) Non-regular (extra-special) dividends are repudiated. The effect of these dividends is short-lived and, therefore, may not carry any signalling value. (d) Last, trading volume data are available for the period commencing 120 days before and after the dividend announcement date. These criteria led to a final sample of 299 listed firms with 1,092 dividend announcements consisting of 497 dividend increases (DI), 223 dividend decreases (DD) and 372 constant dividends (CD).

Table 3-1 shows the total number of dividends increases, decreases and constant dividends, based on each sample for the GCC member states. Saudi Arabia is one of the "biggest players" in our research sample, with Bahrain as the smallest GCC country in the sample. Interestingly, the firms that have a high tendency in distributing constant dividends are Oman and Kuwait.

Table 3-1: A total number of DI, DD, and CD, based on each sample of the GCC member states.

Countries	DI	DD	CD	Full Sample
BA	7	7	10	24
KU	36	25	62	123
OM	48	29	71	148
QA	109	48	49	206
SA	219	91	146	456
UAE	78	23	34	135
TOTAL	497	223	372	1092

Note: The table shows the total number of dividend increase, dividend decrease and constant dividend events within the GCC countries from January 2010 to June 2015.

Table 3-2 presents the descriptive statistics of our sample regarding dividend change (ΔD), earning change (ΔE), dividend yield (DY), average abnormal return on announcement date (AR) and average abnormal trading volume on the announcement

date (ATV) of GCC stock market for the period between January 1st, 2010 and June 31st, 2015[37].

Table 3-2: Descriptive statistics for the entire sample of dividend announcements during the period from 2010 to 2015.

	ΔD	ΔE	$DY(\%)$	$AR(\%)$	ATV (%)
Mean	.0045	.0039	4.46	.0049	.71
St. Deviation	.029	.053	2.39	1.26	1.91
Max	.12	.16	13.45	6.818	9.04
Min	-.11	-.24	0	-5.45	-.98

Notes: The mean, median and standard deviation are reported for percentage changes in dividends(ΔD); percentage changes in earnings (ΔE); dividend yield (DY); abnormal return(AR); and abnormal trading volume(ATV).

3.4.2 Methodology and Model Specification

The purpose of this chapter is to empirically evaluate the effects of dividend announcements on stock price and trading volume of GCC firms. The standard event studies have been the primary methodology used to assess the impact that the occurrence of an event has on the returns of a firm's common stock price since the studies of Brown and Warner (1985), MacKinlay (1997), and Campbell, Lo and MacKinlay (1997). There is an extensive "events study" literature that investigates the informational content of dividend announcements (see, Aharony and Swary, 1980; Kalay and Loewenstein, 1985; Sant and Cowan, 1994; and Acker, 1999). An event study is followed for testing the market efficiency. According to Capstaff, Klaeboe and Marshall (2004), investors need to observe events that can change the price, since markets are not strongly efficient and thus do not react quickly and accurately to achieve a new equilibrium price which fully reflects the information available. The event can have either a positive or negative effect on the value of the security. Event studies help in predicting how the security will perform in response to the announcement of an event. Moreover, the advantage of event studies lies in the fact that the magnitude of abnormal returns at the time of the release reflects the change of the investors' expectation on the firms' future cash flows (Takeda and Tomozawa, 2008).

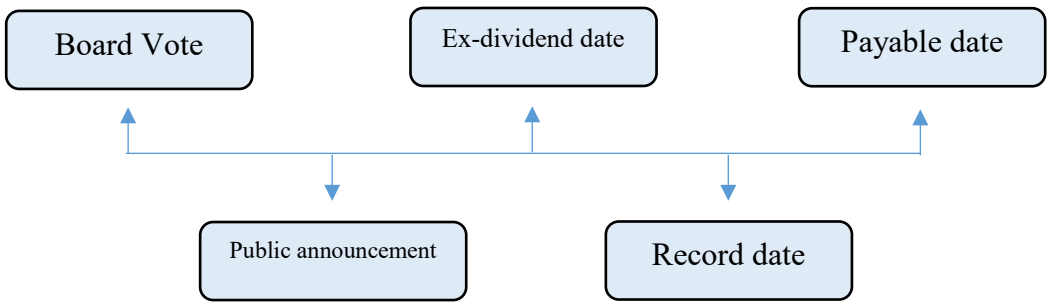
To appraise the event's impact, we require a measure of the abnormal return and abnormal trading volume. Abnormal returns or abnormal trading volumes are defined

[37] We have chosen the sample period based on Pettit (1972) and Fuller (2003) studies which were published in high ranked journals.

as the excess in prices or volumes that have occurred as a result of the event. We use the market model to calculate the daily average of abnormal return and a cumulative average of abnormal return for different window periods. We also calculate the abnormal trading volume by using the difference between the current trading volume and the expected trading volume for that date divided by the standard deviation of trading volume during the estimation period. Furthermore, we test the normal distribution of cumulative average abnormal returns and cumulative trading volume during the event. If there is a significant impact of the dividend announcement, there should be a significant *CAAR* or *CATV* around the announcement. Whereas, if the announcement does not significantly affect the abnormal returns or abnormal trading volume as this indicates the investors rationally parsed the dividend announcements.

Figure 3-1 presents the "constructing the event" window—the day of the dividend announcement ($t = 0$) is defined as the date on which the first official reference to the dividend is made in press releases. Where the dividend announcement was released during non-trading hours, the event day was considered the next trading day. As a consequence of the irregular nature of the information environment within the GCC stock market, markets may begin to react before announcements are made. The choice of a broad event window (of $-20, +20$)[38] is offered to capture the fact that the board of directors in GCC stock market vote to pay dividend about 20 trading days prior the public declaration; inside information might be leaked before the announcement date. The illustration below briefly describes how the event window is constructed.

Figure 3-1 Constructing the event window.



[38] The aim for including days before the announcement day is to investigate potential information leaks in the market, while post- announcement days are included due to the market reaction time.

After the vote in the board meeting, the board of directors publicly announces their decision on dividend distribution one month (20 trading days) later. Following the signalling hypothesis, the board's dividend distribution signals the management's thoughts about the firm's future prospects in the market. The dividend announcement may lead to significant trading activity due to the clientele effect, i.e. investors may adjust their portfolios following the announcement to reflect the new information. For instance, if the dividend announcement signals particularly unanticipated information, the firm's share prices may adjust significantly.

The ex-dividend date, in this case, refers to the date after which investors in the firm will no longer be able to qualify for the dividend payment. In a frictionless market with no transaction costs and no taxes, the drop in stock price when a stock goes ex-dividend should equal the value of dividend paid on that stock. This drop reflects the difference in cash flows value that shareholders are entitled to receive before and after the ex-dividend date. The record date is the date by which an investor needs to be a shareholder in the firm's record to be entitled to receive a dividend. Finally, the payable date is the exact date on which the investors are paid their dividends.

3.4.2.1 Abnormal Return (AR)

We calculate daily stock returns as follows[39]:

$$R_{it} = ln\, P_{it} - ln\, P_{it-1} \tag{3.1}$$

Where R_{it} is the actual return on share i in day t; P_{it} is the price of share i in day t and P_{it-1} is the price of share i in day $t-1$.

Then we calculate the abnormal return by using the markets adjusted model. The market adjusted model is commonly used in empirical research on the subject and defined by Brown and Warner (1985).

$$(\mathrm{AR}_{it}) = R_{it} - R_{mt} \tag{3.2}$$

where (AR_{it}) is the abnormal return; R_{it} is the stock return and R_{mt} is the market return.

The daily abnormal returns are then averaged across a portfolio of firms that increase, decrease, or neutralise their dividend level as follows:

$$AAR_{pt} = \sum_{i=1}^{n} \frac{AR_{it}}{n} \tag{3.3}$$

where *n* is the total number of dividend announcements, *t* is the number of days surrounding the event-day, *i* is the firm, AAR_{pt} is the average portfolio abnormal return and *p* = dividend-increase (*DI*), dividend-decrease (*DD*), and constant dividend (*CD*).

Next, we test the following null hypothesis, i.e. the mean abnormal returns on day t of the event window are equal to zero. The test statistic is the ratio of cross-sectional average and standard deviation, respectively, of the abnormal stock returns on day t. The t statistic for AAR_t were calculated as follows:

$$t\,(AAR_t) = \frac{AAR_t \,.\sqrt{N}}{\sigma(AR_t)} \tag{3.4}$$

3.4.2.2 Cumulative Abnormal Return (*CAR*)

Next, we consider the cumulative abnormal return (CAR), which is the sum of a firm's abnormal returns over a certain period, pre- or post-event.

CAAR for the event window and sub-windows that begin at *t* and end at *k* is:

[39] According to Strong (1992), two reasons for which logarithmic returns are preferable to discrete returns: (1) logarithmic returns are more likely to be normally distributed and thus are more likely to conform to the assumptions of standard statistical techniques, and (2) logarithmic returns are analytically more tractable when linking together sub-period returns, forming returns over longer intervals.

$$CAAR_i(t,k) = \sum_{t=0}^{k} AAR_t \quad (3.5)$$

The following formula is used to calculate the variance of the sample:

$$S_{AAR}{}^2 = \frac{1}{240} \sum_{t=-120}^{120} (AAR_t - \overline{AAR}_t)^2 \quad (3.6)$$

The t statistic used to test the hypothesis "$CAAR$ equal to zero" is calculated as:

$$t\ statistic\ = \frac{CAAR_{t,t+k}}{\sqrt{(k+1)S_{AAR}{}^2}} \quad (3.7)$$

3.4.2.3 Abnormal Trading Volume (ATV)

In addition to the market price reaction, we also examine the trading volume reaction to dividend change announcements. The examination of the trading volume around dividend change announcements helps to explain whether there is a correlation between the information released by dividend announcements and buying or selling pressure on stocks traded.

Following Dasilas and Leventis (2011), the abnormal trading volume (ATV_{it}) of share i is estimated on day t as the difference between trading volume (TV_{it}) and the expected trading volume for that date, $E(TV_{it})$, divided by the standard deviation of trading volumes during the estimation period (σ_i):

$$ATV_{it} = \frac{TV_{it} - E(TV_{it})}{\sigma_i} \quad (3.8)$$

where $E(TV_{it})$ and σ_i are the mean and standard deviation in daily trading volume for firm i in the estimation window ($t = -120$ to -21 and $t = +21$ to $+120$).

The t statistic used to test the hypothesis "ATV equal to zero" is calculated as:

$$t\ (ATV_{it}) = \frac{\overline{ATV}_{it} - 0}{\sigma(ATV_{it})} \quad (3.9)$$

3.5 Empirical Analysis

The present section presents the findings related to the share price and trading volume reactions to dividend change announcements in the absent tax environment. These findings have been divided into three groups: (1) market price response in the short term, (2) the market response in the long term, and (3) trading volume response to good and bad dividend news. Considering the unique information environment of GCC, we expect that dividend change announcements will send only a weak signal to the market.

3.5.1 Market Price Response

Figure 3-2 shows the $CAAR$ for good news from day -120 up to day $+120$ for GCC stock market. The CAAR moves upward significantly from day $t = 4$ following the announcement. This trend continues after the event, probably due to the impact of some existing market conditions. The good news is taking a long time to be reflected in the stock price, and this is evidence of underreaction to the news. Moreover, this means that prices do not adjust immediately to dividend information. Thus, share prices respond slowly and gradually to dividend information on the event day. According to McQueen et al. (1996), a slow response by small stocks is accompanied with good news, but not with bad news; this is due to the efficiency of the market, and the volatility of the shares. Also, the herding behaviour by institutional investors, noise and feedback trading are related to the delay in response (Sias and Starks, 1995).

Figure 3-2 CAAR for dividend increase cluster

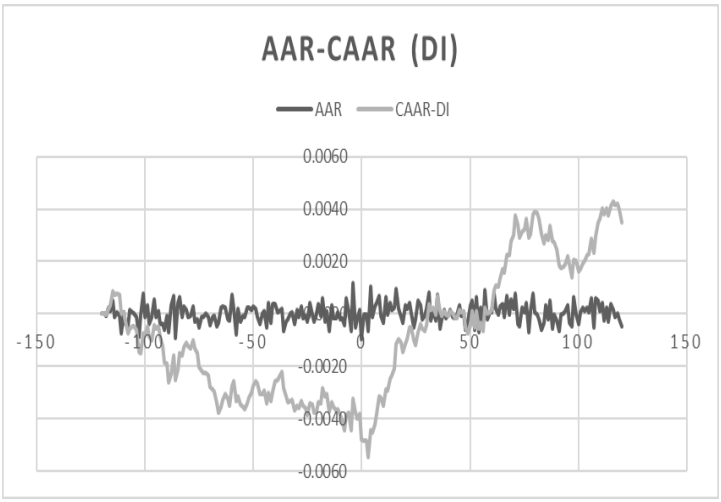


Figure 3-3 shows the $CAAR$ for no news from day -120 up to day $+120$. We can see that there is no reaction around the dividend announcement day.

Figure 3-3 CAAR for a constant dividend cluster

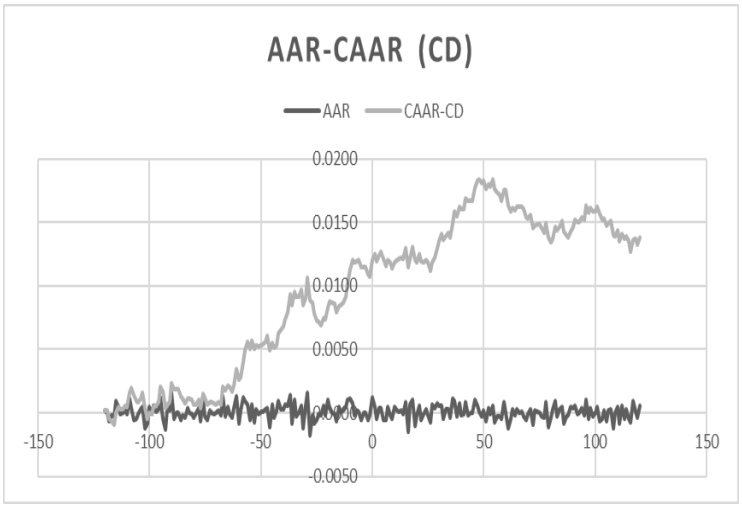
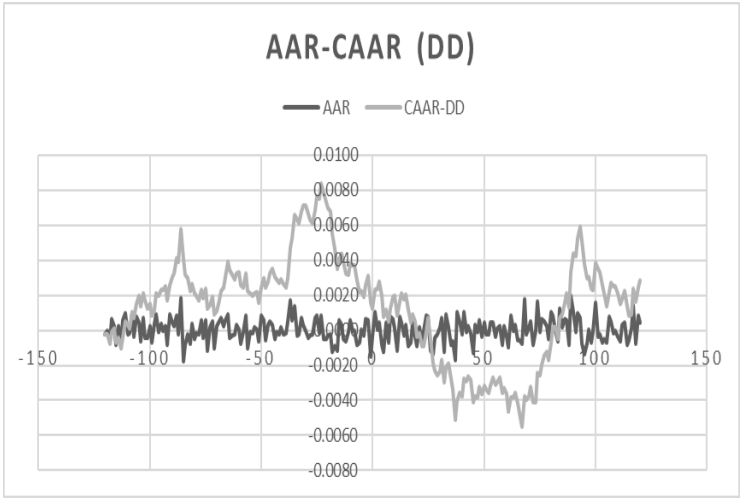


Figure 3-4 shows the $CAAR$ for bad news starting from day -120 up to day $+120$ for GCC stock market. There is an upward trend in the pre-event period, with the bad news reaction causing a downward reaction from $t = -18$ before the announcement and after the board meeting. Further, the results show that the market reaction to the dividend decrease announcement is stronger than in the case of dividend increases. The result is consistent with the works of Leippold, Trojani and Vanini (2008) and Kothari, Shu and Wysocki (2009). They suggest that investors tend to place greater significance on bad news compared with good news.

Figure 3-4 CAAR for a dividend decrease cluster



3.5.1.1 Short Term Effect

Table 3-3 shows the stock market response to different types of dividend change announcement for the sub-sample of 1092 dividend announcements in GCC firms for the period from January 2010 to June 2015.

Table 3-3: The results Average daily abnormal returns (AAR) for the event window around dividend announcements for the period 2010–2015.

Day	DI			CD			DD		
	N= 497	(45.5%)		N=372	(34.1%)		N=223	(20.4%)	
	AAR%	T	CAAR%	AAR%	T	CAAR%	AAR%	T	CAAR%
t= -20	0.04	0.81	0.04	0.10	1.41	0.001	-0.03	-0.58	-0.03
t= -18	0.06	1.47	0.09	0.00	-0.06	0.13	-0.13	-2.15***	-0.18
t= -16	0.01	0.32	0.07	-0.06	-0.95	0.06	-0.11	-1.90*	-0.38
t= -14	0.03	0.78	0.04	0.00	0.05	0.11	0.03	0.35	-0.30
t= -12	-0.02	-0.33	0.00	0.05	0.82	0.18	-0.06	-1.19	-0.41
t= -10	-0.02	-0.49	-0.01	0.11	1.61	0.40	0.06	0.64	-0.36
t= -8	-0.04	-0.95	-0.07	-0.02	-0.28	0.45	0.00	-0.02	-0.36
t= -6	0.01	0.18	0.00	0.01	0.11	0.47	-0.07	-0.99	-0.52
t= -4	0.12	2.09**	0.05	0.00	0.00	0.41	-0.03	-0.33	-0.54
t= -2	-0.02	-0.43	-0.02	-0.05	-0.83	0.36	0.05	0.73	-0.42
t= -1	0.02	0.22	-0.01	-0.02	-0.25	0.34	-0.15	-2.18**	-0.58
t=0	-0.10	-1.36	-0.10	0.12	1.29	0.47	-0.03	-0.30	-0.61
t=1	0.00	-0.07	-0.11	0.05	0.45	0.51	0.11	1.05	-0.51
t=2	0.00	-0.01	-0.11	-0.05	-0.57	0.46	0.01	0.09	-0.50
t=4	0.11	2.13**	-0.07	0.03	0.50	0.54	-0.08	-1.05	-0.54
t=6	0.03	0.48	-0.05	-0.06	-0.92	0.42	0.05	0.60	-0.61
t=8	0.07	1.44	0.06	-0.02	-0.29	0.45	0.07	0.93	-0.61
t=10	0.06	1.69*	0.09	0.02	0.24	0.47	-0.11	-1.05	-0.65
t=12	0.00	-0.04	0.08	0.01	0.10	0.48	0.08	0.77	-0.57
t=14	0.01	0.36	0.14	-0.01	-0.24	0.48	-0.03	-0.73	-0.56
t=16	0.09	1.95*	0.26	-0.15	-2.09	0.41	-0.09	-0.99	-0.62
t=18	-0.01	-0.30	0.26	0.10	1.40	0.57	0.04	0.65	-0.65
t=20	0.03	0.84	0.26	-0.02	-0.24	0.45	-0.09	-1.20	-0.77

Note: The table shows the abnormal returns (AARs) for the sample firms witch increase (497 events), decrease (223 events) or do not alter (372 events) their dividend level for 41 days around the dividend announcement date (t=0). ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 3-3 illustrates the stock market responses for the dividend increase group. The results suggest support to the (H1) hypothesis, i.e. the market price responds significantly in the positive direction when a dividend increase is announced. From Table 3-3, the AAR for the dividend-increasing group of firms on event day ($t = 0$) was -0.10% (with a t-value of -1.36). Several previous studies suggest that, on the event day, the dividend increase should have a positive value. Charest (1978) and Aharony and Swary (1980) point out that dividend increases should reflect positive information relating to the prospects of the firm. There is also another positive significance value on day $t = +4$ where the AAR was 0.11%. This implies that the market failed to immediately adjust to the dividend announcement, which is in line with the conclusions of Ball and Brown (1968) and Fama, Fisher, Jensen and Roll (1969) for the US market—they were the first who noticed that there is a delay in the stock market's

response to events that contain relevant information. This can be explained by inexperienced and poorly informed investors failing to appreciate the full and accurate implications of the announcement (Ng, Rusticus and Verdi, 2008). However, surprisingly, there is strong statistical evidence of insider-trading or information leakage, which is supported by the low level of transparency of the stock market before announcement days. This effect can be observed when the AAR on day $t = -4$ was 0.12 percent and significantly positive.

The results of constant dividend announcements are reported in Table 3-3, which confirmed that the (H1) hypothesis is accepted. The findings show that there is not a price response to the announcement date, which suggests that constant dividend announcements convey a neutral signal to the market. These firms announced a constant dividend every year on the face value of the share. Therefore, shareholders were already familiar with the general dividend values. The result shows that there is no drastic change to stock returns.

The result of stock market reactions to the dividend decrease category revealed that the AAR earned on days $t-1$ and $t = 0$ was -15% and -0.03% (with t-values of -2.18 and -0.30, respectively). Thus, there is a significant negative market price response one day before the announcement—hence, (H1) is accepted. The results are consistent with the information content hypothesis. Ross (1977) and Bhattacharya (1980) suggest that, in a world of information asymmetry, a dividend cut announcement may convey a pessimistic message about the management's assessment of future prospects of the firm. In response to such a signal, the stock market should, in theory, react adversely, resulting in a fall in the firm's share price and a reduction in the returns to shareholders. This result is in line with two other studies conducted by Lonie, Abeyratna, Power, and Sinclair, (1996) and Abu Khalaf, (2013). They report that there is a significant negative value of $CAAR$ in the event period, especially on the announcement day and the day before it.

3.5.1.2 Long Term Effect

Table 3-4 shows the long-term effect of dividend announcements on the stock market when the dividend either increases or decreases, which we view in terms of good and bad news before and after the announcement.

Table 3-4: The results of cumulated average abnormal return (CAAR) in the long term for the period 2010–2015.

Long-term Abnormal Returns					**Long-term Abnormal Returns**				
	GOOD NEWS		BAD NEWS			GOOD NEWS		BAD NEWS	
Event day	CAAR	T	CAAR	T	Event day	CAAR	T	CAAR	T
[-10 , 0]	-0.001	-0.58	-0.002	-0.89	[20 , 1]	0.004	2.11**	-0.002	-0.49
[-20 , 0]	-0.001	-0.46	-0.006	-2.13**	[30 , 1]	0.004	2.05**	-0.004	-0.92
[-30 , 0]	-0.001	-0.48	-0.006	-1.73	[40 , 1]	0.005	1.93*	-0.005	-1.03
[-10 , -1]	0.000	-0.11	-0.002	-0.73	[-10 , 10]	0.00	0.06	0.00	-0.38
[-20 , -1]	0.000	-0.04	-0.006	-2.01*	[-20 , 20]	0.00	1.05	-0.01	-1.76**
[-30 , -1]	0.000	-0.08	-0.006	-1.63	[-30 , 30]	0.003	1.06	-0.01	-1.8**

Notes: The table shows the cumulated average abnormal returns (CAARs) for different windows in terms of good and bad news before and after the announcement. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

3.5.1.3 Before the Event

The t-values are mostly insignificant for pre-dividend announcements as we can see in Table 3-4, where there is probably no previous reaction before the good news. For the bad news, t-values are significant for the window frame $[-20, 0]$ and $[-20, -1]$. We argue that the downward reaction starts around 20 days before the event. The bad news is reflected in the stock price before the news is released. So, there is another event which is dated three to four weeks before the dividend announcement. This may happen after the board meeting is conducted. That is, there is a leakage of information in the market about the dividend offered by the firm before its official announcement. Accordingly, for bad news, there is no signalling effect to the public dividend announcement, but there is a signalling effect to another event (board meeting) that is reflected in the stock price. According to the semi-strong form of EMH, effects on price should occur only on the announcement day itself and should reverse immediately with no effect being observed before the event.

3.5.1.4 After the Event:

Looking at the good news, t-values of CAAR were significant in the long term, as shown in Table 3-4, for time frames $[20, 1]$, $[30, 1]$ and $[40, 1]$. Thus, the response of the market would be delayed due to information asymmetry or unavailability of getting information on time. This would be the reaction of market followers who still try to make a profit by following an initial group of gainers. Next, the delayed response would be sustained by the reaction of yet another group of participants who would mimic the second group of followers. Even though some of the information contained in the share price is revealed close to the event date, it is still after the event date that the market

adjusts with forgone information, which might be chased by a group of investors (followers) in the market, that can be seen after the price adjustment after the event. The above result implies that (H2) is accepted.

For the bad news, the t-values of *CAAR* in the long term are insignificant, and this is inconsistent with Travlos et al. (2001). So (H3) is rejected accordingly. In particular, t-values are -1.01, -1.03, and -0.91 for the time frame of [30, 0], [40, 1], and [60, 1] respectively. Overall, there are significant long-term positive $CAAR$ effects on dividends following the announcement of good news, while the value of $CAAR$ before the event is not significant. Furthermore, there is no significant long-term negative effect on $CAAR$ following announcements of bad news; nevertheless, there is a reaction before the announcement suggesting that there is a leakage of inside information from the firm.

3.5.2 Trading Volume Response

Table 3-5 describes the results found from the analysis of the abnormal trading volumes during the event window. The results show strong support to the hypothesis that news on dividends conveys new and valuable information to the market. In all cases, there are significant abnormal trading volume *ATVs* two days before the dividend announcement. Further, the results show that the average abnormal trading volume *AATVs* tend to stabilise over time, with substantially elevated volumes up to 10 days after the announcement (constant dividend case).

Table 3-5: The results average daily abnormal trading volume (AATV) for the event window around dividend announcements for the period 2010–2015.

Day	Full sample		DI		CD		DD	
	N=1092		N= 497		N=372		N=223	
	AATV	T	AATV	T	AATV	T	AATV	T
t=-10	0.06	1.13	0.07	0.91	0.10	1.09	-0.05	-0.67
t=-9	0.08	1.64	0.06	1.10	0.07	1.02	0.14	0.83
t=-8	0.08	1.80*	-0.02	-0.46	0.16	1.89*	0.17	1.40
t=-7	0.06	1.56	0.10	1.47	-0.01	-0.15	0.10	1.20
t=-6	0.07	1.68*	0.07	1.32	0.09	1.36	0.00	0.03
t=-5	0.12	2.65***	0.13	1.84*	0.09	1.10	0.15	1.86*
t=-4	0.15	3.66***	0.10	1.59	0.17	2.58**	0.23	2.43**
t=-3	0.07	1.56	0.02	0.32	0.01	0.18	0.31	1.68*
t=-2	0.29	6.58***	0.35	5.36***	0.16	2.37**	0.39	3.31***
t=-1	0.54	9.16***	0.52	6.77***	0.49	4.48***	0.64	4.63***
t=0	0.80	10.86***	0.76	8.34***	0.81	5.10***	0.85	6.14***
t=1	0.52	8.89***	0.54	5.30***	0.47	5.79***	0.56	5.23***
t=2	0.45	7.87***	0.46	4.96***	0.50	5.02***	0.36	3.84***
t=3	0.31	6.25***	0.29	3.63***	0.25	3.81***	0.46	3.72***
t=4	0.40	2.45**	0.47	1.38	0.26	3.35***	0.45	3.47***
t=5	0.20	4.83***	0.17	2.96***	0.13	2.17**	0.41	3.16***
t=6	0.23	3.85***	0.25	2.40**	0.15	1.93*	0.30	2.83***
t=7	0.18	4.07***	0.17	2.67***	0.17	2.48**	0.21	1.87*
t=8	0.16	3.82***	0.17	2.49**	0.20	2.77***	0.09	1.17
t=9	0.13	3.50***	0.07	1.33	0.14	2.12**	0.24	2.95***
t=10	0.14	3.03***	0.06	1.15	0.25	2.35**	0.16	1.61

Notes: The table shows the average abnormal trading volume (*AATV*) for the sample firms witch increase (497 events), decrease (223 events) or do not alter (372 events) their dividend level for 21 days around the dividend announcement date (t=0). ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

A significant positive ATV reaction around dividend announcements is found in all clusters. We observe strong reactions of trading volume on day $t = 0$ for all three groups of the dividend announcements with values of 8.34, 5.10, and 6.14 for a dividend increase, decrease, and no change groups, respectively. The reason for this might be because several investors return to diversified positions following the adoption of speculative positions in the run-up to the announcement. Also, the results indicate that any form of dividend announcement conveys new and valuable information to the market. Since investors receive their information from diverse sources and differ in the precision of their privet prior information, their response to

financial news also varies, thus leading to an increase in trading volume. Therefore, (H4) is accepted, implying that the dividend change announcements of GCC stock market have an impact on the trading volume due to different investors' interpretations of the announcements. This is reflected by the fact that, in all cases, there is an increase in trading volume following dividend announcements, which indicates that the clientele effect is operational in GCC countries despite the lack of tax incentives.

Figures 3-5, 3-6, and 3-7 show the average abnormal trading volume in 3 three different clusters: dividend increase (DI), dividend decrease (DD), and constant dividend (CD). Investors' decisions are highly impacted by any information available from leaks, trader noise, rumours from big traders, private information, etc. Generally, investors likely plan to possess a share until before the ex-dividend day[40] to gain the dividend distribution regardless of dividend change. Overall, our findings suggest that dividend announcements are significantly informative in GCC, although it is a tax-free region. This means dividend change announcements impact the share price and trading volume in GCC, possibly following the clientele effect rather than irrelevant theory, which argues that under perfect capital market assumptions[41], dividend policy would be irrelevant. The tax-based signalling hypothesis is also improbable, stating that higher taxes on dividends relative to capital gains are a necessary condition for dividends to be informative. A possible explanation for this might be related to the bird-in-the-hand description, which states that in a world of uncertainty and information asymmetry, dividends are valued differently retained earnings (capital gains): "A bird in the hand (dividend) is worth two in the bush (capital gains)." Owing to the uncertainty of future cash flow, investors will often tend to prefer dividends to retained earnings.

[40] The ex-dividend day is the first trading day in which the share is traded without the dividend, i.e. the current dividend is earmarked for the seller, not the buyer.
[41] Perfect market assumptions such as no differences between taxes on dividends and capital gains, no share flotation or transaction costs, etc.

Figure 3-5 The AATV in the dividend increase cluster.

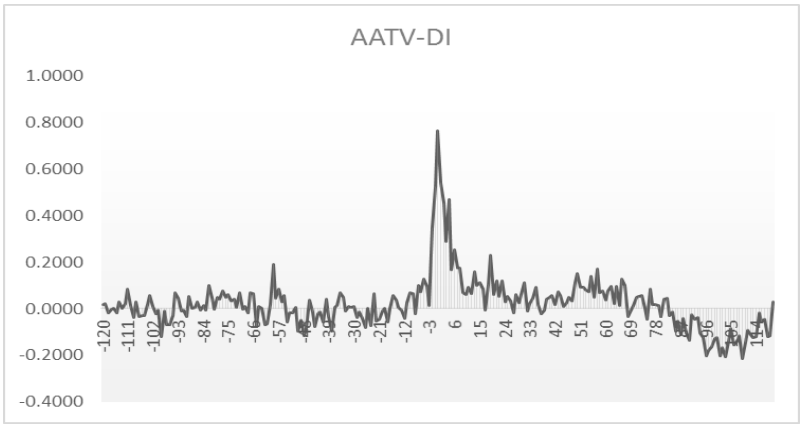


Figure 3-6 The AATV in the constant dividend cluster.

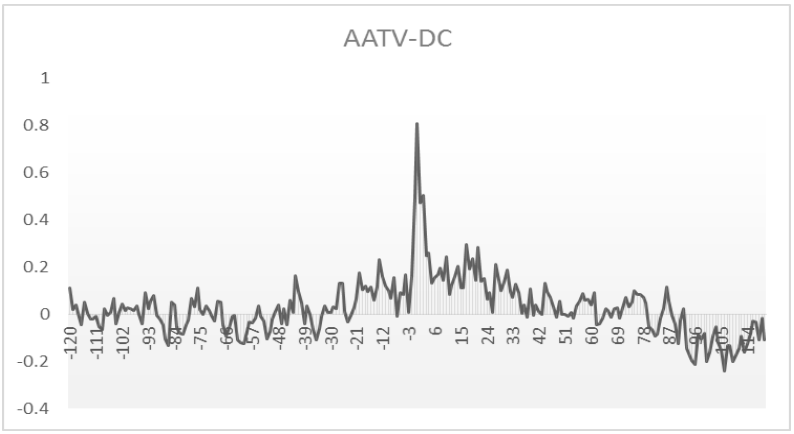
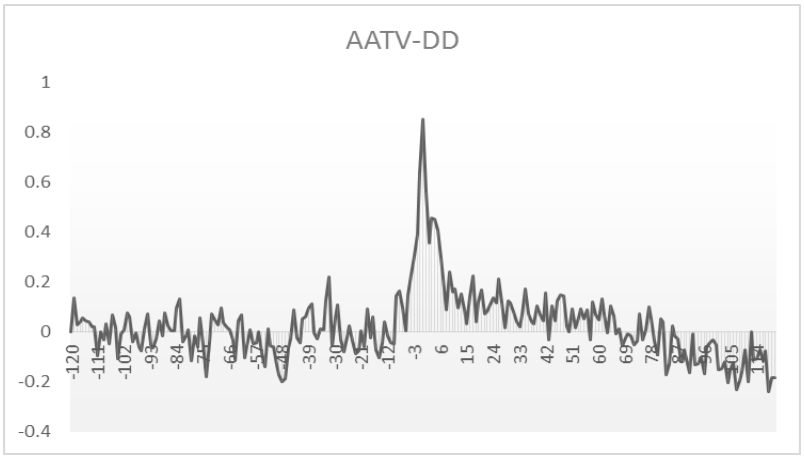


Figure 3-7 The AATV in the dividend decrease cluster.



3.5.3 Market Response Determinants

To get a better insight into which variables influence the share price reaction to dividend announcements, we perform four regression analyses for the full sample of dividend announcements.

3.5.3.1 Cumulative Abnormal Returns

In Table 3-6, we conduct a regression analysis of the cumulative abnormal returns for the three days of the event period ($CAR\ -1, +1$) against a number of independent variables such as dividend yield (DY), market capitalisation (MV), percent change in dividend ($\%\Delta D$) and pre-announcement abnormal trading volume ($PREAV$). The choice of explanatory variables follows prior research (see, Wansley, Sirmans, Shilling and Lee, 1991; Impson, 1997; Fuller, 2003; Lee and Yan, 2003; McCluskey et al., 2006; Dasilas and Leventis, 2011). The DY is included to control for a potential clientele effect documented by Bajaj and Vijh, (1990). The firm size control is added due to the empirical observation that small firms tend to have higher returns on average (Fuller, 2003). The ($\%\Delta D$) is considered based on the work of previous studies such as Eades (1982) and Asquith and Mullisn, (1983) who found significant relationships between announcement effects and changes in the dividend. Moreover, the average trading volume during the pre-announcement period is added by Eberhart and Damodaran (1997). They report that it is a significant determinant of abnormal returns in the period surrounding an earnings announcement.

There are two common regression techniques (models) for the panel data estimation[42]: the FE and RE models. Further, Hausman tests the null hypothesis that the RE model is more appropriate than the FE one. Thus, the model is constructed as follows:

$$CAR_{(-1,+1)} = \alpha + \beta_1 DY_{it} + \beta_2 MV_{it} + \beta_3 \Delta D\% + \beta_4 PRATV_{it} + MARK_{j,i,t} + IND_{k,i,t} + Y_{i,t} + \varepsilon_{it} \quad (3.10)$$

Where:
DY is the dividend yield estimated as the ratio of the annual dividend over the price.
MV refers to the firm size as measured by the logarithmic market capitalisation.
%ΔD denotes the percentage change in the dividend from year to year.

[42] The panel data can be estimated using a fixed- or random-effects technique and helps detect the effects of the firm- and time-specific heterogeneities. It is worth noting that the most important advantage of using the panel data approach is that it usually gives many observations, increases the degrees of freedom, and hence, improves the efficiency of the econometric estimates.

PRATV is the abnormal trading volume as a percentage of the average trading volume during the pre-announcement period.
$MARK_{j,i,t}$= country dummy; $IND_{k,i,t}$= industry dummy, and $Y_{i,t}$= years dummy.

Table 3-6: Regression analysis of abnormal returns to dividend announcement for the period 2010–2015.

Variables	Coefficient	t-Statistic
Constant	-5.50***	(-2.61)
DY	0.086*	(1.73)
MV	1.59**	(2.47)
ΔD%	-0.18	(-1.33)
PRATV	0.14	(.47)
R^2	0.2891	
Prob>F	0.0067	
IND, MARK EF	Yes	
Observations	1092	

Notes: The table shows the variable, their coefficients, and their t-Statistics. The dependent variable is cumulative abnormal returns of three days around dividend announcements ($CAR\ -1,+1$), and the independent variables: DY is the dividend yield estimated as the ratio of dividend for the year over the price. MV is the logarithmic market capitalisation. $\Delta D\%$ is the percentage change between the current and the previous dividend. $PRATV$ is the abnormal trading volume as a percentage of the average trading volume during the pre-announcement period. All variables are winsorised at 1% and 99% levels, to reduce the potential impact of outliers. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 3-6 shows the results from all the regressions described in Eq. (3.10) for the full sample. The coefficient of dividend yield, DY, is positive and statistically significant at the 10% level ($t = 1.73$). This suggests that dividend yield is one of the main drivers of ARs on dividend announcement dates. This finding is in line with Wansley et al. (1991), Lee and Yan (2003) and Dasilas and Leventis (2011). The positive effect of DY on cumulative abnormal return could be explained by the fact that the higher the dividend yield, the more attractive the share to investors. Our findings are consistent with Bajaj and Vijh (1990) but are inconsistent with Healy, Hathorn and Kirch (1997).

Moreover, the coefficient of *MV* displays a positive sign, meaning that the larger the size of the firm, the more positive is the effect on the abnormal return. This result contradicts that of Fuller's (2003) study for the US. It should be noted that Fuller's (2003) inclusion of firm size was to control for the small firm premium observed in the US. Also, the positively significant MV could be explained by the negative relationship between the firm size and the level of information asymmetry. Haw and Kim (1991, p. 342) argue that "*the dividend announcement effect varies across firms with different degrees of information asymmetry*". They stated that the significance of information content is negatively related to the firm size, which is consistent with Miller and Rock (1985). We further use the percentage change of dividend as a proxy for the dividend

changes information content as recommended by Asquith and Mullins (1983). Changes in dividends do not show any significance. The pre-announcement trading volume ($PREATV$) is positive and insignificant, which means it is not the main driver for the cumulative abnormal return. Kim and Verrecchia (1991) report the same positive relationship between abnormal return and trading volume. These results are also consistent with Dasilas and Leventis (2011).

3.5.3.2 Cumulative Abnormal Trading Volume

To further understand the trading volume response to dividend distribution announcements, we examine in Table 3-7 the impact of dividend and earnings change relative to the share price on trading volume by using the tax-based signalling model. In terms of a better insight into which variables influence the trading volume reaction to dividend announcements, we performed four regressions analyses for the full sample of dividend announcements. The cumulative abnormal trading volume during the event period ($CATV\ -2, +2$) is regressed against two independent variables, which are the dividend change to share price and earnings change to share price.

The choice of explanatory variables follows the study conducted by Al-Yahyaee et al. (2011b) for Oman. The motivation behind the separation between the changes in dividends and earnings was given by Amihud and Murgia (1997) earnings, and dividend announcements may not occur on the same day. Thus, news regarding dividends could be used to corroborate the information on earnings. We used the $CATV$ instead of AR as the dependent variable, while the RE model was selected; further, $CATV$ is calculated over five days. The model is reported as follows:

$$CATV_{(-2,+2)} = \alpha + \beta_1 \frac{\Delta D}{P} + \beta_2 \frac{\Delta E}{P} + MARK_{j,i,t} + IND_{k,i,t} + Y_{i,t} + \varepsilon_{it} \qquad (3.11)$$

Where:
$\Delta D/P$ is the dividend change to share price.
$\Delta E/P$ is the earning change to share price.
$MARK_{j,i,t}$= country dummy; $IND_{k,i,t}$= industry dummy, and $Y_{i,t}$= years dummy.

Table 3-7: Regression analysis of abnormal trading volume to dividend announcement for the period 2010–2015.

Variables	Coefficient	t-Statistic
Constant	1.78***	(6.45)
ΔD/P	13.66**	(2.52)
ΔE/P	-1.96	(-0.65)
R^2	0.0318	
Prob>F	0.0020	
IND, MARK EF	Yes	
Observations	1092	

Notes: The table shows the variable, their coefficients, and their t-Statistics. The dependent variable is cumulative abnormal trading volume of five days around dividend announcements (CATV−2, +2), and the independent variables: $\Delta D/P$ is the changes in dividends to the share price 10 days before the announcement day. $\Delta E/p$ is the changes in earnings relative to the stock price 10 days before the announcement day. All variables are winsorised at 1% and 99% levels, to reduce the potential impact of outliers. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 3-7 shows the results from all the regressions described in Eq. (3.11) for the full sample. Our results, reported in Table 3-7, show that the ATV of a full sample of dividend announcements is influenced by the dividend change. The t-statistic of dividend change to the share price is positive and significant at the 5% level. There are no important differences between the response coefficients of dividend increases and decreases. As in Amihud and Murgia (1997), changes in dividends result in significant positive share price reactions beyond what might be expected for the information conveyed just by changes in earnings. Under tax-based signalling, models predict that dividends are not informative or are, at least, less informative in a tax-free environment. Further, the results of this section find that the trading volume reacts to cash dividend announcements; this would suggest that higher taxation on dividends relative to capital gains is not a necessary condition for dividends to be informative.

The summary of the empirical results for the research hypotheses is illustrated in Table 3-8 below.

Table 3-8 Summary of estimations results for the research hypotheses and the theoretical discussion to support the hypotheses.

Variables	Dividend announcement	Predicted Price Effect	Realised Price Effect	Findings	Justification of the Hypotheses
AR with dividend change announcement in the short term	Increase Decrease	(+) (-)	(+) (-)	We find that the market reaction in the good news is taking a little time to be reflected in the stock price. The investors are delaying their response as a cautionary measure as they monitor the behaviour/actions of the market leaders / key investors/ experts. Whereas, in the bad news, there is a reaction one day before the event, and there is a reaction after the board meeting is conducted (3 to 4 weeks before the event). Our results confirm that any increase (decrease) in dividends is viewed as a positive (negative) signal to an increase (decrease) in the share price. This is in line with the dividend signalling hypothesis, which suggests that dividend changes should be followed by changes in profitability in the same direction (Michaely et al., 1995).	H1 is supported.
CAR with good news in the long term	Increase	(+)	(+)	There are significant long-term positive CAAR effects on dividends following the announcement of good news. This evidence is consistent with the efficient market hypothesis, and the excess returns must not be statistically different from zero during the post-announcement period.	H2 is supported.
CAR with bad news in the long term	Decrease	(-)	(-)	There is no significant long-term negative effect on CAAR following announcements of bad news. Nevertheless, there is a reaction before the announcement suggesting that there is a leakage of inside information from the firm. According to Ross (1977) and Bhattacharya (1980), in a world of information asymmetry, a dividend cut announcement may convey a pessimistic message about the management's assessment of future prospects of the firm, resulting in a fall in the firm's share price.	H3 is not supported.
ATV with dividend change announcements	Increase Decrease	(+) (-)	(+) (+)	We find significant positive ATV reactions around dividend announcements in all clusters. In GCC, investors react regardless of dividend change effects. These results are consistent with the bird in the hand theory and the clientele effect. The evidence is consistent with Lintner (1962) and Gordon (1963), providing support for Bird in the Hand theory. They argued that investors prefer dividends from a stock to potential capital gain because dividends are less risky. Also, under the Clientele effect Argument, some investors like dividends, either because they value the regular cash payments or do not face a tax disadvantage (Damodaran, 1999) as in GCC markets.	H4 is supported.

Notes: The table presents a summary of the empirical results for the research. *AR*= abnormal return, dividend change announcements (increase, decrease, and constant), *CAR*= cumulated abnormal return. *CAAR*= Cumulative Average Abnormal Returns. Good news = announcement of a dividend increase, Bad news= announcement of a dividend decrease, and *ATV*= abnormal trading volume.

3.6 Conclusion

This chapter examines the market response to 1092 dividend announcements in 299 firms from GCC stock market during the January 2010–June 2015 period. We analyse the impact of dividend announcements on both share price and trading volume to determine if dividends are informative or not. This information may affect the market through individual investors, as shown by changes in trading volumes, even though these individual changes in expectations might not lead to aggregate effects such as share prices changes. Our analysis of share price response is performed on both the short and long term. In the short term, three different patterns of change in dividends are considered: increase, decrease, and constant. For dividend increases, our results imply that there are delayed reactions from investors. In other words, share prices do not immediately adjust to the new information provided by the announcement. This suggests that market efficiency is low in the GCC stock market, given that a dividend increase is reflected in the market four days later. In the meantime, dividend decreases reveal significant negative share price reactions before the announcement. Nevertheless, tax-based signalling models claim that dividend changes are not informative in tax-free markets; however, our study finds that dividends are informative in GCC.

When we examine abnormal returns in the long term, there are negative and significant CARs observed in the period before the dividend announcement in the case of the dividend decrease sample, but there are no significant abnormal returns in the dividend increase sample. This could be evidence of information leakage in the bad news case, as there should be no significant abnormal returns before the announcement because the information has not yet been publicly disseminated to the markets. Furthermore, the findings of our study show significant price changes before the dividend decrease announcement and immediately after the board meeting, suggesting that there may be considerable information leakage that needs to be plugged. CFOs should therefore closely monitor the trading of the firm's shares in the period after a board meeting and before the public announcement has been made to determine whether there is information leakage within specific firms. Also, the board meeting should be more confidential in order not to be negatively affected by the share price reaction. After the announcement, there are positive and significant abnormal returns in the good news case over the long run, suggesting that portfolio readjustments happen over the long

term and not immediately as indicated by the EMH. In the bad news case, however, there are no significant abnormal returns.

The findings of abnormal trading volume highlight that there is the information content of dividend announcements, which is mainly reflected in trading volumes changes. The results show that there are significant increases in the *ATV* in the event window. These are observed in the full sample and all sub-samples. This effect is in line with the clientele effect, which predicts elevated trading volumes around the period of dividend announcements as different investor groups adjust their positions in response to the new information communicated by the dividend announcement. Since the trading volume is a good indicator of investor behaviour, it can be inferred that dividend announcements tend to convey new and valuable information to investors. Because investors are more confident in the precision of their prior, privately sourced financial information, they respond differently to new announcements, which in turn would increase in trading volume. In GCC, investors react regardless of dividend change effects. We believe that the reason might be due to GCC investors being irrational due to the herding effect, investors' heterogeneity, rumours, and trader noise. The results of our regression analysis show that dividends news contain information. In contrast, earnings changes are not strong enough to explain the variation of trading volume as a reaction to the announcement. From our findings, we recommend that policymakers use the trading volume side by side with share price to characterise investor behaviour.

Chapter Four: Dividend Smoothing Behaviour

4.1 Introduction

As shareholders are significantly concerned about dividend payments, financial managers should adjust their dividends regularly to match shareholders' preferences. According to Lintner (1956), managers believe that the shareholders deserve a fair share of the firm's earnings through dividends and that shareholders prefer to receive a stable dividend payment. While firms are reluctant to downturn their dividends even if their earnings decline, they do not increase dividends until they are confident that there is a permanent and sustainable increase in earnings (Chemmanur et al., 2010). Moreover, Gwilym, Morgan and Thomas (2000, p. 261) confirm that "*Both the size and stability of dividends are informative about a firm's future prospects, with managers believing that dividend cuts are harmful to their reputations and hence wishing to smooth dividends over time*." In other words, dividend smoothing is a procedure, practised by managers, to adjust the dividend level to avoid adverse shareholders' reactions. As a result, they make partial adjustments towards a target payout ratio to smooth dividend payments. Furthermore, Javakhadze et al. (2014, p. 200) argue that "*firms tend to make periodic partial adjustments toward a target payout ratio rather than dramatic changes in their dividends*". Lintner (1956) developed the partial adjustment model, which describes how managers smooth their dividends.

Several justifications explain managers' tendency to smooth dividends. For instance, Fudenberg and Tirole (1995) argue that managers remain busy in keeping their positions in the firm. Consequently, their efforts for their positions are a cause for smoothing: in this way, they can paint a beautiful picture of their good performance to the stakeholders and, hence, secure their jobs. Moreover, shareholders evaluate firms based on their dividend behaviour, which is characterised by dividend stability. Rozycki (1997) and Karpavičius (2014) argue that a firm's wealth and share prices may be boosted through dividend smoothing. This is because steady dividend payments have a positive influence on share prices (Beer, 1993). When firms reduce their dividend payments to accumulate internal funding for future projects, investors may not perceive such actions as a good sign for their investments (Woolridge and Ghosh, 1985). Thus, a dividend cut has a negative influence on share prices because investors perceive it as signalling reductions in the firm's future earnings. In order to obtain high share prices,

firms should be able to maintain a proper balance between dividend distribution and retention of funds for future investments.

However, the extent of dividend smoothing is considered to be affected by the uncertainty facing the firm. The prevalent belief in previous studies confirms that dividend smoothing is the dominant policy for firms with high degrees of information asymmetry. For example, Kumar (1988) and Guttman, Kadan and Kandel. (2007) show that dividend smoothing can arise when managers hold private information about firm value from shareholders. Brennan and Thakor (1990) focus on a different type of information asymmetry: that between informed and uninformed investors. In their model, individual investors, who are less informed, prefer to receive dividend payments to minimise their informational disadvantage when trading against more informed institutional investors. Guttman et al. (2010) argue that while many investors prefer smoothed dividends, this smoothing may refer to more risky firms. The more unstable the earnings, the more dividend smoothing is needed. From the studies above, we highlight the significance of key factors that have not been assessed to this date: private information regarding stock returns and trading, the bid-ask spread signifying asymmetry among investors, and the earnings stability, which influences the extent of dividend smoothing.

Several studies have looked at the determinants of dividend smoothing by investigating factors at the firm level, such as business risk (Leary and Michaely, 2011), cash flow (Al-Najjar and Belghitar, 2012), corporate governance (Javakhadze et al., 2014), firm size (DeAngelo et al., 2004), and growth opportunities (Chemmanur et al., 2010). Others examined the effect of market-wide and country-specific factors, such as inflation (Basse and Reddemann, 2011), interest rate (Jeong, 2013), investor protection and national cultural identity (Javakhadze et al., 2014). However, the relevance of each determinant is subject to the economic and legal environment. Thus, the impact of these factors varies from one country to another because of different economic conditions, policies, regulations, efficiency of the financial markets and cultural background. For instance, stock markets in GCC countries are more volatile and entail a high degree of information asymmetry (Sahut and Teulon, 2017). The GCC stock market differs from those of developed and emerging countries. Therefore, this begs for further investigation, particularly of the main determinants of dividend smoothing in the GCC

region. In this chapter, we extend the work of previous studies by analysing a comprehensive data set of the GCC stock market to examine whether their firms follow the policy of dividend smoothness or not. We consider the GCC stock markets that are less liquid and more volatile than developed markets to examine the extent of dividend smoothing as well as the determinants that underlie such a practice.

The remainder of the chapter is organised as follows. Section 4.2 reviews the theoretical and empirical literature. Section 4.3 discusses the research questions and hypotheses. Section 4.4 describes data sources and presents the research methodology. Section 4.5 presents the empirical analysis. Finally, Section 4.6 summarises the results and includes a few concluding remarks.

4.2 Theoretical Framework and Literature Review

This part of the chapter contains a brief review of dividend theories along with the major empirical evidence for and against the dividend theories, an identification of the degree of dividend smoothing in the GCC markets and it is the determinants. According to Chen and Roberts (2010) Al-Bassam et al. (2015), and Enache and Hussainey (2020), multi-theoretical perspective should focus on theories that have a commonalities number, including concepts, assumptions, and predictions. In addition and given that dividend is a complex phenomenon (Baker and Weigand, 2015), we consider it to be right to apply a multi-theoretical perspective, whereby certain components of dividend smoothing may be explained more by some theories (more appropriate or applicable) than others. Consequently, this part covers different explanations of dividend smoothing behaviour; the theories are primarily based on either information asymmetry or agency considerations.

On the whole, theories motivated by information asymmetry generally predict that firms with higher information asymmetry are more likely to engage in dividend smoothing than firms with lower information asymmetry[43], The different information asymmetry models[44] all imply that firms with greater information asymmetry are more likely to enact in dividend smoothing than firms with lower information asymmetry, while models motivated by agency conflicts predict that as the extent of conflict of

[43] See, e.g., Kumar (1988), Brennan and Thakor (1990), Guttman et al. (2010), and Jeong (2013).
[44] More details in the following sections.

interest between corporate insiders and outside increases, the use of smoothing will increase to reduce those conflicts[45]. Based on the theories above, the theoretical foundation is discussed widely in below:

4.2.1 Theories of Dividend Smoothing

The research on dividend phenomena is based on the founding stone of Linter's dividend smoothing work in the 1950s. He interviewed the CEOs and key managers of 28 US organisations to explore their dividend policies behaviour and the need for smoothing dividend relative earnings. Lintner's (1956) findings demonstrate two significant aspects of dividend policy. Firstly, real-world firms set target ratios of dividends to earnings in the long run. The firm with numerous positive NPV projects sets a low target ratio comparative to the existing cash flow. In contrast, a firm with a few positive NPV projects sets a high target ratio. Secondly, managers know that only part of any change in earnings is likely to be permanent. This is because managers need time to assess the permanence of any increase in earnings rise and, therefore, over a certain amount of time, dividend changes appear to lag behind changes in earnings. Although Lintner (1956) initially documented dividend smoothing over 50 years ago, there continues to be little consensus on how to explore the economic forces leading firms towards such behaviours. The next section provides an overview of existing models of dividend smoothing and discusses their empirical implications. The models can be categorised as (1) models that are based mainly on information asymmetry and (2) those that are motivated by agency conflicts.

4.2.2 Information Asymmetry Models

Leary and Michaely (2011) distribute the information asymmetry problem of dividend smoothing into four different categories: (1) coarse signalling models, (2) principal-agent models, (3) constraints in external financing, and (4) information asymmetry among investors based on their relative information situation. Information asymmetry models infer that dividend smoothing is endorsed more by firms with higher information asymmetry than others with comparatively low information asymmetry

[45] See, e.g., Allen, Bernardo, and Welch (2000), Fudenberg and Tirole (1995), Michaely and Roberts (2012), and DeMarzo and Sannikov (2016).

(Kumar, 1988; Brennan and Thakor, 1990; Guttman et al., 2010; Jeong, 2013). The following sub-sections explain each of these models in more detail.

4.2.2.1 Coarse Signalling Models

Guttman et al. (2010) provided a model that shows that dividends serve as indicators of the managers' private information regarding the firm's future cash flows. However, other studies, for example, Bhattacharya (1979), John and Williams (1985), Miller and Rock (1985) and Al-Yahyaee et al. (2011a) show the existence of partially (but not fully) revealing equilibria. The dynamic extrapolation of the models generates a dividend smoothing mechanism. A wider range of the pooling of firms results in a higher likelihood of smoothing. Comparative statistics suggest that smoothing is likely to grow given an increase in equity risk factors (Kumar and Lee 2001) such as volatility in cash flow (Kumar, 1988), shortening of investment horizons and improvement in investment opportunities within the market (Guttman et al., 2010). Therefore, smoothing results from signalling efforts, which is common among firms that have high degrees of information asymmetry.

4.2.2.2 Principal-Agent Models

Demarzo and Sannikov (2016) provide a model in which dividend smoothing is driven by the existing information asymmetry between managers and owners. They argue that, based on the existing cash flow, the principal learns about the firm's profitability. However, the agent (manager) maintains the cash balance (liquidity) to protect the firm against premature liquidation. High cash flow with the management, increasing the optimal cash flow increases the firm's perceived profitability. The adjustments in cash holdings absorb volatility in cash flow and, thereby, result in a smoothed dividend. Therefore, the smoothing is driven by the owner's need to learn from reported earnings about the firm's true profitability (Graham, Harvey and Rajgopal, 2005).

4.2.2.3 Constraints in External Financing

According to Almeida, Campello and Weisbach (2004), and Bates, Kahle and Stulz (2009), information asymmetry exhibited by the existing relationship between financial constraints and liquidity (cash holdings) motivates firms to smooth dividends. Firms with costly external sources of finance are usually reluctant to increase dividends, even when they have a positive earning shock. Thus, the smoothing of dividends relates to

low dividend levels. Ben Naceur, Goaied and Belanes (2006) add that smoothing is more pronounced among firms with motives of high precautionary savings.

4.2.2.4 Asymmetry of Information among Investors

Brennan and Thakor (1990) and Graham, Leary, and Roberts (2015) elaborate on a different form of asymmetry—the distinction between informed and uninformed investors. In the model, the less informed individual investors always prefer to receive dividends to reduce their informational disadvantage against informed investors. Whenever a firm's individual investors are the majority and acquire information remotely, the firm makes small dividend payouts with large shock to earnings being achieved through share repurchases. When compared to the firm's earnings, the outcome is smoother dividends. Therefore, the model postulates that dividend smoothing is a function of investor clientele, whereby firms that are owned by more individual investors are likely to implement more smoothing and vice versa (Ferreira, Massa, and Matos, 2010).

4.2.3 Agency-Based Models

According to Brown, Liang and Weisbenner (2007), smoothing of dividends rests from the firm's ability to control costs related to the FCF. Aivazian et al. (2006) note that the propensity to smooth relates closely to higher levels of dividends and a higher susceptibility to the issues associated with the FCF. Managers utilise dividends to attract institutional investors who are highly valued because of their monitoring capabilities (Hotchkiss and Lawrence, 2007; Guttman et al., 2007). The attracted institutional investors can impose large penalties in response to cuts in dividends. Therefore, managers are forced to smooth dividends to avoid the implications (Leary and Michaely, 2011). The model of DeAngelo, DeAngelo and Skinner (2009) highlights the relationship between agency costs of free cash flow and adverse costs related to the issuance of security (debt). Although low leverage allows a firm to have financial flexibility, it also exposes it to agency costs of having excessive cash. Therefore, a high dividend facilitates a mature firm to alleviate agency costs without giving up the admittance of low-cost external capital.

4.2.4 Literature Review

The purpose of this part is to review the literature on dividend smoothing behaviour and share price informativeness. This section discusses the four key aspects of the main empirical studies of (1) developed and emerging markets used in the Lintner model; (2) determinants of dividend smoothing; (3) the share price informativeness; and (4) the review of the main studies in GCC stock market.

4.2.4.1 Related Literature of Dividend Smoothing

Most of the dividend smoothing literature (see, e.g. Chemmanur et al., 2010; Leary and Michaely, 2011; Jeong, 2013 and Javakhadze et al., 2014) tries to measure the dividend smoothing and to identify its determinants. Most of this literature (see, for example, Brittain 1964, 1966 and Lambrecht and Myers, 2012) is based on Lintner's model of dividend smoothing through partial adjustments upon a target payout ratio. Lintner's findings show that US firms prefer a stable dividend policy whereby the managers try to smooth dividends over time unless there is the potential for a sustainable increase in earning. In addition, these firms prefer stable dividends rather than any changes to dividends. Some studies, such as those by Fama and Babiak, (1968); John and Williams, (1985); and Kumar (1988) reformulated the Lintner model. Benartzi, Michaely and Thaler, (1997) recommend the use of the original Lintner model as the best dividend smoothing process. Accordingly, this encouraged us to use the Lintner model as well in this study.

Previous studies on dividend smoothing have been done on both developed (see, e.g. Fama and Babiak, 1968; McDonald Jacquillat and Nussenbaum, 1975; Baker et al., 1985; Lasfer, 1996; Brav et al., 2005 and Andres et al., 2009) and emerging markets (see, e.g. Pandey and Bhat, 2007; Al-Najjar, 2009). A few studies try to compare several developed markets. For example, Andres et al. (2009) compare dividend smoothing amongst the UK, the US and German firms. Their findings show that UK and US firms are slower than their German peers in adjusting dividends. Furthermore, Dewenter and Warther (1998) compare US and Japanese firms. They state that Japanese firms use less stable dividend policies than US ones. With regard to emerging markets, there is a significant difference in dividend policy between developed and developing countries (Glen et al., 1995). Adaoglu (2000) argues that Turkish firms follow unstable cash dividend policies and that a firm's earning in that year is the main factor that determines

the amount of the cash dividend. On the other hand, Al-Najjar (2009) suggests that Jordanian firms follow the same determinants of dividend policy as the ones found in developed markets: firms have target payout ratios, which they adjust to their target ratios. Thus, there is general empirical support for Lintner's partial adjustment specification. Multiple regressions, conducted by Jeong (2013) on 79 Korean firms, suggest that dividend policy is influenced not only by cultural and institutional factors but also by macroeconomic factors such as tax and interest rates. In this regard, the dividend policy relates to the unfavourable tax treatment of dividend income in contrast to capital gains.

However, based on previous literature studies and the studies in Table 4-1 about dividend issues, we notice there is a wealth of studies of developed markets but only a few studies of emerging markets, including the GCC. There are several studies on dividend smoothing in developed markets (see Brav et al., 2005; Andres et al., 2009; Leary and Michaely, 2011; Al-Najjar and Belghitar, 2012; and Javakhadze et al., 2014, among others) and in emerging markets (Adaoglu, 2000; Chemmanur et al., 2010; Benavides et al., 2016). According to the study of Glen et al. (1995) on the comparison of developed and developing markets, the payout ratio for emerging markets is two-thirds of what it is for the developed counterparts. They argue that most emerging markets do not use smoothed dividend policies. Glen et al. (1995, p. 24) report that "*a better understanding of dividend behaviour in these countries will require much additional research, both at the aggregate and firm levels*." Thus, the practice of dividend smoothing and the driving determinants need further empirical examination.

As mentioned earlier, an important aspect of dividend policy is dividend smoothing. Therefore, it is necessary to examine the factors that influence managers to smooth dividends, such as agency conflicts and information asymmetry. The determinants of dividend smoothing vary between the studies, and there is no consensus on dividend smoothing determinants (Leary and Michaely, 2011). From literature about firm levels, some of these determinants are firm size (DeAngelo et al., 2004), corporate governance (Javakhadze et al., 2014), growth opportunities (Chemmanur et al., 2010), cash flow (Al-Najjar and Belghitar, 2012) and business risk (Leary and Michaely, 2011). Other studies investigate the effects of country-level determinants such as inflation (Basse

and Reddemann, 2011), interest rate (Jeong, 2013), investor protection, and national cultural identity (Javakhadze et al., 2014).

Table 4-1: Summary of Empirical Studies and Main Findings.

Authors	Area of Study	Studied period	Country	Sample	Main Findings
Brav et al. (2005).	Dividend policy	2005	US	384 CFOs and Treasurer	Managers prefer repurchases due to their flexibility. There is weak support for the agency, information asymmetry, and clientele motivation in deciding dividend policy.
Andres et al. (2009).	Dividend smoothing and Lintner model	1984-2005	Germany	220 industrial and commercial firms	Dividends in Germany are more volatile than in the US and UK. Also, cuts in dividends occur more frequently and, in Germany, at a higher SOA.
Al-Najjar (2009).	Dividend smoothing behaviour	1999-2003	Jordan	86 Jordanian non-financial firms	Jordanian firms have target payout ratios, which they adjust to their target ratios. Thus, the Lintner model is fully applicable.
Chemmanur et al. (2010).	Differences in dividend smoothing	1984-2002	Hong Kong and the US	153 HK firms and 603 US firms	US firms smooth their dividends more than HK counterparts. Support for signalling and the implications of the differences between the two countries' tax regimes are discussed.
Al-Yahyaee et al. (2011a).	Dividend smoothing in a unique environment	1989-2004	Oman	545 Fin + non-Fin firms	There is no support for tax-motivated dividend smoothing. The smoothing is characterised by a supporting agency and information asymmetry-based motives. So, Omani financial firms adjust their dividend policies very quickly, they do have a target dividend payout ratio, and they are willing to cut their dividends.
Al-Ajmi and Abo Hussain (2011).	Dividend smoothing in an Islamic country	1990-2206	Saudi Arabia	54 firms	Saudi firms are found to act quickly in increasing dividend payments. This confirms the traditional view that firms have a higher propensity to increase rather than decrease dividends.
Leary and Michaely (2011).	Determinants of dividend smoothing.	1985-2005	US	1,335 firms and 21,400 firm-year observations	There is an increasing trend in dividend smoothing. Additionally, Dividend smoothing is associated with agency costs.
Al-Najjar and Belghitar (2012).	Dividend smoothing behaviour	1991-2007	UK	432 non-financial firm-year observations	The original version of the Lintner model does not work effectively for UK firms. The modified dividend partial adjustment model, which includes cash flows, is more suitable.
Jeong (2013).	Determinants of dividend smoothing.	1981-2012	Korea	279 firms	When compared to US firms, Korean firms have a lower degree of dividend smoothing. Firm characteristics and macroeconomic factors

					influence dividend smoothing. This support neither agency- nor information asymmetry-based explanations.
Javakhadze et al. (2014).	Determinants of dividend smoothing.	1999-2011	24 countries	2219 non-Fin firms	Dividend smoothing occurs internationally.
Rhee and Park (2018).	changes in dividend smoothing	2000-2015	Korea	-	After the crisis, the speed of adjustment increased above pre-crisis levels. Moreover, Dividends are adjusted more flexibly for small firms with high investment levels after the financial crisis.
Fliers (2019).	The relation between financial flexibility and dividend smoothing	1986-2013	US	517 firms	There is an adverse effect on firms with low levels of unused debt capacity. Additionally, there is a positive relationship between capital structure adjustment speeds and dividend smoothing.

Note: The table presents the summary of studies of the dividend smoothing (In chronological order).

4.2.4.2 Related Literature of Share Price Informativeness (SPI)

In this part, we summarise the main studies of the SPI. Gelb and Zarowin (2002) examine the association between the degree of voluntary corporate disclosure and the SPI by using the AIMR-FAF annual corporate disclosure ratings as a proxy of corporate disclosure over the 1980–1993 period. They define SPI by the association between current share returns and future earnings changes: more informative share price changes contain more information about changes to future earnings. To measure this association, they use the multiple regression model of Collins, Kothari, Shanken and Sloan (1994), wherein current returns are regressed against changes to both current and future earnings and future stock returns. They conclude that greater disclosure is associated with greater SPI (i.e., higher future earnings change the ERC). On the other hand, Tan, Zeng and Elshandidy (2017) examine the impact of textual risk disclosure on the amount of firm-specific information incorporated into share prices, as measured by share price synchronicity. Using a sample of Chinese listed firms for the five years between 2007 and 2011, they find that synchronicity is inversely associated with the extent of risk disclosure. This suggests that risk disclosure is firm-specific and useful to investors.

Chen, Goldstein, and Jiang (2006) examine the effect of share price informativeness (SPI) on its sensitivity to investment. By using the price non-synchronicity and probability of informed trading (hereafter PIN) as measures of SPI, their results confirm

that there is a positive correlation between the degree of SPI and the sensitivity to investment. Moreover, by using a sample of US firms over the period from 1994 to 2010, Ben-Nasr and Alshwer (2016) examine whether SPI affects labour investment efficiency. They show that a higher PIN (i.e., higher SPI) is associated with lower deviations of labour investment from the level justified by economic fundamentals, i.e., higher labour investment efficiency. By using data from 48 countries over the period from 1980 to 2003, Fernandes and Ferreira (2008b) investigate the relationship between a country's first-time enforcement of insider trading laws and SPI. They find that the implementation of insider trading laws can have different impacts on SPI worldwide. There is a strong asymmetric relationship between enforcement and SPI concerning a country's level of development and its quality of legal institutions. Enforcement is associated with higher firm-specific return variation in developed markets; the reverse is true for emerging markets. Their results suggest that the enforcement of insider trading laws in emerging markets has an insignificant (or even negative) effect on the firm-specific return variation. According to He, Li, Shen and Zhang's (2013) investigations of the relationship between the Large Foreign Ownership (LFO) and the SPI in 40 markets in 2002, there is a stronger association between stock returns and future earnings innovations for firms with higher LFO. Further analysis reveals that the LFO's effect on SPI is stronger in developed economies and markets with strong investor protection and transparent information environments.

Fernandes and Ferreira (2008a) investigate over the period from 1980 to 2003 whether cross-listing in America affects the information environment for non-US stocks (47 markets). They conclude that as measured by the firm-specific stock returns variation, cross-listing has a worldwide asymmetric impact on SPI. Cross-listing improves SPI for developed market firms. However, for firms in emerging markets, cross-listing reduces SPI. In addition, Gul, Srinidhi and Ng (2011) show that after controlling for corporate governance, earnings quality, institutional ownership, and acquisition activity between 2001 and 2006, share prices of firms with gender-diverse boards reflect more firm-specific information. They find a positive link between gender diversity in the corporate board and SPI. Furthermore, Frésard's (2011) finds that managers use the information, which they acquire from the stock market, to decide on cash savings by using unbalanced panel data for the period from 1970 to 2006. He concludes that cash

savings are more sensitive to SPI when the price contains more information that is new to managers.

In short, despite the diversity of subjects being studied, no study has investigated whether or not the SPI is related to the dividend smoothing behaviour. SPI is an important determinant of dividend policy (De Cesari and Huang-Meier, 2015), and one that has been ignored in most dividend smoothing literature. Dividend policy decisions are based on both public and private information. Both types of information help firms optimise their dividend payments. Examples of public information are the firm size; profitability; cash dividends; and growth opportunities (Fama and French, 2001; Grullon and Michaely, 2002). According to De Cesari and Huang-Meier (2015), the main measures of share price informativeness are the firm-specific stock return variation[46], the illiquidity ratio[47], the private information trading[48], and PIN[49]. Private information on the firm's share prices can be taken from the historical outputs of the firm's managerial decisions, investment opportunities, the traders' demands on the firm's products and its competitive position. This private information completes and adds value to the information held by managers and make the picture clearer when making decisions on dividends. De Cesari and Huang-Meier (2015, p.4) state that "*managers can learn useful private information from variations in share prices*." Therefore, private information of share prices has not been used sufficiently in dividend smoothing literature. For this reason, the present chapter aims to fill this gap and test the SPI' impact on dividend smoothing behaviour.

4.2.4.3 Literature Related to GCC Studies

However, very few studies have examined the practice of dividend smoothing across the GCC stock market. Al-Yahyaee et al. (2010) analyse the stability of dividends on non-financial Omani firms during the period from 1989 to 2004. Contrary to their expectations, their findings show high stability of dividends despite the tax-free environment, concentrated ownership, high bank leverage, weak corporate governance, and variability in dividends. However, Al-Yahyaee et al. (2011a) published a similar research paper on Omani financial firms but reported unstable dividends. These

[46] See, Roll (1988).
[47] See, Amihud (2002).
[48] See, Llorente et al. (2002).
[49] See, Easley et al. (2002).

inconsistent findings provide us with great support to compare financial and non-financial firms operating in the same environment. Further, Al-Ajmi and Abo Hussain (2011) analyse 54 Saudi firms over the period from 1990 to 2006. Their findings show that dividend payments seem to be affected by previous dividend levels and current profitability. Recently, Al-Malkawi et al. (2014) examine 104 Omani firms over the 2001–2010 period; the findings show that Omani firms follow a stable dividend policy influenced by signalling and agency cost theories. Furthermore, the global financial crisis had no impact on dividend smoothing in Omani firms.

In general, although dividend smoothing is a key element of dividend policy, there is limited empirical evidence as to why firms implement smoothing (Javakhadze et al., 2014). Jeong (2013) and Javakhadze et al. (2014) further examine the determinants of dividend smoothing across countries. They ignore the effects of private information (conveyed by share prices) on dividend smoothing practices. Moreover, De Cesari and Huang-Meier (2015) confirm that SPI is an important determinant of dividend policy. Another contribution of our study is that it directly addresses the gaps and contributes to a fuller understanding of dividend smoothing practices for GCC stock market. Additionally, despite a few studies focus on GCC countries[50], no previous studies consider all GCC countries as a single market; instead, they focus on the degree to which firms become smoothed. In other words, identifying the determinants of dividend smoothing has been a neglected endeavour. To the best of our knowledge, we report the first empirical study on dividend smoothing using data from all GCC countries.

4.3 Research Questions and Hypotheses

This chapter investigates dividend smoothing by trying to answer the following research questions: (1) To what extent do GCC firms smooth their dividends? (2) Is share price informativeness a determinant of dividend smoothing in the GCC stock market? (3) What are the determinants of dividend smoothing behaviour in GCC firms? In accordance with existing theories and literature, the next section develops these hypotheses relating to each variable in the model.

[50] See, e.g. Al-Ajmi and Abo Hussain (2011) for Saudi Arabia, Al-Yahyaee et al. (2010, 2011a) for Oman, and Al-Malkawi et al. (2014) for Oman.

Leary and Michaely (2011) find that dividend smoothing has increased in popularity over the past 50 years, which suggests it is a subject that concerns managers more and more. Most of these studies are conducted using US data. One obvious question is whether these dividend effects are particular to the US or if they are prominent, also, in countries where the tax regime and/or institutional and economic characteristics are significantly different. The first objective of this study is to investigate the pattern of dividend smoothing in GCC firms. The hypothesis that we empirically test is the following:

- *H1: Firms of GCC stock market smooth their dividends.*

As evidenced in the related literature, Firms facing greater information asymmetry (IA) and less investor knowledge will need to smooth their dividends more to allow investors to assess the firm's earnings ability and value. (see, e.g., Kumar, 1988; Brennan and Thakor, 1990; Guttman et al., 2010). Information asymmetry is inversely proportional to SPI, as shown in Withisuphakorn and Jiraporn (2015) and Ebrahim (2017), suggesting that more powerful CEOs are less likely to disclose information, resulting in more information asymmetry and therefore lower stock price informativeness. So, this means that SPI could be a proxy for IA. However, since an absence of corporate governance mechanisms characterizes emerging markets, weak legal institutions (Jabbouri, 2016), high information asymmetry (Bekaert and Harvey, 2002; Ciner and Karagozoglu, 2008; Jabbouri, 2016). We argue that the negative relationship between SPI and dividend smoothing is stronger for emerging marks (like GCC markets) than in developed markets.

- *H2: There is a negative relationship between share price informativeness and dividend smoothing.*

Grossman and Stiglitz (1980) predict that a lower cost of private information leads to a higher intensity of informed trading and, hence, to what they call “more informative pricing.” In other words, higher firm-specific return variation (ψ) from more intensive informed trading due to a lower cost of information, hence, indicates a more informative price. Durnev, Morck and Yeung. (2004) use (ψ) as a proxy for SPI and find that capital investment decisions become more efficient when share prices are more informative. Their findings suggest that (ψ) is due to informed trading, and that, where (ψ) is higher,

share prices are closer to their fundamental values. Their findings indicate that a better information environment (see, e.g. less information asymmetry between corporate insiders and outside investors) is associated with lower share return synchronicity (R^2). Roll (1988) observes low R^2 for traditional asset pricing models. These indicate the lack of association between public information and dynamic firm-specific returns variation. Morck, Yeung and Yu (2000) and Wurgler (2000) suggest that firms' higher R^2 is due to the lack of firm-specific information incorporated in the share prices, and, hence, a negative correlation is expected between firm-specific return variation (ψ) and information asymmetry. Thus, a high *SOA* is expected to yield low information asymmetry. Considering this argument and the empirical evidence, we conjecture that high firm-specific returns variation leads to less dividend smoothing.

- *H2a: The coefficients of the* (ψ) *are expected to correlate positively (negatively) with the SOA (dividend smoothing).*

We also use ($BAPS$) as an additional measure of SPI. We compute $BAPS$ as the annual average of the quoted bid-ask spread (the difference between the bid and ask prices divided by the midpoint). A larger $BAPS$ can signal higher information asymmetry (see, Lee, Mucklow and Ready, 1993 and Loureiro and Taboada, 2012). In line with the argument that firms with high information asymmetry tend to smooth their dividend more, we assume that there is a positive (negative) correlation between bid-ask price spread and dividend smoothing (SOA). Thus,

- *H2b: The BAPS is expected to be negatively (positively) correlated to the SOA (dividend smoothing).*

For firms with low information asymmetry, private information trading tends to be negative since more volume indicates liquidity-based trading, and the stock exhibits negative return autocorrelation. As suggested by LMSW (Llorente, Michaely, Saar and Wang, 2002), the private information trading (PIT) measure is based on stock return autocorrelation conditional on trading volume. Private information trading is characterised by the coefficient of the interaction variable of past stock return and past trading volume, (γ), in explaining the current stock return. In other words, the differences in the dynamics of returns and volume across stocks are closely associated with different degrees of information asymmetry (Ciner and Karagozoglu, 2008). Since

the PIT (γ) correlates positively with information asymmetry, it is expected to intensify dividend smoothing.

- *H2c: the coefficient* $(\boldsymbol{\gamma})$ *is expected to correlate negatively (positively) with SOA (dividend smoothing).*

4.4 Data Description and Research Methodology

4.4.1 Data Description

Our sample includes data for listed firms in six GCC stock market for the period from 1994 to 2016[51]. The unbalanced[52] panel dataset includes 628 listed GCC firms with 8,662 firm-year observations. We constructed our initial sample from DataStream and Bloomberg; we also collected most of the available annual[53] financial performance variables as well as data from Gulf Base (see, www.gulfbase.com). The main variables are SOA_{it} = speed of adjustment; FS_{it} = firm-specific variables; PI_{it} = SPI variables. The firms should have at least five years of non-zero dividends (both in the current and previous years) and earnings; otherwise, they are excluded. Dewenter and Warther (1998) use the same exclusion strategy to find out the degree of dividend smoothing for Japanese corporations. The reason for this exclusion is that the firms do not have a trend of cash dividend payments to test dividend stability.

4.4.2 The Period Length

Experts on dividends smoothing argued that smoothing must be done over a sufficiently long period. For example, Stolowy and Breton (2000, p.14) argue that: "*Copeland [1968, p. 113] believes that investigating smoothing must be done on a sufficiently long period and that the length of the period may influence the results of the study.*" Although several studies agree with such a statement, we believe that, when compared with a long-run measure, it is irrelevant to use a short-run measure. Hence, it is inappropriate to implement short-term techniques rather than long-term techniques. Mantripragada's

[51] This time period has been selected because of data availability.
[52] A panel that has some missing values for at least one time period for at least one entity is called an unbalanced panel (Stock and Watson, 2003).
[53] Several dividend studies have used annual data (see, for example, Lintner, 1956, Fama and Babiak, 1968, DeAngelo et al. 1992, Bradley et al., 1998, and Ho, 2003)

(1976) findings indicate different results for two different data periods. When the data for the past ten years is used, a systematic negative association between non-diversifiable instability in dividend streams and share prices is found. However, when the data period is trimmed to the past five years, it produces completely different outcomes. This is because firms do not change their dividends every year. Consequently, the researchers should conduct dividend investigations on at least five years of data (Omar and Rizuan, 2014). Studies incorporating dividend research for longer periods include Gombola and Liu's (1993), Bharati, Gupta and Nanisetty (1998), Chen and Wu's (1999), Kasanen, Kinnunen and Niskanen (1996), Gwilym et al. (2000) and Al-Najjar and Belghitar's (2012).

The descriptive statistics are based on numerical and tabular methods, used to explore, evaluate, and present data. Table 4-2 reveals that the study contains a total of GCC firms. Out of the total observations, 46% are financial, while 54% are non-financial firms. There is a total number of 628 firms considered in this study. Most of the firms are from Saudi Arabia; this represents 27% of the sampled GCC firms. It is followed by Kuwaiti firms, which represent 25% of the total firms. Moreover, Kuwait has the most financial firms (62% of the full sampled firms within the country), while Oman has the most non-financial firms (75% of the total sampled firms within the country).

Table 4-2: Total number of firms based on each sample of the GCC member states for the period from 1994 to 2016.

		Financial	**Non-Financial**	**Total**
UAE	Obs	829	580	1409
	FIRMS	62	44	106
SA	Obs	611	1492	2103
	FIRMS	55	113	168
QA	Obs	291	267	558
	FIRMS	22	21	43
OM	Obs	475	1155	1630
	FIRMS	28	82	110
KU	Obs	1408	861	2269
	FIRMS	99	60	159
BA	Obs	400	293	693
	FIRMS	25	17	42
GCC	Obs	4014	4648	8662
	FIRMS	291	337	628

Note: The table presents the total number of financial and non-financial firms within the 6 GCC countries. Obs define as Firm-year observations.

Table 4-3 presents the descriptive statistics analysis of the variables included in the study. We consider mean, standard deviation, minimum, and maximum (Argyrous,

2011). According to Table 4-3, the mean SOA of a total of 8,662 observations is 0.326 (32.6%), with a relatively high standard deviation of 0.349. SOA represents the rate at which a firm closes its previous year's and target payout ratio gap (Arioglu and Tuan, 2014). It is regarded as a dividend smoothing measure. (ψ) represents the annual firm-specific return variation and has an average value of 2.25 ($M = 2.25,\ SD = 0.953$). The study further describes the GCC financial and non-financial firms' bid-ask percentage spread ($BAPS$); this averages to 0.033 during the sampled period. Gamma (γ) is a trading-based informativeness measure and reflects the private information affecting share prices. During the sampled period, the GCC firms' average gamma is equal to 0.0023 units. The mean age of GCC firms is 8.267 years, with the maximum age of 23 years, while in terms of log (total assets), the firms' average size is equal to 2.57. We show that the mean return volatility of our sample firms is about 0.04, and the mean investment horizon is 3 The available $payrat$ variable shows that firms had an average dividend payout ratio of 54.8 percent. Moreover, the means of $DEBT$ show that firms included about 18.6 percent of debt financing in their capital structures. On average, GCC firms had good prospects of growth, as $MTBV$ shows a mean market-to-book ratio of 1.9. The mean of the abnormal return *Abr* is 10.3%.

Table 4-3: Descriptive statistics for all variables during the period from 1994 to 2016.

	Mean	**Std. Dev.**	**Min**	**Max**	**Obs**
SOA	.3265	.3495571	0	1	8662
ψ	2.2528	.9528494	-.4587	4.1734	8662
BAPS	.03298	.0398469	.0019058	.2119	8662
(γ)	.00232	.0212279	-.07117	.1221	8662
age	8.2676	5.150362	1	23	8662
size	2.5778	.9729111	.77215	5.6131	8662
EAR_VOL	43.7131	86.85344	0	269.4571	8662
payrat	.54763	.8182537	0	6.49359	8662
RET_VOL	.0381	.0325865	0	.1473	8662
inves_horiz	2.9811	9.130274	0	69.1457	8662
deb_a	18.56498	19.32623	0	75.617	8662
MTBV	1.896749	1.740145	.1819	11.3094	8662
CashT	416.4379	1236.967	.0208	7950.185	8662
Abr	.1028337	.1567062	0	.8751415	8662

Notes: The table reports the summary statistics of variables used in our study for the speed of adjustment (*SOA*), firm-specific return variation (ψ), bid-ask percentage spread (*BAPS*), the private information trading (γ), firm age (*age*), Firm size (*size*), Earning volatility (*EAR_VOL*), payout ratio (*payrat*), Return volatility (*RET_VOL*), Investment horizon (*inves_horiz*), Debt ratio (*deb_a*), market-to-book-value (*MTBV*), cash to the asset (*CashT*) and abnormal return (*Abr*). The variables are summarised across all firm-years.

Table 4-4: The correlation matrix[54].

	SOA	*ABR*	ψ	*BAPS*	γ	*age*	*size*	*EAR_VOL*	*payrat*	*RET_VOL*	*inves_horiz*	*Debt/TA*	*MTBV*	*Cash/TA*
SOA	1.000													
ABR	-0.1084	1.000												
ψ	0.0948	-0.4450	1.000											
BAPS	-0.033	0.031	-0.028	1.000										
γ	-0.0362	0.0772	-0.1511	-0.023	1.000									
age	0.012	-0.022	-0.0531	0.027	0.017	1.000								
size	0.1351	-0.0636	0.0649	-0.1922	0.022	0.2596	1.000							
EAR_VOL	0.019	-0.027	0.028	-0.0411	-0.019	0.0421	0.1195	1.000						
payrat	0.1614	-0.0548	0.011	-0.015	-0.019	0.0329	0.024	-0.008	1.000					
RET_VOL	-0.0519	0.2095	0.1853	-0.0607	0.016	0.1796	0.1210	0.0564	-0.0862	1.000				
inves_horiz	-0.0607	-0.0627	0.1903	-0.0907	-0.024	-0.0799	-0.1232	-0.032	-0.0393	0.3524	1.000			
Debt/TA	-0.0487	0.0526	-0.0497	0.028	0.007	-0.011	0.1443	0.0892	-0.0763	0.0341	-0.1136	1.000		
MTBV	0.005	-0.2259	0.3685	0.0965	-0.0711	-0.1359	-0.013	0.001	-0.0462	0.0798	0.2875	-0.0864	1.000	
Cash/TA	0.0867	-0.1033	0.1289	-0.0907	-0.014	0.2065	0.6340	0.0451	-0.004	0.005	-0.0874	0.004	0.0129	1.000

Note: The table presents the correlation matrix for the speed of adjustment (*SOA*), firm-specific return variation (ψ), bid-ask percentage spread (*BAPS*), the private information trading (γ), firm age (*age*), Firm size (*size*), Earning volatility (*EAR_VOL*), payout ratio (*payrat*), Return volatility (*RET_VOL*), Investment horizon (*inves_horiz*), Debt ratio (*deb_a*), market-to-book-value (*MTBV*), cash to the asset (*CashT*) and abnormal return (*Abr*).

[54] Table 4-4 presents the correlation matrix for all explanatory variables used in the analysis. The correlation matrix also confirmed the absence of multicollinearity among the explanatory variables used in the regressions.

4.4.3 Methodology and Model Specification

This chapter employs two main regression models in Section 4.5 below to analyse the smoothness of dividend in GCC listed firms. The first model measures the degree of dividend smoothing in our context. The second model examines the relationship between share price informativeness and dividend smoothing policy and the determinants of dividend smoothing. The research sample contains a panel[55] dataset of listed firms on the GCC. Following Ben Naceur et al. (2006), Ahmed and Javid (2009), Andres et al. (2009, 2015), and Bremberger, Cambini, Gugler and Rondi (2016), this study employs three alternative empirical methods to estimate the associations to provide more valid, consistent and robust results. First, pooled least squares (OLS) method; second, fixed effects (FE) or random effects (RE); finally, the Generalised Method of Moments (GMM). In addition, this section presents the definition for each model and the advantage of each model. Moreover, this section presents the main models for the principal variables and the determinants of the dividend smoothing model. It is divided into three parts: (1) Lintner model, (2) the models of SPI proxies, and (3) control variables.

We use the pooled ordinary least squares (OLS)[56] method to capture the effect of time-varying factors on response variables. The OLS method is very common and popular in linking effect and cause in a model of regression. Although the advantages and the simplicity of using the OLS pooled model, it can be inconsistent if we have unobserved individual-specific effects that cause the error term to correlate over time for a given individual. Additionally, pooled OLS ignores any heterogeneity among the countries involved (Muhammad, Islam and Marashdeh, 2016). While Fixed and Random effect estimation deals with the heterogeneity issue. The fixed and random effect methods assume unobserved heterogeneity between individuals. The fixed effect method assumes that the unobserved heterogeneity is correlated with the independent variables. However, the random effect method assumes it is not (Torres-Reyna, 2007). In

[55] Panel data are analysed to investigate individual (group) and/or time effects using fixed effect and random effect models. A fixed effect model asks how heterogeneity from group and/or time affects individual intercepts, while a random effect model hypothesizes error variance structures affected by group and/or time (Park, 2011).

[56] The pooled OLS method pools all the data together and assumes homogeneity across individuals (i.e. firms).

choosing whether to use the FE and RE models, authors often depend on test specifications, such as the Hausman Test (Hausman, 1978).

Although the panel data regression (FE) and (RE) models solve the problem of heterogeneity (Allegretto et al., 2011), Generalized Method of Moments (GMM) controls the issue of endogeneity[57] (Chaussé, 2010). The best alternative to control for the possible endogeneity of our explanatory variables is a GMM estimator because it embeds all other instrumental variable methods as special cases (Ogaki, 1993; and Pindado, Requejo and de la Torre, 2012). Blundell and Bond (1998) develop a more advanced model, called the system Generalised Methods of Moments (GMM), to deal with the potential endogeneity problem of a dynamic panel model resulting from unobserved heterogeneity, simultaneity, and reverse causality (Gujarati and Porter, 2008). The lagged dependent variable is included in the equation as an explanatory variable is used as instruments following Baltagi (2016). According to Fernau and Hirsch (2019), the use of the GMM estimation technique avoids an upward bias in the estimation of dividend smoothing effects. More specifically, this study follows the same approach of Al-Najjar and Kilincarslan (2017), and Fernau and Hirsch (2019) in employing the system Generalised Method of Moments (GMM) for analysing dividend smoothing in the GCC listed firms.

4.4.3.1 Partial Adjustment Model (Lintner Model)

Lintner (1956) developed the partial adjustment model, which describes how managers smooth their dividends. In his model, Lintner presumes that the change in dividends from one year to another corresponds to the earnings, the target payout ratio, and the speed of adjustment (SOA). This model can be expressed as a regression where SOA is a coefficient. The SOA is particularly important and is a common measure of dividend smoothing. It estimates how fast the target payout ratio is adjusted to changes in a firm's earnings. The slower the target payout ratio is adjusted, the higher the degree of smoothing. Lintner's model implies that the dividends-to-earnings ratio rises when a firm enters a period of bad times, and the ratio falls during good times. Thus, the dividend displays less variability than earnings do. In other words, firms smooth their

[57] We defined Endogeneity issues as a relationship between the independent variables and the error term in a regression. The results with the presence of endogeneity problems lead to biased and unobserved heterogeneity. Endogeneity issues in regression model could be occurring through several reasons, such as omitted variable, measurement error and reverse causality (simultaneity).

dividends. Following Fama and Babiak (1968), Dewenter and Warther (1998), and Javakhadze et al. (2014) we measure dividend smoothing by using the partial adjustment model to estimate the SOA coefficient.

Lintner assumes that firms will always stick to their target payout ratios. Therefore, as shown below, the expected (target) dividend payments are proportionate with the firm's earnings:

$$D^*_{it} = r_i E_{it} \tag{4.1}$$

where D^*_{it} is the expected target dividend level in year t, E_{it} represents the net earnings in year t, and r_i is the target dividend payout ratio in year t.

In addition, Lintner's (1956) model expects that a firm will only partially adjust to the target dividend level in any given year. Therefore, the change in dividend payments from year $t-1$ to year t (partial-adjustment model) is given by:

$$\Delta D_{it} = \alpha + c_i\,(D^*_{it} - D_{it-1}) + \varepsilon_{it} \tag{4.2}$$

where $\Delta D_{it} = D_{it} - D_{it-1}$ is the change in actual dividend payments, and D_{it} and D_{it-1} are the amounts of dividends paid in the years identified by the dating subscripts t. $(D^*_{it} - D_{it-1})$ is the change in expected dividend payments. The intercept term α_i for some firms is expected to be zero, although generally, it will be positive to reflect the management's reluctance to either reduce or cut dividends. c_i is the speed of dividend adjustment coefficient with $0 \le c_i \le 1$. D_{it} is the actual dividend payment in period t, while D_{it-1} is the actual dividend in period $t-1$, and ε_{it} is an error term.

Substituting $r_i E_{it}$ for the target dividend level D^*_{it} in Eq. (4.2), we arrive at the following model:

$$\Delta D_{it} = \alpha + c_i\,(\,r_i E_{it} - D_{it-1}) + \varepsilon_{it} \tag{4.3}$$

As shown by Lintner, Eq. (4.3), can be written as:

$$D_{it} - D_{it-1} = \alpha + c_i r_i E_{it} - c_i D_{it-1} + \varepsilon_{it} \tag{4.4}$$

By rearranging Eq. (4.4), it can be written as follows:

$$D_{it} = \alpha + c_i r_i E_{it} + (1 - c_i)_i D_{it-1} + \varepsilon_{it} \tag{4.5}$$

We obtain a testable Lintner's model:

$$D_{it} = \alpha + \beta_1 E_{it} + \beta_2 D_{it-1} + \varepsilon_{it} \quad (4.6)$$

Where: $\beta_1 = c_i r_i$; $\beta_2 = 1 - c_i$.[58]

Evidence of smoothing is determined by using Lintner's (1956) model to compute the coefficients of SOA (c_i) and target payout ratio (r_i). This is done by regressing dividend payout on previous dividends and earnings per share.

A higher SOA and lower target payout signify either instability or absence of smoothing. On the contrary, a higher target payout and a low SOA coefficient mean that the managers of firms are motivated by the smoothing of dividends. Higher value of c_i indicates less smoothing in dividends; namely, less stability in dividend policy. Consequently, the SOA relates inversely to dividend smoothing. The SOA parameter c_i indicates the extent of dividend smoothing. When the SOA value is close to 1, this indicates either that the adjustment of dividends is at the same magnitude of the change in earnings or that there is no proportionate dividend smoothing relative to the percentage change in earnings. On the other hand, a very low value of SOA indicates independence of dividend movements relative to earnings or their partial adjustments to the variations of earnings. (r_i) is a target of cash dividends as a fraction of earnings in a given year. This is a ratio that the management tries to maintain. The target payout ratio is a variable that is not readily available. In line with Leary and Michaely (2011), a firm's median payout ratio,[59] measured over the sample period, is used to represent the target payout ratio. Together, $r_i E_{it}$ would equal the cash dividend a firm would have if it solely relied on its target payout ratio.

Almost all the studies, made after Lintner's model, have used per share data rather than aggregate data[60]. The use of per share data has the advantage of neutralising the impact of any capital change either in capital structure or in capital amount. Consequently, in testing Lintner's model, we use per share instead of aggregate data. Following the approach of Fama and Babiak (1968) and Brav et al. (2005), we divide both dividends and earnings by the number of common shares outstanding to control the issue of scale

[58] (r_i) is the target payout ratio and c_i is the SOA.
[59] We use the median rather than the mean because the mean has the disadvantage of getting affected by the outliers.
[60] Several studies have estimated the Lintner model using per share data including, for example, Fama and Babiak (1968); Fama (1974); Shevlin (1982); Mishra and Narender (1996); Adaoglu (2000); Aivazian et al. (2003a), and Omet (2004).

effects (Leary and Michaely, 2011). Other studies that utilise DPS data are Al-Najjar (2009), Al-Yahyaee, Pham and Walter (2011a), Al-Ajmi and Abo Hussain (2011) and Al-Najjar and Belghitar (2012).

Table 4-5 presents the average of (SOA) of all GCC countries, (BA), (KU), (OM), (QA), (SA) and (UA). These results are divided into five groups based on the firm's size. It is found that the GCC's average SOA for the large group is 0.3767; for the 2nd group, it is higher at 0.3854 and, then, it starts to decline towards the smallest group (0.2283). The largest group in BA has the highest value of 0.3761 among all other BA groups. When compared with other KU groups, the largest KU group has the highest value of 0.4053. In the case of OM, the largest group has the highest value of 0.4094 and the smallest group has the lowest value of 0.1901. Qatar's case is similar to OM's, whereby the largest group has the highest value of 0.4595, and the smallest group has the lowest value of 0.3417. SA has the highest SOA value of 0.3812 for the third group and the lowest value of 0.0787 for the smallest group. UA's case is also similar to SA's; it has the highest SOA value of 0.4173 for the third group and the lowest value of 0.3424 for the smallest group. However, among all the groups, there is no specific pattern of either increases or declines.

Table 4-5: Portfolios sorted by the speed of adjustment (SOA) for the period 1994-2016.

SOA	GCC	BA	KU	OM	QA	SA	UA
large	0.3767	0.3761	0.4053	0.4094	0.4595	0.3157	0.4117
2nd group	0.3854	0.2922	0.3890	0.3608	0.3761	0.3697	0.3471
3rd group	0.3480	0.3118	0.3160	0.3921	0.3621	0.3812	0.4173
4th group	0.2940	0.2417	0.2778	0.2517	0.3841	0.2722	0.3632
small	0.2283	0.2721	0.2783	0.1901	0.3417	0.0787	0.3424

Note: The table presents the averages of the speed of adjustment (SOA) that were classified into five groups based on the firm's size.

When talking about cross country comparisons, QA has the maximum value of 0.4594 for the largest group, while SA has the minimum value for its largest group. Each country has a different trend. Except for the smallest group, the average of SOA value reduces smoothly with decreasing group size for KU. While, for other countries, there is a mixed trend: for some countries (i.e. BA, OM), it reduces first and then, increases, while for others (i.e. SA), it first increases and then declines. Except for BA and KU, the minimum SOA value of each country corresponds to its smallest group. Last, the SOA values of UA's and QA's smallest groups are higher than the value of SA's largest group.

4.4.3.2 Determinants of Dividend Smoothing

This study follows Leary and Michaely (2011) and Javakhadze et al. (2014) to capture the determinants of dividend smoothing. We use the following model:

$$SOA_{it} = \alpha + \beta_1 SPI_{it} + \beta_2 cont_{it} + \sum_{j=1}^{N} \beta_j MARK_{j,i,t} + \sum_{k=1}^{N} \beta_k INDU_{k,i,t} + \sum_{t=1}^{T} \beta_t Y_{i,t} + \varepsilon_{it} \quad (4.7)$$

where SOA_{it} = speed of adjustment; SPI_{it} = share price informativeness; $cont_{it}$ = control variables; $MARK_{j,i,t}$= country dummy; $IND_{k,i,t}$= industry dummy, and $Y_{i,t}$= years dummy.

The next section discusses in more detail the variables of the model: SPI measures (firm-specific stock return variation, bid-ask spread, and private information trading), and other factors, all of which have been chosen based on previous studies.

4.4.3.3 Firm-specific stock return variation

We use firm-specific stock return variation (ψ) or "price non-synchronicity" as the first proxy for SPI (Durnev et al., 2004; and De Cesari and Huang-Meier, 2015) A higher (ψ) reflects a lower correlation between stock returns and the market as well as industry returns. This suggests that share prices are more likely to reflect firm-specific information (French and Roll, 1986; and Roll, 1988), and hence, share prices are less synchronous with market return and industry return. For a generic stock i, (ψ) can be defined as:

$$(\psi) = ln\left(\frac{1-R_{i.t}^2}{R_{i.t}^2}\right) \quad (4.8)$$

Higher values of (ψ) indicate higher firm-specific stock return variation (lower R^2) relative to market-wide and industry-wide variation, i.e., lower synchronicity (a monotonically increasing function of R-squared) with the market and the industry. R-squared is estimated from the following regression for each firm and each year (see, Piotroski and Roulstone, 2004; Fernandes and Ferreira, 2008a; Haggard, Martin and Pereira, 2008; Brockman and Yan, 2009; Ferreira, Ferreira and Raposo, 2011; Ben-Nasr and Cosset, 2014; and Tan et al., 2017):

$$r_{i.j.t} = \alpha + b_{i.m} r_{m.t} + b_{i.j} r_{j.t} + \varepsilon_{it} \quad (4.9)$$

where: $r_{i.j.t}$ is the return for firm i that is part of industry j at time t. $r_{m.t}$ represents the market return at time t. $r_{j.t}$ is the return for industry j at time t. We regress the weekly stock return of each firm in our sample on the current and prior week's value-weighted market return as well as the current and previous week's value-weighted industry return as in Brockman and Yan (2009); Ben-Nasr and Cosset (2014); and De Cesari and Huang-Meier (2015).

4.4.3.4 Bid-Ask Price Spread

We use the bid-ask spread as the second measure of SPI. We compute the bid-ask spread as the yearly median of the weekly quoted bid-ask spread (the difference between the bid and ask prices divided by the midpoint). More trading is shown to reduce the bid-ask spread as a result of more information awareness and low information asymmetry level among various market participants. $BAPS$ bid-ask percentage spreads (see, e.g., Glosten and Harris, 1988; Hasbrouck, 1991; Huang and Stoll, 1997; Badreddine, 2009; and Loureiro and Taboada, 2012) were calculated as follows:

$$BAPS = \frac{1}{D}\sum_{d=1}^{D}\frac{Ask_{i.d}-Bid_{i.d}}{\left(\frac{Ask_{i.d}+Bid_{i.d}}{2}\right)} \quad (4.10)$$

4.4.3.5 The Private Information Trading

The third proxy of SPI is the private information trading measure, as suggested by LMSW Llorente et al. (2002); this is based on stock return autocorrelation conditional on trading volume. We estimate calendar-year regressions for each firm in our sample (Ferreira and Laux, 2007; Fernandes and Ferreira, 2008a; Frésard, 2011; Ben-Nasr and Cosset, 2014; Foucault and Fresard, 2014; and De Cesari and Huang-Meier, 2015) as follows:

$$r_{i.t} = \alpha + b_i r_{it-1} + c_i r_{m.t} + \gamma_i(r_{it-1} \times V_{it-1}) + \varepsilon_{it} \quad (4.11)$$

where $r_{i.t}$ is weekly returns, $r_{m.t}$ is the market return, and $V_{i.t-1}$ represents the logarithm of firm i's weekly turnover, detrended by subtracting its 26-week moving average[61].

According to Llorente et al. (2002)[62], the amount of private information trading is given by the regression coefficient γ_i (Gamma) on the interaction between trading volume

[61] To avoid the problem of zero trading volume, we add a small constant (0.00000255) to the turnover before taking logs.

[62] The measure of trading based on private information developed by (Llorente et al., 2002) obtained by regressing (annually) firm *i*'s, the weekly return on its lagged return, the (value-weighted)

and asset returns. According to Petacchi (2015), stocks with positive Gamma are associated with speculative trade[63] (i.e., high amount of private information trading), while stocks with negative Gamma are associated with hedging trade[64] (i.e., a low amount of private information trading). In other words, for firms with considerable information asymmetry, the coefficient γ_i tends to be positive since more volume indicates more information-based trading, and the stock exhibits positive return autocorrelation. For firms with low information asymmetry, the coefficient γ_i tends to be negative since more volume indicates liquidity-based trading, and the stock exhibits negative return autocorrelation.

Table 4-6 presents the average of the share price informativeness (SPI) proxies for all GCC countries; these are divided into yearly quintiles based on the firm's size. Panels A to G separately report all three variables, namely (ψ), BAPS, and (γ). Except for Panel A, which presents the results for all GCC countries, Panels B to G show the results for different countries. Panel A presents the results for GCC countries; the (ψ) value of 2.403 is the highest for the largest group, and 2.118 is the value of the smallest group. However, this does not follow a specific trend. The BAPS value of 0.021 is the lowest for the largest group size, and 0.078 is the highest value for the smallest group size. The (γ) value of -0.005 is the minimum value for the 4th group and the largest for the smallest group. In panel B for BA, the (ψ) value of 2.426 is the highest for the smallest group and 1.915 is the smallest for the largest group. The BAPS value of 0.0104 is, also, the highest for the smallest BA group, and it is higher than the overall average value in all GCC countries. In panel C for KU, the (ψ) value of 2.173 is the highest for the largest group; this is the opposite of the trend in BA, where the smallest group has the highest value. The smallest KU group has the highest BAPS value. In the case of KU, 0.021 is the $BAPS$ value for the largest group; this is less than 0.078, which is the value of the smallest group. In panel D for OM, the smallest group's highest (ψ) value is 2.249, and the smallest group's highest $BAPS$ value is 0.244. In the 4^{th} group, (γ) has the highest value at 0.043. In panel E for QA, the largest group's highest (ψ) value is 3.068. Also, the smallest group has the highest BAPS value of 0.024. In panel F for

contemporaneous market return, and the interaction between firm i's lagged returns and the logarithm of its weekly share turnover (de-trended by subtracting its 26-weeks moving average).

[63] Speculative trades are defined as trades initiated by investors to speculate on their private information.

[64] Hedging trades are defined as trades initiated by investors to rebalance their portfolios for risk sharing.

SA, the largest group's highest (ψ) value is 2.817, and the (γ) value of 0.013 is the highest value for the 3rd group. In panel G for UA, the largest group's highest (ψ) value is 2.301, and the $BAPS$ value of 0.0118 is the highest for the smallest group, while the (γ) value of 0.031 is the largest value for the 4th group.

Overall, the GCC countries are do not follow a specific trend, each country exhibiting different trends for different sized groups, most of which also do not follow any trends. Except for the $BAPS$ variable, the largest group has the smallest value, and the smallest group has the highest value. There is a pattern of increases among the groups.

Table 4-6: Portfolios sorted by share price informativeness (SPI) for the period 1994-2016.

PANEL A: GCC

	(ψ)	(BAPS)	(γ)
large	2.403	0.021	0.003
2nd group	2.294	0.026	0.006
3rd group	2.139	0.034	0.004
4th group	2.216	0.046	-0.005
small	2.118	0.078	0.007

SPI proxies

Proxy 1= (ψ)

Proxy 2= (BAPS)

Proxy 3= (γ)

PANEL B: BA

	(ψ)	(BAPS)	(γ)
large	1.915	0.039	0.001
2nd group	2.040	0.044	0.002
3rd group	2.178	0.063	-0.040
4th group	2.277	0.073	-0.020
small	2.426	0.104	0.000

PANEL C: KU

	(ψ)	(BAPS)	(γ)
large	2.173	0.021	0.003
2nd group	1.947	0.033	0.002
3rd group	1.720	0.034	0.011
4th group	1.567	0.047	-0.004
small	1.352	0.078	0.001

PANEL D: OM

	(ψ)	(BAPS)	(γ)
large	1.853	0.028	0.002
2nd group	2.091	0.045	0.017
3rd group	2.283	0.037	-0.050
4th group	1.945	0.077	0.043
small	2.249	0.244	0.012

PANEL E: QA

	(ψ)	(BAPS)	(γ)
large	3.068	0.008	0.000
2nd group	3.197	0.012	0.000
3rd group	3.045	0.016	0.000
4th group	2.973	0.018	0.001
small	2.904	0.024	-0.001

PANEL F: SA

	(ψ)	(BAPS)	(γ)
large	2.817	0.005	-0.001
2nd group	2.735	0.004	-0.001
3rd group	2.756	0.004	0.013
4th group	2.761	0.005	0.000
small	2.810	0.005	0.010

PANEL G: UA

	(ψ)	(BAPS)	(γ)
large	2.301	0.036	0.014
2nd group	1.749	0.041	0.016
3rd group	2.127	0.070	0.002
4th group	2.017	0.077	0.031
small	2.294	0.118	-0.017

Notes: The table presents the averages of the firm-specific return variation (ψ), bid-ask percentage spread (*BAPS*), the private information trading (γ) that were classified into five groups based on the firm's size.

4.4.3.6 Control variables

In the regression model that investigates the determinants of dividend smoothing, we include several control variables that potentially affect corporate dividend policy. One is the age, or the number of years since the firm first appeared in the DataStream database (see, Javakhadze et al., 2014; and Jeong, 2013). The firm size ($size$) is represented by the natural logarithm of total assets (see, Fenn and Liang, 2001; DeAngelo, DeAngelo and Stulz, 2006; Denis and Osobov, 2008; Cuny, Martin and Puthenpurackal, 2009; Jeong, 2013; Javakhadze et al., 2014). Several previous studies suggest that leverage influences corporate dividend policy. We compute it as the sum of short-term and long-term debt divided by book assets ($LEVER$) (see, Fenn and Liang, 2001; Cuny et al., 2009; Larkin et al., 2016). Cash-rich firms are subject to free cash flow problems and, therefore, need to pay high, stable dividends. To test this idea, we use cash and marketable securities divided by assets ($CashT$) as a proxy for financial slack (see, DeAngelo et al., 2006; Brockman and Unlu, 2009). To control a firm's growth opportunities, we adopt the $MTBV$; this is the market value of equity plus the book value of assets minus the book value of equity, all divided by the book value of assets (see, Javakhadze et al., 2014; Athari et al., 2016). Following Leary and Michaely (2011), Javakhadze et., al. (2014) and Muller and Svensson (2014), we use the earnings volatility (EAR_VOL), return volatility (RET_VOL), Investment horizon ($inves\_horiz$), and dividend level ($payrat$) as determinants of dividend smoothing.

John and Williams (1985) show that, in signalling equilibrium, the optimal dividend policy pays smoothed dividends relative to share prices. Their model suggests that a higher level of information asymmetry results in a higher degree of dividend smoothing. Theories on information asymmetry argue that firms with a higher degree of information asymmetry are likely to smooth dividends more to mitigate the costs of information asymmetry and uncertainty to investors (e.g., Kumar, 1988; Brennan and Thakor, 1990; Guttman et al., 2010). In other words, firms, which face greater informational asymmetry and less investor cognisance, need to smooth more to allow investors to assess the firm's earnings ability and value (see, Kumar (1988); Brennan and Thakor (1990); Guttman et al. (2007) and Guttman et al. (2010). We use the following variables, such as firm maturity, dividend level, earnings volatility, and risk and investment horizon, to represent the main control variables of information asymmetry.

Further, we use firm size and age as proxies for firm maturity. This is consistent with Frank and Goyal (2003) and Lemmon and Zender (2010) who argue that firms smooth less as size and age increase. The rationale of analysing firm maturity is that more mature firms should experience less information asymmetry. According to Leary and Michaely (2011), older firms should not be exposed to as much information asymmetry as newer firms since the market knows them better. The same argument goes for firm size; the larger firm, the more well-known it is to investors and market participants. In line with Jeong (2013), listing years (in Datastream) is used as a proxy for firm age and the natural log of total assets as the proxy for firm size. Firm age and size are expected to correlate negatively with information asymmetry. Also, Low information asymmetry is expected to yield a high SOA. Consequently, Firm size and Firm age should correlate positively (negatively) with the SOA (Dividend Smoothing).

We include the volatility of both earnings and stock returns as measures of risk and information asymmetry (see, e.g., Brennan and Subrahmanyam 1996; O'Hara, 2003; Leary and Michaely 2011; Javakhadze et al., 2014). Greater volatility is associated with higher uncertainty and, accordingly, greater information asymmetry. We hypothesise a positive (negative) relationship between these volatilities and dividend smoothing (SOA).

In Leary and Michaely (2011), stock turnover is used to proxy the shareholders' investment horizon. The stock turnover is calculated as the number of shares traded in a given year divided by the number of outstanding shares in the same year. Guttman et al. (2010) suggest that a longer investment horizon (low stock turnover*)* is associated with lower information asymmetry and lower (higher) dividend smoothing (SOA). Since low stock turnover translates to a longer investment horizon, the coefficient of stock turnover with SOA should be negative.

Another way in which information asymmetry may lead to dividend smoothing is through the relationship between financial constraints and cash holdings (see, e.g., Almeida et al., 2004; Bates et al., 2009). Specifically, firms for which external finance is costly are reluctant to increase dividends, even following a positive earnings shock. The dividend level is proxied by the payout ratio[65]. In this case, dividend smoothing

[65] The payout ratio is the dividend per share divided by earnings per share.

should be associated with low dividend levels. It should be most pronounced among firms with high precautionary savings motives (i.e., those with high expected financing needs and limited capital market access). As dividend levels increase, an increase in holdings by institutional investors, which in turn reduces information asymmetry (Brav and Heaton, 1998). Therefore, we anticipate a negative relationship between the dividend payout ratio and smoothing. However, Leary and Michaely (2011) find that the degree of dividend smoothing relates positively to the dividend level. As the level of dividend increases, firms become more attractive to institutional investors who force management to smooth dividends. Therefore, dividend smoothing increases with the firm's level of dividend (Allen et al., 2000). From an agency perspective, the payout ratio is assumed to have a positive effect on dividend smoothing. Thus, we expect that from an information asymmetry (agency) point of view, the payout ratio is assumed to have a positive (negative) effect on the SOA.

Moreover, stocks with high earning surprise have high abnormal returns and, remarkably, stocks with positive surprise continue to grow while stocks with negative surprise continue to decrease. From the previous discussion, there is an observed negative relationship between earnings and *SOA* (Ball and Brown, 1968). Moreover, O'Hara (2003) reports a positive relationship between dividend smoothing and such volatilities. Hence, a negative correlation exists between return volatility and the SOA. According to De Cesari and Huang-Meier (2015, p. 10) "*there is a positive and statistically significant relationship between Abnormal return and the likelihood of a dividend increase.*" Therefore, we can anticipate the existence of a positive relationship between dividend smoothing and abnormal return. Thus, from an information asymmetry point of view, the abnormal return should correlate negatively with the SOA.

Previous studies propose several theoretical explanations. Particularly popular are the agency theories of Fudenberg and Tirole (1995) and Allen et al. (2000). These researchers describe how dividend smoothing mitigates the agency conflict between managers and shareholders. They contend that firms with higher agency costs should smooth their dividends more to mitigate (reduce) such costs. We use the following variables to represent the main control variables of agency conflict, such as growth opportunity, financial slack, leverage, and dividend level.

The market-to-book ratio is a proxy of growth opportunities, and it is related to agency problems. Firms with lower investment opportunities are expected to have more excess cash. Having more excess cash means that the problem of FCF is greater, and this increases the overinvestment problem (Leary and Michaely, 2011). Thus, it can be assumed that firms with higher ratios of market-to-book will pay out less and smooth their dividends to a lesser extent. This is another proxy used for information asymmetry. Muller and Svensson (2014) suppose that the market-to-book ratio is a measure of the value gap between a firm's market value and its book value. The rationale is that the larger the gap is, the more investment opportunities the firm is expected to have. Since investment opportunities are hard to evaluate for investors, a large market-to-book ratio is expected to bring greater information asymmetry. Therefore, we assume that the market-to-book ratio in an agency (information asymmetry) setting should have a positive (negative) relationship to the SOA.

Agency models by Allen et al. (2000) and Fudenberg and Tirole (1995) suggest that consistent and predictable dividend payments can mitigate manager-shareholder agency conflict. Firms which face greater conflicts of interest, tend to smooth their dividends more to reduce those conflicts. A high level of stable dividends can force firms, also, to seek external capital more often since such payouts reduce free cash flow (Easterbrook, 1984 and Jensen, 1986). Moreover, the anticipated association between the SOA and leverage is the opposite when compared to financial slack. In this regard, Aivazian et al. (2003b, p.380) state that "*firms with relatively less debt and more tangible assets have greater financial slack and are more able to pay and maintain their dividends.*" The extra money possessed by the firm to cope with the downturns in revenue, sales, or profits is known as financial slack; this helps the firm in difficult times and represents the firm's savings (Muller and Svensson 2014). The existence of financial slack reduces external financing requirements and, thus, solves the "underinvestment" problem, which in turn reduces the firm's signalling needs and the incentive to smooth dividends (Myers and Majluf, 1984 and John and Williams, 1985). Therefore, an inverse relationship is expected between financial slack and the extent of dividend smoothing. Thus, we expect that the leverage coefficient should be positive with regard to SOA and Cash-to-assets will have a negative effect on SOA.

The Lintner theoretical model says that the dividend depends partly on current earnings and partly on the dividend for the previous year; in turn, the latter depends on that year's earnings and the dividend in the last year. Research confirms that dividends are a function of the weighted average of current and past earnings. This aligns with the evident practice of retaining a consistent smoothed dividend over time. It also indicates that dividends are not inevitably increased with an increase in earnings but rather incorporate a higher proportion of earnings in bad years and a lower proportion of earnings in good years. Therefore, investors can be reasonably confident about the cash element of their return. For example, the policy may be for dividends to grow at the long-term rate of profit growth subject to maintaining adequate dividend cover.

Table 4-7: Description of variables.
This table shows the definitions of all considered variables, including the dependent variable SOA, the proxies of SPI, and the control variables.

Category	Variables	Empirical proxy	Definition
Dependent variable	Dividend smoothing	SOA (speed of adjustment)	$DPS_{it} = \alpha_{it} + \beta_1 EPS_{it} + \beta_2 DPS_{it-1} + \varepsilon_{it}$ $\beta_1 = c_i r_i$ $\beta_2 = 1 - c_i$
Independent variables	Share price informativeness (SPI)	ψ	Annual firm-specific return variation computed as $\psi = \ln(1-R^2_{i.t}/R^2_{i.t})$ where $R^2_{i.t}$ represents the coefficient of determination of the regression of firm *i* weekly returns on the value-weighted market and value-weighted industry indices in year t.
		BAPS	bid-ask percentage spread BAPS is the weekly average spread divided by the median of the bid and ask prices over weekly *t-1*
		(γ) *Gamma*	The measure of trading based on private information developed by (Llorente et al., 2002) obtained by regressing coefficient on the interaction between firm *i*'s lagged weekly returns and the logarithm of its weekly share turnover. (de-trended by subtracting its 26-weeks moving average).
Control variables	Firm age	*age*	(the number of years since the firm first appeared in the DataStream database)
	Firm Size	*size*	The logarithm of the firm's total assets
	Earnings Volatility	*EAR_VOL*	(the standard deviation of the ratio of EBITDA to assets over the sample period)
	Dividend Level	*(payrat)*	payout ratio = DPS/EPS
	Return volatility	*RET_VOL*	SD (Return) (the annual standard deviation of weekly stock returns, including distributions
	Investment horizon	*inves_horiz*	Stock Turnover (the annual average of the ratio of monthly traded volume of shares to total shares outstanding)
	Leverage	*deb_a*	The ratio of long-term debt to total assets.
	Growth opportunity	*MTBV*	Market to book value
	Financial Slack	*(CashT)*	cash scaled by total assets
	Abnormal return[66]	*Abr*	Abnormal Return = Stock return – Market return

Notes: The table shows the definitions for the dependent variable, all the independent variables and all control variables.

[66] Due to its simplicity and popularity, we use the market-adjusted model of abnormal returns, which is the difference between the rate of return of an individual stock and the rate of return of the index. Our market-adjusted model (or constant mean return model) follows Brown and Warner (1985) and subsequent researchers, for example, Hegde and McDermott (2003), and Gregoriou and Ioannidis (2006). Brown and Warner (1985) find that the simple mean returns model often yields results like those of more sophisticated models. This is because the variance of the abnormal returns is not reduced much by choosing a more sophisticated model. We calculate the abnormal return by using the markets-adjusted model. As defined by Brown and Warner (1985), the market-adjusted model, Abnormal Return = Stock return – Market return.

4.5 Empirical Analysis

This portion of the chapter presents the main empirical findings concerning the dividend smoothing behaviour in GCC stock market. Results were divided into the following two parts: (1) the degree of dividend smoothing of GCC listed firms; and (2) the main determinants of dividend smoothing of GCC listed firms.

4.5.1 The Partial Adjustment Model

4.5.1.1 Classical Lintner model

Table 4-8 presents the baseline regression results of the partial adjustment model. For this, we use the following three alternative estimation approaches: OLS, FE, and GMM[67] methods. Further, we use the Lintner model to examine whether GCC firms follow stable dividend policies. Consequently, we are interested in the SOA, which reflects how quickly the firms adjust dividends towards the target ratio: the higher the SOA, the less smooth and stable the dividend distributions. Table 4-8 shows that the Lintner model estimation for all GCC sectors indicates that their firms have followed a stable dividend policy and that they are reluctant to cut dividends. With the expected positive sign, both the earnings per share and previous dividends per share are statistically significant in all models. Also, the coefficient on the constant is statistically significant with a positive sign. These results are consistent with Lintner (1956), this indicates that GCC firms are reluctant to cut dividends. Therefore, we support (H1).

The data in Table 4-9 shows the *SOA* of different markets in both developed and emerging markets. As shown in Table 4-9, the *SOA* is 0.33, which indicates that GCC firms do smooth their dividends. This is close to 0.30 for the US firms reported by Lintner (1956) and 0.33 for Germany, as reported by Javakhadze et al. (2014). However, the *SOA* of the current study is lower than Australia's 0.46 reported by Javakhadze et al. (2014) and Korea's 0.68 as given by Jeong (2013). Based on each sample for the GCC member states, SA is the lowest in terms of the *SOA* in our research sample, while QA and UA have the highest *SOA* in the GCC sample. The SA result is similar to the one reported by Javakhadze et al. (2014) for the UK (equals 0.28). Also, the QA and UAE results are similar to the one indicated by Javakhadze et al. (2014) for Switzerland (equals 0.39). Therefore, our results show that GCC firms follow the

[67] We estimate the GMM model using the "*xtabond2"* command in Stata.

dividend smoothing policy. This is consistent with the findings of existing studies including Leary and Michaely (2011), Jeong (2013), Al-Malkawi et al. (2014), Javakhadze et al. (2014), and Benavides et al. (2016). Further, it is important to see if GCC firms have a target payout ratio. Lintner (1956) hypothesises that firms set long-term (r_i) move gradually towards their target. From our calculation of the (r_i), we find that the target payout ratio of GCC firms is 0.39 (OLS), 0.30 (FE) and 0.40 (GMM). This value is much lower than 0.50, which is reported by Lintner (1956) for US firms. It is also lower than 0.459 given by Fama and Babiak (1968).

Table 4-8: Results of the Lintner model estimation for GCC firms for the period 1994-2016.

Dependent variable=DPS	(OLS)	(FE)	(GMM)
EPS	.1313*** 42.23	.1675*** 34.30	.1718*** 5.42
DPS_{t-1}	.6656*** 84.32	.4456*** 49.75	.5753*** 5.94
Constant	.0197*** 10.11	.0400*** 18.01	-
SOA (c)	0.334	0.554	.424
(r)	0.392	0.302	0.404
Adj R^2	0.8160	0.806	-
f-stat p	0.0000	0.000	-
Hausman p		0.0000	
AR(1) p	-	-	0.026
AR(2) p	-	-	0.131
Sargan p	-	-	0.000
Hansen p	-	-	0.289
Mark EFF	Yes	Yes	Yes
No. of Obs	8033	8033	7207

Notes: The table reports the panel regression and GMM results of the Lintner model. The dependent variable is *DPS* = dividend per share, and the independent variables: DPS_{it-1}= lagged dividend per share, *EPS* = earnings per share. *SOA* (c_i) is the speed of adjustment = 1 — the coefficient on DPS_{it-1}. The target payout ratio (r) = the coefficient on EPS ÷ c. And $\beta_1 = c_i r_i$; β_2= 1- c_i. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 4-9: Estimates of speed of adjustment (*SOA)* of several empirical studies.

Author	Country	Period	No of Firms	SOA
Leary and Michaely (2011)	USA	1985-2005	1335	0.14
Jeong (2013)	Korea	1981-2012	279	0.68
Al-Malkawi et al. (2014)	Oman	2001-2010	104	0.26
Javakhadze et al. (2014)	Australia	1999-2011	76	0.46
	Austria		6	0.36
	Bermuda		63	0.67
	Cayman Island		9	0.64
	China		11	0.6
	Denmark		6	0.57
	Finland		21	0.55
	Germany		25	0.33
	Hong Kong		44	0.48
	India		96	0.43
	Ireland		7	0.36
	Japan		1194	0.15
	Malaysia		125	0.44
	Netherlands		24	0.54
	New Zealand		5	0.4
	Nigeria		5	0.53
	Norway		14	0.47
	Pakistan		17	0.63
	Singapore		43	0.48
	South Africa		16	0.67
	South Korea		120	0.34
	Sweden		31	0.5
	Switzerland		21	0.39
	United Kingdom		240	0.28
Benavides et al. (2016)	Argentina	1995-2013	60	0.48
	Brazil		319	0.47
	Chile		141	0.78
	Colombia		19	0.45
	Mexico		60	0.4
	Peru		67	0.55
Current Study	GCC	1994-2016	628	0.33
	Bahrain		42	0.3
	Kuwait		159	0.33
	Oman		110	0.32
	Qatar		43	0.38
	Saudi Arabia		168	0.28
	UAE		106	0.38

Note: The table presents the degree of the speed of adjustment *SOA* of emerging and developed markets (from previous studies) and GCC countries.

4.5.1.2 Further analysis (Check for the Lintner Model of both financial and non-financial firms)

Firms are mainly classified into financial and non-financial industries. According to Ben Naceur, Goaied and Belanes (2005), each of the two categories has its practical characteristics regarding capital structure, the concept of management, and leverage ratio, etc. According to Baker, Veit and Powell. (2001), the managers' responses are significantly different in financial and non-financial firms, and they affirm the influence of industry on dividend policy. Moreover, financial institutions are more highly regulated with legal restrictions than non-financial firms (Ben Naceur et al., 2005). Although Rozeff (1982) finds no correlation between industry and dividend policy, there are other studies find a significant relationship between them (see, e.g. Michel, 1979; Baker et al., 1985; Baker, 1988; Dempsey, Laber and Rozeff, 1993; and Baker and Powell, 2000). According to Osman and Mohammed (2010) Some common factors that affect dividend policy of both financial and non-financial firms, they find some factors that affect only non-financial firms. In addition, market imperfections or frictions affect industries differently; this may mean there are no common determinants of dividend policy that apply to all firms (Baker et al., 2001).

Studies comparing dividend smoothing in these two sectors are very limited. Al-Yahyaee (2006) compares the stability of dividend policies between financial and non-financial firms in Oman. He finds that dividend smoothing is considerably different between the two types of firms. Financial firms show a significantly higher speed of adjustment than non-financial firms, meaning that non-financial firms have a more stable dividend policy. According to Osman and Mohammed (2010), some common factors that affect dividend policy of both financial and non-financial firms in Saudi Arabia, and some factors that affect only non-financial firms. Furthermore, El-Sady et al. (2012, p.26) recommend that "*Future research on the dividends policy issue, particularly related to the Middle East, and specifically to GCC, is still needed. All listed firms with earnings available for common shareholders should be included in the study. A comparative study can be made between financial and non-financial sectors since dividends policies may differ significantly between them".* However, all existing GCC studies ignore the differences in the dividend smoothing of financial and non-financial firms. Therefore, we compare financial and non-financial firms to analyse how differently dividend policy work in the two types of industries.

Table 4-10 compares the SOA values of GCC firms based on the industry. As can be seen, in the financial sector, the coefficient on lagged dividends (β_2), namely dividend smoothing, varies from 0.6335 (FE) to 0.7822 (OLS) and thus, the SOA (c_i) ranges between 0.217 and 0.366. These results are lower than the SOA figures for the non-financial sectors, which range between 0.421 (OLS) and 0.573 (FE). This is due to the differences in the firms' policies. In addition, the coefficient of EPS for non-financial firms range between 0.2631 (OLS) and 0.3178 (GMM); further, target payout ratios range between 0.482 (FE) and 0.652 (GMM). Hence, these numbers are higher than the ones from the financial sector, which are between 0.293 (FE) and 0.368 (OLS). All estimated coefficients are significant at 1%. The autocorrelation tests for second-order correlation in the residuals as well as the two-step Sargan-Hansen statistic (testing the joint of the instrument's validity) suggest that our estimates are valid.

Table 4-10: Robustness Check for the Lintner (1956) Model for the period 1994-2016.

Dependent variable =DPS	Financial			Non-Financial		
	(OLS)	(FE)	(GMM)	(OLS)	(FE)	(GMM)
EPS	.0803*** 23.22	.1075*** 20.78	.1134*** 37.43	.2631*** 39.19	.2769*** 32.98	.3178*** 22.16
DPS_{t-1}	.7822*** 72.10	.6335*** 50.21	.6403*** 45.12	.5782*** 54.69	.4267*** 35.81	.5133*** 12.95
Constant	.0072*** 3.21	.0159*** 6.15	-	.0075*** 3.38	.0294*** 10.51	-
SOA (c)	0.217	0.366	0.359	0.421	0.573	0.486
(r)	0.368	0.293	0.315	0.624	0.482	0.652
Adj R^2	0.8960	0.893	-	0.8439	0.841	-
f-stat p	0.0000	0.000	-	0.0000	0.000	-
Hausman p		0.0000			0.0000	
AR(1) p	-	-	0.029	-	-	0.046
AR(2) p	-	-	0.279	-	-	0.123
Sargan p	-	-	0.000	-	-	0.000
Hansen p	-	-	0.125	-	-	0.699
Mark EFF	Yes	Yes	Yes	Yes	Yes	Yes
No. of Obs	3724	3724	3363	4309	4309	3844

Notes: The table reports the panel regression and GMM results of the Lintner model. The dependent variable is DPS = dividend per share, and the independent variables: DPS_{it-1}= lagged dividend per share, *EPS* = earnings per share. *SOA* (c_i) is the speed of adjustment = 1 — the coefficient on DPS_{it-1}. The target payout ratio (r) = the coefficient on EPS ÷ c. And $\beta_1 = c_i r_i$; β_2= 1- c_i. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

4.5.2 Determinants of Dividend Smoothing

To analyse the statistical impact of share price informativeness (SPI), and the other main factors relating to the dividend smoothing behaviour of GCC firms, the present study uses multiple regression analysis and GMM-based estimations. The dependent variable (i.e. SOA) is the same in all cases (models), while the numbers of independent variables change. Table 4-12 presents in each column the results of AR (1), AR (2) and the Sargen and Hansen test. The results show that AR (1) is significant, while AR (2) is insignificant for all cases. This indicates that errors are not autocorrelated at the 2nd differential level. Moreover, the results of Sargen and Hansen tests of over-identifying restrictions. The hypothesis is that instruments are valid, which indicates that they are not correlated with the error term. In all models, the Sargan test rejects the hypothesis that instruments are valid. When considering the Sargan and Hansen test results, it is found that applied instruments are valid. Herewith, we use the Hansen test as the main measure of the validity of restrictions. All variables are winsorised at the 1st and 99th percentile.

Tables 4-11 and 4-12 evaluate a total of 6 models which apply the panel regression models and GMM estimation, respectively. Model (1) represents the output when all the identified regressors are used in the same model. Model (2) determines the output when the abnormal return and characteristic regressors are used in the same regression model. The individual tests (each SPI proxy with control variables) are performed in models (3), (4) and (5). In addition, Model (6) evaluates the relationship between SPI (ψ, $BAPS$, and γ) and SOA. Findings using comprehensive models (1) to model (6) support both explanations of information asymmetry and agency dividend smoothing. Moreover, Table 4-12 presents the results of the model using the two-step GMM system method in six columns. We compare the GMM results with the main panel regression results from Table 4-11. The first model reported in Tables 4-11 and 4-12 is analysed as a comprehensive model for all variables. Results from Model (1) of Table 4-12 show that (ψ) has a positive, significant impact on the SOA while $BAPS$ and (γ) have a negative and significant impact on the SOA. These results indicate that an increase in the firm's annual specific return variation is associated with a reduction in dividend smoothing; also, increases in $BAPS$, (γ), and abnormal returns raise the dividend smoothening. Looking at other control variables, it is found that size, investment

horizon, and earning volatility have both a negative (positive) and significant impact on dividend smoothing (SOA). On the other hand, firm age, dividend level, return volatility, leverage, growth, and financial slack have a positive (negative) and significant impact on dividend smoothing (SOA).

Table 4-11: Panel regressions for dividend smoothing for the period 1994-2016.

DEP=SOA	1	2	3	4	5	6
$\boldsymbol{\psi}$	0.0258***		0.0212***			0.0395***
	3.38		3.33			6.3
BAPS	-0.1775**			-0.1322*		-0.6992***
	-2.46			-1.85		-5.11
$\boldsymbol{\gamma}$	-0.6266***				-0.6614***	-0.5781***
	-2.65				-2.96	-2.68
age	0.0001	0.0004	0.0002	0.0004	0.0005	
	0.12	0.36	0.16	0.37	0.44	
size	0.0756***	0.0947***	0.0951***	0.0773***	0.0954***	
	7.96	11.59	11.65	8.15	11.66	
EAR_VOL	-0.000001	0.00	0.00	-0.000001	0.00	
	-0.34	0.43	0.25	-0.17	0.47	
payrat	0.0426***	0.0522***	0.0521***	0.0429***	0.0518***	
	6.93	9.45	9.44	6.98	9.37	
RET_VOL	-0.5025**	0.0002	-0.2137	-0.2119	0.0303	
	-2.2	0.00	-1.07	-1.00	0.16	
inves_horiz	0.0001	0.0002	0.0004	-0.0001	0.0001	
	0.12	0.37	0.55	-0.14	0.15	
deb_a	-0.0014***	-0.0017***	-0.0017***	-0.0015***	-0.0018***	
	-4.74	-6.63	-6.62	-4.93	-6.65	
MTBV	0.0039	0.0059*	0.0036	0.0076**	0.0057*	
	1.11	1.93	1.15	2.25	1.84	
CashT	-0.00001**	-0.00001***	-0.00002***	-0.00001*	-0.00001***	
	-2.1	-3.05	-3.36	-1.80	-3.15	
Abr	-0.1581***	-0.1854***	-0.1367***	-0.2193***	-0.1804***	
	-4.07	-5.57	-3.77	-6.23	-5.42	
C	0.1557***	0.1300***	0.0887***	0.1952***	0.1267***	0.3770***
	4.39	4.53	2.84	5.81	4.42	11.23
Hausman test	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adj R-squared	0.073	0.076	0.077	0.070	0.077	0.048
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MARK, IND EFF	YES	YES	YES	YES	YES	YES
Obs	8662	8662	8662	8662	8662	8662

Notes: The table reports the results of the panel regressions for dividend smoothing. The dependent variable is (*SOA*) is estimated according to Equation (4.6), and the independent variables: (ψ) =ln (1-$R^2_{i.t}$/ $R^2_{i.t}$) where $R^2_{i.t}$ represents the coefficient of determination of regression of excess weekly return, on excess market return and an additional excess industry return factor. (*BAPS*) is the weekly average spread divided by the median of the bid and ask prices over weekly t-1, (γ) annual amount of private information trading of Llorente et al. (2002). The control variables: (*age*) the number of years listed in DataStream database, (*size*) the natural log of book assets, (*EAR_VOL*) the standard deviation of the ratio of EBITDA to assets, (*payrat*) =dividends per share (DPS) / earnings per share (EPS), (*RET_VOL*) the annual standard deviation of weekly stock returns, (*inves_horiz*) the stock turnover, (*deb_a*) the ratio of debt to asset, (*MTBV*) market-to-book-value, (*CashT*) cash scaled by total assets, and (*Abr*) =stock return – market return.
***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 4-12: GMM estimations for dividend smoothing for the period 1994-2016.

DEP=SOA	1	2	3	4	5	6
$\boldsymbol{\psi}$	0.0550***		0.0603***			0.1263***
	11.21		9.60			25.26
BAPS	-0.0995***			-0.1351**		-0.9429***
	-2.74			-2.39		-6.39
$\boldsymbol{\gamma}$	-0.4010***				-0.5208***	-0.7349***
	-4.16				-4.18	-4.24
age	-0.0072***	-0.0089***	-0.0086***	-0.0069***	-0.0088***	
	-8.35	-8.42	-8.21	-6.83	-9.11	
size	0.1394***	0.1403***	0.1445***	0.1435***	0.1444***	
	15.64	10.03	11.11	13.00	11.99	
EAR_VOL	0.0000	0.0000***	0.0000**	0.0000	0.0000***	
	0.22	2.64	2.34	1.19	4.07	
payrat	-0.0131***	-0.0086**	-0.0070**	-0.0149***	-0.0089***	
	-5.76	-2.41	-2.11	-5.29	-2.75	
RET_VOL	-0.4246***	-0.2824**	-0.4477***	0.1101	-0.2790**	
	-4.74	-2.32	-3.12	1.06	-2.53	
inves_horiz	0.0012***	0.0013***	0.0017***	0.0010***	0.0013***	
	4.46	3.54	4.79	3.22	3.76	
deb_a	-0.0015***	-0.0016***	-0.0015***	-0.0015***	-0.0018***	
	-4.85	-3.6	-3.93	-3.61	-4.66	
MTBV	-0.0065***	0.0003	-0.0126***	-0.0069***	-0.0007	
	-4.25	0.13	-4.86	-3.56	-0.3	
CashT	-0.00001***	0.0000	-0.00001	0.0000	-0.000001	
	-2.85	0.76	-1.60	0.30	-0.19	
Abr	-0.0944***	-0.1093***	-0.0673***	-0.1218***	-0.1134***	
	-5.47	-4.85	-3.03	-5.94	-5.41	
C	0.1141	0.2363***	0.1069***	0.0079	0.2182***	0.1125***
	4.54	5.44	2.7	0.21	5.81	5.26
AR(1) p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AR(2) p	0.221	0.157	0.182	0.231	0.156	0.396
Sarganp	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hansenp	0.206	0.257	0.177	0.225	0.271	0.838
MARK, IND EFF	yes	yes	yes	yes	yes	yes

Obs	8662	8662	8662	8662	8662	8662

Notes: The table reports the results of the GMM estimations for DS. The dependent variable is (*SOA*) is estimated according to Equation (4.6), and the independent variables: (ψ) =ln (1-$R^2_{i.t}$/ $R^2_{i.t}$) where $R^2_{i.t}$ represents the coefficient of determination of regression of excess weekly return, on excess market return and an additional excess industry return factor. (*BAPS*) is the weekly average spread divided by the median of the bid and ask prices over weekly t-1, (γ) annual amount of private information trading of Llorente et al. (2002). The control variables: (*age*) the number of years listed in DataStream database, (*size*) the natural log of book assets, (*EAR_VOL*) the standard deviation of the ratio of EBITDA to assets, (*payrat*) =dividends per share (DPS) / earnings per share (EPS), (*RET_VOL*) the annual standard deviation of weekly stock returns, (*inves_horiz*) the stock turnover, (*deb_a*) the ratio of debt to asset, (*MTBV*) market-to-book-value, (*CashT*) cash scaled by total assets, and (*Abr*) =stock return – market return. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

4.5.2.1 The Firm-Specific Return Variation (ψ)

According to the results in models (1), (3) and (6) of Table 4-12, (ψ) has a statistically significant impact on SOA while controlling for firm characteristics. The impact of the annual (ψ) is statistically significant, with $b = 0.0550, 0.0603$, and 0.1263, $t = 11.21$, 9.60, and 25.26, and $p < 0.01$, respectively. The direction of the relationship is positive between (ψ) and SOA. Morck et al. (2000) and Wurgler (2000) suggest that a firm's greater stock return synchronicity (R-squared) is due to the lack of firm-specific information incorporated in the share prices; hence, a negative correlation is expected between (ψ) and information asymmetry. Consequently, firms with a higher value of firm-specific return variation smooth less. The results suggest that hypothesis (H2a) is accepted, i.e. there is an impact of the firm-specific return variation (ψ) the SOA.

4.5.2.2 Bid-Ask Percentage Spread (BAPS)

From the findings in Table 4-12, columns 1, 4 and 6, we also show that $BAPS$ has a statistically significant negative impact on SOA: $b = -0.0995$, -0.1351, and -0.9429, $t = -2.74, -2.39$, and -6.39, respectively. Previous literature has confirmed a significant association between $BAPS$ and a positive impact on dividend payout (Amidu and Abor, 2006). This justifies $BAPS$' negative impact on SOA. Our result indicates that a larger $BAPS$ can signal more information asymmetry (see, Lee et al., 1993; Loureiro and Taboada, 2012). Research shows that a high percentage of BAPS is directly associated with information asymmetry, whereby the relationship can be explained by breaking down $BAPS$ into the following three components: the order processing component; the order persistence costs; and adverse selection costs (Luo, 2017). Firms that experience less investor knowledge and greater informational asymmetry require more significant dividend smoothing to allow investors to evaluate the firm's value and earnings ability (Kumar, 1988; Brennan and Thakor, 1990; and Guttman et al., 2010). Therefore, we support the (H2b), i.e. that $BAPS$ has a significant impact on SOA. When $BAPS$ increases, higher information asymmetry is expected. Therefore, there is a positive correlation between $BAPS$ and dividend smoothing.

4.5.2.3 Private Information Trading Measure (γ)

According to Table 4-12 (columns 1, 5 and 6), Gamma (γ) has a statistically significant negative impact on the SOA: b = -0.4010, -0.5208 and -0.7349, t = -4.16, -4.18 and -

4.24 respectively. This supports our hypothesis (H2c) and is consistent with the work of Javakhadze et al. (2014), who report that firms smooth more as the information environment becomes opaque. This is because Gamma has a significant impact on SOA since the increase in Gamma's value is related to the presence of more private information within share prices (De Cesari and Huang-Meier, 2015). It is observed that dividend smoothing can arise when managers have private information related to the firm's value (Learya and Michaely, 2008). In other words, private information is one of the determinants of dividend smoothing. This suggests that private information trading (γ) has a positive influence on dividend smoothing.

The current findings provide clear support for the relevance of SPI. By using the measures of SPI, we determine that GCC firms with a low (ψ) but high levels of $BAPS$ and (γ) are more inclined to smooth dividends. This supports the hypothesis (H2) that SPI impacts on the practice of dividend smoothing.

4.5.2.4 Control Variables

According to the results of age and size in Models (1) to (5) in Table 4-12, the impact of the firm size on dividend smoothing is positive and statistically significant. Findings suggest that smaller firms are more inclined to consider dividend smoothing. When compared with the results of panel regression, relationships with the SOA are consistent with the results of age and size presented in Table 4-11's regression models (1) to (5). This evidence is consistent with the theoretical predictions suggested by information asymmetry (Brennan and Thakor, 1990; Guttman et al., 2010; Kumar, 1988).

On the other hand, the results concerning firm age reveal inverse results to those hypothesised in this study. The results of models (1) to (5) in Table 4-12 provide empirical results which show that firm age correlations are negative and statistically significant, which suggests that older firms are more inclined to consider dividend smoothing. Our results are consistent with those of Leary and Michaely (2011) and Javakhadze et al. (2014). Leary and Michaely's (2011) findings show a negative correlation between information asymmetry proxies and dividend smoothing. This means that when compared to larger and older firms, smaller and younger firms are less inclined to smooth dividends because they do not have a wide array of smoothing

instruments (such as non-recurring items, research, and development expenditure) (for more details see Reckers, 2005).

In general, earnings volatility relates to inversely with smoothing. Kumar (1988) and Guttman et al. (2010) state that riskier firms are more likely to smooth dividends to develop a reputation for having low systematic risk. Earnings volatility studies emphasise the relationship between risk and the incentive to smooth dividends. This is because high earnings volatility is associated with lower than expected future profitability and stock returns. As shown in Table 4-12, models (2), (3), (4), and (5), there is significant earnings volatility; however, it has a positive sign. This suggests that safer firms are more likely to smooth their dividends. When compared with the results of panel regression, the relationship between SOA and the earning volatility results in Table 4-10 are insignificant. The finding contradicts predictions made by information asymmetry models (i.e. Guttman et al., 2010; Kumar, 1988). Here, the impact of earnings volatility is statistically significant at 0.01 and suggests that, on average, higher earnings volatility increases the *SOA*. The result is consistent with the works of Leary and Michaely (2011) and Jeong (2013); further, we suggest that dividend smoothing is found in firms with low earnings volatility.

According to the return volatility findings in Table 4-12, models (1), (2), (3), and (5), a negative and significant coefficient for the return volatility of the firm is observed, $b = -0.4246, -0.2824, -0.4477,$ and -0.2790, $t = -4.74, -2.32, -3.12,$ and -2.53, respectively. Having higher volatility in the returns results in more information asymmetry and investor uncertainty; therefore, a negative coefficient sign is expected. With a significance level of 1% and 5%, the return volatility coefficient has a negative impact on the SOA. This is consistent with the information asymmetry model. When compared with the results of return volatility in the panel regression, the impact of return volatility is both insignificant and negative for models (2) to (5).

Investment horizon, represented by stock turnover, is another proxy for information asymmetry. Lower stock turnover means that there is a longer investment horizon and, according to Guttman et al. (2010), this should equal lower information asymmetry. Therefore, a negative coefficient sign of the SOA is expected; this indicates a greater need for dividend smoothing. Table 4-12 shows, with 1% significance, that the actual coefficient is positive. Accordingly, the results report a positive and significant impact

of stock turnover on the SOA, inconsistent with the previous discussion of the information asymmetry theory also inconsistent with Leary and Michaely's (2011) findings showing the inverse result; namely, a longer investment horizon results in less smoothing. When the panel regression model is used, the investment horizon result is unable to establish a significant relationship between stock turnover and *SOA*. On the other hand, the findings of Guttman et al., (2010) on the information asymmetry theory indicate that a longer investment horizon results in more dividend smoothing. Also, this conclusion is similar to those of Javakhadze et al. (2014).

In Table 4-11, the panel regression result of dividend level has both a significant and positive association with SOA. It reveals that lower dividend levels are associated with higher dividend smoothing. It is observed that dividend smoothing enhances with the reduction in a firm's net property, plant and equipment. It means that the holdings of institutional investors are expected to rise with the increase in dividend levels, which reduces information asymmetry. Therefore, there is a positive relationship between dividend level and *SOA*, and a negative association between dividend level and smoothing (Javakhadze et al., 2014). On the contrary, in Table 4-12 the result of the dividend level using GMM shows, with a significance level of 1% and 5%, that there is both a significant and negative association with SOA.

According to the findings of columns (1) to (5) in the GMM test, highly significant and negative coefficients for the abnormal return are observed. This indicates that, as the abnormal returns rise, dividend smoothness increases too. A firm's managers may consider past abnormal stock returns when deciding on the revision of cash dividend payments (De Cesari and Huang-Meier, 2015). This is because unexpected changes in asset values should reflect and, thus, convey news about discount rates and/or cash flows (see, e.g., Campbell and Shiller, 1988; Chen and Zhao, 2009). That is, the abnormal stock return is an important factor which shows a significant and positive impact on dividend smoothing. From an information asymmetry point of view, there should be a positive correlation between abnormal returns and dividend smoothing (Krishnaswami and Subramaniam, 1999).

In short, our study shows that, by using the measures of information asymmetry, we determine that small GCC firms with low payout ratios and high levels of return volatility and growth opportunities are more inclined to smooth dividends. Our results

are most consistent with the situation where all information asymmetry measures impact the decisions to smooth dividends. This is consistent with Jeong's (2013) work on information asymmetry theory, i.e. firms with high degrees of information asymmetry are more likely to smooth dividends.

In accordance with the agency conflict theory prediction, models (2), (3), and (5) in Table 4-11 show that the SOA has a positive link with the market-to-book value ($MTBV$). As expected, the change in the SOA across $MTBV$ is significant and positive: $= 0.0059, 0.0076$, and 0.0057, $t = 1.93, 2.25$, and 1.84, respectively. However, by the GMM estimation, the relationship between SOA and $MTBV$ is both negative and statistically significant. The result suggests that low $MTBV$ firms should be more inclined to smooth their dividends. The positive relationship can be explained by the fact that firms that are more susceptible to agency issues are more likely to smooth dividends (Brockman et al., 2014). Firms with fewer investment opportunities are expected to have more excess cash relative to profitable investment opportunities (Fama and French, 2002; Jensen, 1986). Therefore, this increases the severity of potential agency problems. Having more excess cash means that there is a greater problem of free cash flow, and this increases the overinvestment problem (Leary and Michaely, 2011).

With regard to the results of leverage in Tables 4-11 and 4-12, presented in columns (1) through (5), we find a negative relationship between SOA and debt ratio. Accordingly, this is consistent with the work of Leary and Michaely (2011) who report that "*firms that exhibit higher growth (proxied by both asset growth and market-to-book ratio) pay lower dividends, as do firms with less leverage.*" A firm's leverage plays a key role in explaining the firm's dividend policy. There is a negative relationship between leverage and dividends. This means that firms with low debt ratios are more willing to pay dividends. "*firms with relatively less debt and more tangible assets have greater financial slack and are more able to pay and maintain their dividends*" (Aivazian et al., 2003b, p. 380). This result is supported by the agency costs theory of dividend policy. In addition, Jensen et al. (1992) and Aivazian et al. (2003b) support this argument. However, contrary to this view, it is further argued that there is a positive relationship between leverage and a firm's dividend policy. Signalling theory supports this idea. "*Firms, with high payout ratios, tend to be debt financed while firms, with low payout*

ratios, tend to be equity financed" (Chang and Rhee, 1990, p.23). Our results agree with the latter view, which explains the identified relationship.

Financial slack is considered to be a potentially important factor in the decision to smooth dividends. In Tables 4-11 and 4-12, the results show, with 1% and 5% significance, that the actual coefficients are negative. Consequently, financial slack has an inverse relationship with the *SOA*. This is because the presence of financial slack reduces the requirements for external financing. Thus, it solves the "underinvestment" problem and, thereby, reduces the firm's signalling needs and the incentive to smooth dividends (John and Nachman, 1986; John and Williams, 1985; and Myers and Majluf, 1984).

We further examine the extent to which agency-based models explain dividend smoothing in GCC stock market. By using the agency measures, we determine that firms with low market-to-book ratios and less financial slack but with a high level of payout ratio are more inclined to smooth dividends. Our results suggest the presence of agency effects in a firm's decision to smooth its dividends. This is consistent with the work of Easterbrook (1984) and Jensen (1986) on the agency theory that managers pay dividends from FCF to reduce agency conflicts.

Comparing the results of panel regression Model (1) reported Table 4-11 and GMM estimations in Table 4-12, we find that age, earnings volatility, return volatility, and investment horizon are significant. The signs and significance of the measures of SPI are the same as reported in Model (1). The results of the Model (2) in Tables 4-11 and 4-12 show that only control variables are used, and the share price informative proxies are excluded from the model. By using GMM, the signs and significance of all variables remain the same as in Model (1). In addition, MTBV and financial slack are insignificant, while age is significant. When comparing the results of the SPI measures in both tests (panel regressions and GMM) in Tables 4-11 and 4-12, the positive relationship between (ψ) and SOA. These findings show us the consistency in both tests. If we focus on the $BAPS$ and (γ), we report a negative and significant coefficient. These findings indicate that an increase in $BAPS$ and (γ) reduces the SOA of dividend smoothing. Importantly, the summary of the empirical results for the research hypotheses is illustrated in Table 4-13 below.

Table 4-13: Summary of estimations results for the research hypotheses and the theoretical discussion to support the hypotheses.

Variables	The relationship with the information asymmetry (IA)	Action	Predicted Sign	Realised Sign	Findings	Justification of the Hypotheses
Dependent variables: D_{it} Independent Variables: DPS_{it-1} and EPS_{it}			(+)	(+)	The Lintner model estimation for all GCC sectors indicates that their firms have followed a stable dividend policy and that they are reluctant to cut dividends. With the expected positive sign, both the earnings per share and previous dividends per share are statistically significant in all models. Our empirical results validate the Lintner model (1956), which is consistent with the signalling hypothesis. The evidence is consistent with Leary and Michaely (2011), Jeong (2013) and Javakhadze et al. (2014), providing support for the signalling theory and the agency cost theory.	H1 is supported.
SPI With dividend smoothing	(↑ SPI) ➔ (↓ IA)	Firms with high IA, have weak SPI; they need to smooth dividends more.	(-)	(-)	There is a negative relationship between share price informativeness and dividend smoothing. The current findings provide clear support for the relevance of SPI. By using the measures of SPI, we determine that GCC firms with a low (ψ) but high levels of $BAPS$ and (γ) are more inclined to smooth dividends. The evidence is consistent with Withisuphakorn and Jiraporn (2015) and Ebrahim (2017), providing support for information asymmetry theory of dividends. Firms with high information asymmetry, have weak SPI. Consequently, Firms facing higher IA and less investor knowledge will need to smooth their dividends more to allow investors to assess the firm's earnings ability and value (see, Kumar, 1988; Brennan and Thakor, 1990; Guttman et al., 2010).	H2 is supported.
(ψ) With (SOA) dividend smoothing	↑ ψ (↑ SPI) ➔ (↓ IA)	A larger (ψ) could signal less IA; firms need not to smooth dividends more.	(+)	(+)	The impact of the firm-specific return variation (ψ) on dividend smoothing (SOA) is negative (positive) and statistically significant, which suggests that firms with a higher value of firm-specific return variation smooth less. The evidence is consistent with Morck et al. (2000) and Wurgler (2000), providing support for information asymmetry theory of dividends. Higher (ψ) corresponds to informed arbitrageurs focusing more attention on a stock, and that this causes stock prices to track fundamentals more closely, reducing information asymmetry problems (Durnev, Morck, Yeung and Zarowin, 2003; and	H2a is supported.

					Chan, Hameed and Kang, 2013). Therefore, firms with a higher value of (ψ) smooth their dividend less because they have a low level of information asymmetry problem.	
$BAPS$ With (SOA) dividend smoothing	↑ BAPS (↓ SPI) ➔ (↑ IA)	A larger BAPS could signal higher IA; firms need to smooth dividends more.	(-)	(-)	The impact of the $BAPS$ on dividend smoothing (SOA) is positive (negative) and statistically significant, which suggests that firms with a higher $BAPS$ smooth more. According to the asymmetric information theory, since dividends reveal information to the market (Bhattacharya 1979; Miller and Rock 1985), information asymmetry should decrease, and hence the $BAPS$ should narrow. Our evidence is consistent with information asymmetry theory, which suggests that when the $BAPS$ is high, it means this firm has high IA (Lee et al., 1993; Loureiro and Taboada, 2012), then the manager's firm tends to smooth their dividend more.	H2b is supported.
(γ) With (SOA) dividend smoothing	↑ γ (↓ SPI) ➔ (↑ IA)	A larger (γ) could signal higher IA; firms need to smooth dividends more.	(-)	(-)	The impact of the Gamma (γ) on dividend smoothing (SOA) is positive (negative) and statistically significant, which suggests that firms with higher private information trading smooth more. Our evidence is consistent with the information asymmetry theory, which suggests that when the private information trading (γ) measure by LMSW (Llorente, Michaely, Saar and Wang, 2002) is high, it means this firm has high IA (Petacchi, 2015). When the (γ) is high, it means this firm has high IA, then the manager's firm tends to smooth their dividend more.	H2c is supported.

Notes: The table presents a summary of the empirical results for the research. The speed of adjustment (*SOA*) is used as a proxy for dividend smoothing, the slower the target payout ratio is adjusted, the higher the degree of smoothing. D_{it} = current dividend per share, EPS_{it}= earnings per share and DPS_{it-1}= previous dividends per share. We use the information asymmetry theory (*IA*) to build the hypotheses. The proxies of the share price informativeness (*SPI*) are firm-specific return variation (ψ), bid-ask percentage spread (*BAPS*), the private information trading (γ).

The study's results in Table 4-14 provide a summary of our empirical results and relates them to the market frictions underlying each major class of smoothing models, which we discussed in Section 2. This table is compared to theoretical expectations as well as to the results from Leary and Michaely (2011), Jeong (2013), Javakhadz et al. (2014), and Muller and Svensson (2014). The independent variables serve as proxies for the different market frictions, namely information asymmetry (1) and agency issues (2). The second column lists the relevant firm characteristics. The third column contains the empirical proxy used for each characteristic described in Section 4. The fourth column summarises the predicted relationship between our smoothing measures and the proxy. The fifth column reports the sign and significance of the empirical relationship reported in Section 5. The remaining columns indicate the results of Leary and Michaely (2011), Jeong (2013), Javakhadz et al. (2014), and Muller and Svensson (2014), among others.

Table 4-14: The results and the different variables are discussed and analysed in detail by using previous research

Theory	Firm Char	Empirical proxy	Hypothesised Sign	The results	Leary and Michaely (2011)	Jeong (2013)	Javakhadz et al. (2014)	Muller and Svensson (2014)
(1)	SPI	(The firm-specific return variation (ψ)	+	+	0	0	0	0
		Bid Ask spread (BAPS)	-	-	0	0	0	0
		The private information trading (γ)	-	-	0	0	0	0
(1)	Firm age	Age	+	-	-	0	-	-
(1)	Firm size	Size	+	+	-	-	-	-
(1)	Dividend level	The payout ratio	+	+	-		+	
(2)			-	-	-			-
(1)	Investment horizon	Stock turnover	-	+	+		-	-
(1)	Growth opportunities	MTBV	-	-	+		+	+
(2)			+	+	+			+
(2)	Cash to asset	CASH	-	-		+	+	+
(2)	Leverage	LEVER	+	-	-			+
(1)	Earning volatility	SD (EBIT)	-	+	+		-	+
(1)	Return volatility	SD (Return)	-	-	+		+ / -	+
(1)	Abnormal return	Abr	-	-				

Note: The table reports the coefficient comparisons: expectations, outcomes, and previous studies. (1) the implications from information asymmetry model, (2) the implications from the agency model.

4.6 Conclusion

We contribute to the literature by analysing the dividend smoothing behaviour of firms in six GCC countries. To the best of our knowledge, none of the past studies has collectively examined all GCC stock market. The study employs data from 628 listed firms covering the period from 1994 to 2016. The empirical analysis using both panel regression and GMM estimations shows that information asymmetry can explain the dividend smoothing behaviour of firms. The reported results are relevant to various market participants, including financial managers, shareholders and analysts dealing with the GCC stock market. First, we examined the dividend smoothing of listed firms in the GCC using Lintner's (1956) partial adjustment model. The estimation of the Lintner model for all GCC sectors indicates that their firms have smoothed their dividends and are reluctant to cut them. Evidence reveals that the degree to which GCC firms smooth dividend payments is comparable to that of the developed markets. Our results show that financial firms smooth their dividends to a greater extent than non-financial firms. Inversely, the non-financial sector's payout ratio is higher than for the financial sector.

Moreover, we investigate the determinants of the dividend smoothing behaviour of GCC firms. Our findings regarding control variables show that smoothing is more prevalent when agency costs are high: older firms, higher financial slack firms, and firms with high dividend levels exhibit more smoothing than their counterparts. We also find that firms that are more likely to suffer from information asymmetry (small firms with high growth and abnormal returns) smooth more. More importantly, we show that all share price informativeness factors proposed in this study are influencing factors of dividend policy. Specifically, our findings suggest that the private information learned from share price movements can play a critical role in understanding the dividend smoothing behaviour in the GCC. Further research should examine whether share price informativeness is a significant determinant of dividend smoothing among more liquid markets

Chapter Five: The Prediction of Dividend Changes

5.1 Introduction

Dividend policy has been investigated extensively in the finance literature. This is because dividends are an important source of cash flow for investors. Therefore, dividend announcements may have sufficient information content to adjust the expectations of investors regarding a firm's prospects. Based on Lintner's (1956) study, most managers smooth their dividends to avoid dividend cuts. A dividend cut has an adverse impact on the firm value and the manager's reputation. Charest (1978) and Michaely et al. (1995) show that dividend decreases incur more significant market reactions than comparable dividend increases. For this reason, managers are reluctant to cut dividends and typically do so only under extreme circumstances. Although many studies explore the signalling power of dividend reductions, few examine the timing of dividend reductions as a possible indicator of firm value.

The first study to analysing dividend announcement timing has been done by Kalay and Loewenstein (1986), who suggest that a dividend announcement delay mostly a suggests dividend cut. Damodaran's (1989) investigation of weekend effects on dividend announcements found that firms tend to release bad information—such as dividend cuts—on Fridays rather than on other days of the week. Hull's (2013, 2015) investigations showed that a dividend cut by itself is a noisy signal, which can be further deciphered by taking into account not only the size or the scope of the dividend reduction but also the timing of the decrease relative to its behaviour. Onali (2016) provides evidence that delaying the dividend announcement is associated with dividend cuts, while dividend increases tend to be announced early, suggesting that managers are postponing the release of bad news.

To the best of our knowledge, all studies on dividend cut prediction using dividend announcement timing have been done only in the US (Damodaran, 1989; Hull, 2013, 2015; Onali, 2016), thus cannot be generalised. Therefore, we believe that more studies need to be conducted in other global markets. This study fills this gap by conducting an empirical examination for an emerging market. In other words, the emerging market is different from a developed one in terms of lack of adequate disclosure, legal and statutory differences, weak laws and regulations, and weaker financial intermediaries

that provide efficient monitoring, due to the ineffectiveness of the financial market (La Porta et al., 1999; La Porta et al., 2000; Aivazian et al., 2003a, 2003b; and Claessens and Yurtoglu, 2013).[68]

As the GCC comprises emerging markets that are profoundly different from the developed market of the US, findings may be different. Dividend announcements in the US are quarterly based. This means any dividend announcement delay is expected to be only for a few days. In GCC stock market, however, the dividend announcements of most firms are annually based. This means that announcement delays may extend for a long time, which could be a month or so. As a result, this extended time of delay will create panic among the investors leading to irrational selling decisions, which may negatively impact firm value. This has motived us to study how GCC annual announcements may have a different impact than US quarterly announcements, and whether long-time announcement leads to a longer time of delay that negatively impacts the share price at a much higher degree. Therefore, analysing the timing of dividend announcements is a critical and important matter that needs to be investigated. Thus, the present chapter examines the dividend announcements timing as an indicator for dividend changes.

Several research papers investigate the impact of the debt level on dividend policy (see, Benito and Young, 2003; Kale et al., 2012; Fairchild et al., 2014; Hail et al., 2014). Most of them report that a high (low) level of leverage is associated with increased propensity to cut (increase) dividends. Moreover, Charitou et al. (2011) use the change in debt to equity as a control variable to examine the reduction in default risk as a significant factor in dividend increases and initiations. However, none of them has addressed the impact of capital structure changes as the managers issued new equity (decreasing the leverage) or new debt (increasing the leverage) on dividend decisions. No study has directly checked whether the change of debt is being paid as a dividend or not. To study this, we have to compare whether this debt has been invested in assets or has been paid. Therefore, we have to compare the change in the value of debt to the value of assets.

[68] Also, Kumar and Tsetsekos (1999) provide a useful description of how the stock market in developing countries differs from those in developed countries, considering that emerging markets often have more recent origins, are smaller in size, and have less information efficiency.

Our study is more comprehensive than the ones mentioned above: we look at whether there is a transfer of wealth undertaken by the firm through an increase in debt to maintain, smooth, or increase dividends. In other words, if a firm finances an unexpected dividend payment with additional debt or by reducing investment, a wealth transfer between debtholders and equity holders may result (Dhillon and Johnson, 1994). Under certain circumstances, if the firms have a deficit to pay the shareholders through dividends, some managers will have to transfer wealth from the debtholders to fulfil a dividend payment. Firms may have to borrow money to pay the dividend to avoid a negative impact on the share price. Consequently, this would maintain a good price even at the expense of the debtholders, meaning that managers care about the signalling effect. Therefore, we investigate if debtholder expropriation (wealth transfer) exists in the GCC stock market, and if so, what is its effect on dividend change. The present thesis attempts to investigate the impact of the transferring of wealth on a firm's decision to change dividends.

On the contrary, firms do have sometimes conflicts with the debtholders (the creditors) or banks because the latter want to receive their money back, or sometimes, the managers want to reduce the symmetry by paying the money back. Hence, if the firms decide to pay their outstanding debt then, at the same time, they must pay dividends to the shareholders; therefore, it is important to examine whether firms would be willing to cut their dividends to pay outstanding debts. Most firms try to balance between financing and dividend decisions. According to Fairchild et al. (2014), since firms with higher debt ratio are more likely to be financially constrained, they should be less able to raise dividends. Moreover, there is a study that finds that the relationship between corporate governance and payout policy could be different, accounting for the sizes of agency conflicts and external financial constraints (Chae, Kim, and Lee, 2009). So, there seems to be a trade-off between agency costs and financial constraints. If firms cut dividends to pay back debt, then this indicates that financial constraints are more serious than potential agency conflicts. Whereas, if the agency problems that exist in the firm are more serious than the financial constraints, firms are more likely to pay dividends. We investigate if GCC's firms pay back the debt, and what would be its effect on dividend change. Therefore, our study attempts to examine the impact of paying back debt on a firm's decision to change dividends.

There is general agreement about the industry influence on dividend policy. Studies by Dhrymes and Kurz, (1967), McCabe (1979), Michel (1979), Baker et al. (1985), Baker (1988) and Baker and Powell (2000), have previously detected some effect of industry classification on corporate dividend policy. However, Rozeff (1982) conclude that a firm's industry does not help to explain its dividend payout ratio. This conclusion may not apply to utilities since he intentionally excluded regulated firms from his analysis. Several studies came close by investigating the relationship between firm-specific factors and dividend policy. However, these studies approached controlling for the industry by, for instance, examining only banks (Bessler and Nohel, 2000), REITs (Bradley et al., 1998), or the stage of the business cycle (Hull, 2013, 2015).

The remainder of the chapter is organised as follows. Section 5.2 reviews the theoretical and empirical literature. Section 5.3 presents the research questions and proposed hypotheses. Section 5.4 describes data sources and presents the research methodology, while section 5.5 illustrates the empirical analysis. Finally, Section 5.6 summarises the results and includes a few concluding remarks.

5.2 Theoretical Framework and Literature Review

In order to investigate the predictions of dividend changes by exploring managerial actions that are concord with dividend changes (dividend cut, a dividend increase, dividend stickiness), this part provides a review of the relevant theoretical and empirical literature on the subject being examined. However, Chen and Roberts (2010), Al-Bassam et al. (2018), and Enache and Hussainey (2020) suggest that multi-theoretical perspective should focus on theories that have a number of commonalities, including concepts, assumptions and predictions. In addition and given that dividend is a complex phenomenon (Baker and Weigand, 2015), we consider it to be right to apply a multi-theoretical perspective, whereby specific components of dividend decisions may be explained more by some theories (more appropriate or applicable) than others. The theoretical principles underlying the dividend decisions of firms range from information asymmetries to behavioural factors. The information asymmetries encompass several aspects, including the signalling models, agency cost, and pecking order theory[69].

[69] More details in the following sections.

Miller and Modigliani (1961) suggest that when markets are imperfect, share prices may respond to changes in dividends. In other words, dividend announcements may convey implicit information about the firm's future earnings potential. This idea has since become known as the "information content of dividends" or signalling theory. Signalling theory reveals how dividends act as a leak of private information about the firm and its performance and could be used as a signal tool. Furthermore, Agency cost models predict that dividend payments can be used to reduce problems arising due to information asymmetry between agents and principals. Moreover, the free cash flow hypothesis is rooted in conflicts of interest between managers and shareholders in the presence of informational and self-seeking behaviour. In this context, firms prefer to increase their dividends and distribute the excess free cash flow to reduce agency costs. Consequently, markets react positively to this type of information. According to Myers and Majluf (1984), in the existence of information asymmetry, a firm will follow a pecking order in their financing, in which a firm prefers internal sources for funding (retained earnings) to external financing alternatives (debt then equity). Then this firm adjusts its dividend payout target to its investment opportunities. Nevertheless, if the retained earnings are insufficient, the firm will borrow (causing the debt ratio to increase) rather than issue new equity, to reduce the costs of information asymmetry and other transactions. Therefore, the last option for the firm is to issue stocks. This financing hierarchy might also affect the decisions of dividends. That is, taking into account the costs of issuing debt and equity financing, less profitable firms will not find it optimal to pay dividends, ceteris paribus.

From what has been discussed above, there are many theories, concerning the explanation of the relationship between the managerial actions that are concord with the dividend decisions (i.e., increase, decrease and sticky). Thus, based on this multiplicity of interpretations, we are motivated to test the suitability of these interpretations in our context. We build our study on these theories to understand more about the factors that influence dividend decisions and examine the relationships between these factors and dividend changes. The next section explains each theory and its implications on the dividend decision.

5.2.1 Dividend Change and Signalling Theory

Bhattacharya (1980) and John Williams (1985) give the explanation of signalling theory, the dividend payments mitigate the information asymmetry between managers and shareholders through delivering inside information of the firm's future prospects. According to the signalling theory, investors can extrapolate the information of firm's future earnings through signals extracted from dividend announcements (see, e.g. Healy and Palepu, 1988; Kalay and Loewenstein, 1985; Asquith and Mullins, 1986; and Aharony and Swary, 1980). An increase in dividend payout may be explained as the firm having good future profitability, and therefore, its share price will react positively. Similarly, dividend cuts may be considered a signal that the firm has poor future prospects, and the share price may then respond negatively. Consequently, it would not be surprising to find that managers are reluctant to announce a reduction in dividends.

Furthermore, since dividend payments are usually distributed from profits, it is mostly assumed that profitable firms tend to pay higher dividends, which implies a positive relationship between profitability and dividend policy. This positive relationship is aligned with the signalling theory, which argues that highly profitable firms are more likely to pay dividends to convey their better financial performance (see, e.g. Bhattacharya 1979; Miller and Rock 1985; John and Williams 1985). Firms also tend to distribute larger cash dividends to shareholders as a good (credible) signal to the market, while their less profitable counterparts, whose financial positions are not as good, cannot match such dividend payments. However, there is a general trend in literature that the signalling theory standpoint can explain factors such as dividend announcement timing and profitability.

5.2.2 Dividend Change and Agency Cost Theory

Agency problems can result from several reasons: informational asymmetries between shareholders and managers; the failure to accept positive NPV projects that have higher levels of risk, and consequently, higher level of default; and excessive perquisite consumption compared with prudent corporate managers. Agency problems can arise between shareholders and debtholders also due to potential wealth transfers from debtholders to shareholders and through the acceptance of high risk and high return projects by managers. The transfer of wealth can be achieved in two ways. First,

shareholders can reduce investment or sell off assets and receive dividends. Second, shareholders can sell new debt of the same or higher priority and pay themselves generous dividends (Kalay, 1982). Based on the agency cost theory, if the firm has high cash flow and then an increase in dividends, it means that this firm returns excess cash to shareholders by paying dividends or repurchasing shares. The manager of this firm cares about the shareholders' satisfaction and happiness. Whereas, if the firm decreases dividends despite having high cash flow, it means that this firm uses the cash flow for expansion purposes, which supports the pecking order theory: the firm is willing to cut dividends and use internal funds for investing.

Supposedly, based on the free cash flow theory, such a behaviour predicts a negative relation between cash flows and dividend cuts, because a reduction of dividends could increase agency costs. Lastly, if the firm has high cash flow and, as a result, distributes the same dividends as in the previous year, this means that it prefers to pay dividends to satisfy the shareholders and, at the same time, it can use the rest of the cash for other purposes. In this context, if the managers want to mitigate the problem with shareholders, they will attempt to use debt to maintain or increase the dividend. This suggests that it is more important for managers to satisfy shareholders and to signal positive news than to maintain liquidity or worry about raising external funds in the future. However, there is a general agreement in the literature that factors such as risk, firm size, asset tangibility, leverage, and cash flow explain the decisions of dividend policy from the perspective of agency theory.

5.2.3 Dividend Change and Pecking Order Theory

Based on this theory, we expect that managers are avoiding information release, preferring not to resort to external funding but to use retained earnings to distribute dividends. Conversely, if they end up using external funding to pay dividends, this means they do not care about the information cost. Firms should raise equity capital only in extreme cases. Thus, this "pecking order" behaviour predicts a negative relationship between growth and dividend policy. High-growth firms will use their earnings primarily to finance expansion and, given that investments require more than internally generated funds, they will next prefer debt, with equity issuance as a last resort. This, in turn, reduces the probability of paying dividends, as well as the amount of the dividend distributed to shareholders.

From the previous discussion of the pecking order theory it can be seen that, if the firm obtains external funds and then decreases its dividends, it means that this firm obtains money for expansion purposes or any other purpose except the distributing of dividends. Whereas, if the firm obtains external funds and then increases its dividends, it means that this firm had the purpose of increasing dividends, which this is not consistent with the pecking order theory. Last, if the firm receives external funds and after that, it distributes the same dividends as in the previous year, it would indicate that this firm uses the money first for the investment purpose, and then for dividend distributions. However, there is a general agreement in the literature that factors such as profitability and growth opportunity explain the decisions on dividend policy from the pecking order theory perspective. Below is a brief discussion of these factors, as suggested by the pecking order theory.

5.3 Research Questions and Hypotheses

This chapter investigates the prediction of dividend changes by trying to answer the following research questions: (1) Is dividend announcements' timing considered to be an indicator for a dividend increase or dividend cut? (2) Is the change in dividend associated with wealth transfer or modifications to capital structure? And (3) Is the change in dividend associated with paying back the debt? In the next section, the hypothesis relating to each variable in the model will be developed according to the existing theories and literature.

5.3.1 Dividend Announcements Timing

The literature on the timing preferences of dividend announcements dates is limited. The first trial of such an analysis has been done by Kalay and Loewenstein (1986). They use a sample of US firms from CRSP over the 1978–1980 period and find that late dividend announcements refer to bad news. This would indicate that the longer the delay, the higher the probability of dividend cuts. He reports that "*the proportion of dividend reductions associated with late announcements is significantly larger than the proportion of reductions out of announcements which were made on time*" (Kalay and Loewenstein, 1986, p. 387). Damodaran (1989) examines the association between the-day-of-the-week and abnormal returns. He finds that bad news is announced on Fridays rather than on other weekdays. The reason behind this is to avoid panic selling in stock markets. According to him, this causes more negative returns on Mondays. Penman

(1987) arrived at the same conclusion where good news is announced in the middle of the week, and bad news is released on Mondays or Fridays. Hull (2013, 2015) investigates the relationship between the timing of the dividend cut for one firm and its peers in the same industry. He finds that dividend reduction timing is a good signal for the right firm value.

Onali (2016) extended the work of Kalay and Loewenstein (1986), using a larger dataset in the same context, between 1971 and 2014. He analyses the timing of dividend announcements and whether it is a signal of a dividend cut or not. He uses the number of trading days between two consecutive dividend announcement dates as a proxy of dividend announcement timing. He concludes that good news is announced early, whereas bad news late. However, the literature of timing preferences of dividend announcement dates has used mostly US data, thus cannot be generalised. Therefore, we believe that more studies need to be conducted in other global markets. The present study fills this gap by investigating the predictability of a dividend cut in the GCC stock market. As GCC is highly different from the highly developed market of the US, findings may be different. In our study, we use Onali's proxy of the dividend announcements timing. Therefore, based on signalling theory, we assume that there is a positive (negative) relationship between late (early) dividend announcements and the probability of dividends cuts (increases).

- *H1a: There is a positive relationship between late dividend announcement days and the probability of dividend cuts.*
- *H1b: There is a negative relationship between early dividend announcement days and the probability of dividend increases.*

5.3.2 The Role of Debt and Equity Financing in Determining Dividend Decisions

Corporate Financial Management deals with the decisions of a firm that are related to investment, financing, and dividends. To carry on business, a firm invests tangible and intangible assets. This represents the investment decision. These assets do not come for free; one has to pay for them, so a firm needs to tap into various sources of funds, including the promoter's contribution. This forms the financing decision. The investment in assets generates revenue and cash flow for a specific period. The firm's managers can either distribute it to the shareholders or retain cash with the firm for

further investment. This constitutes the dividend decision. It is important to understand that the investment, financing, and dividend decisions are interrelated. How much is paid as dividends affect the amount retained and, thus, the growth. The cash is needed to fund growth, and cash should come from new shareholders or debtholders. However, the firm has a target debt-equity mix to maintain.

Moreover, in real-life situations, dividends may have an impact on share prices either due to the perception of growth or lack of it (Vishwanath, 2007). The effect of dividend decisions on security values is much different in the presence of information asymmetry. Information asymmetry between managers and investors may cause securities to sell at prices other than their actual values. Since direct communications between managers and investors concerning a firm's prospects are considered risky due to the possibility that the manager's expectations will not be subsequently be realised, it is presumed that managers convey their expectations to the market through financial signals. Bhattacharya (1979), Kalay (1980), and Miller and Rock (1985) have developed models of cash dividend signalling. In each model, security prices adjust to the new equilibrium levels in response to the information managers convey to investors through their dividend decisions. Consequently, according to the signalling effect, dividend changes should be associated with similar changes in the values of debt and equity (Woolridge, 1983).

Therefore, in the next section, we will study two opposite situations. The first case: When the firm borrows the money to pay the dividends to shareholders, and the second case is when the firm pays the debts to creditors; here we need to look at the extent of this case impact on the decision to distribute the dividends.

5.3.2.1 Wealth Transfer

Potential conflicts between debtholders and shareholders can arise when managers, acting on behalf of the shareholders, may pay dividends to keep the cash away from the debtholders. In other words, a dividend can be viewed as a wealth transfer from debtholders to shareholders. According to Woolridge (1983), if a firm finances an unexpected dividend payment increase with additional debt or by reducing investment, a wealth transfer between debtholders and shareholders may result. Moreover, Chang and Rhee (1990) found a positive association between leverage and dividend policy, suggesting that firms are borrowing money to pay dividends. This helps in signalling

good news information for investors about a firm's future prospects. The signalling theory supports this result. They argued that: "*Firms with high payout ratios tend to be debt financed, while firms with low payout ratios tend to be equity financed*" (p. 23). Consequently, dividend increases may operate as a positive signal to financial markets and thus increase stock prices. From the previous description of the conflicts between debtholders and shareholders, we postulate that there is a relationship between the transferring of wealth and dividend increase. Symmetrically, the factors that predict increases should reverse signs when predicting dividend cuts. Therefore, based on signalling theory, we assume that there is a positive (negative) relationship between transferring wealth and the probability of dividend increase (dividend cut). For our empirical analysis, we consider the following hypotheses:

- *H2a: There is a negative relationship between transferring wealth and the probability of dividend cut.*
- *H2b: There is a positive relationship between transferring wealth and the probability of dividend increase.*

Another dividend decision is when managers reluctant to change dividends; in particular, firms avoid cutting dividends even when earnings drop. This reluctance to change dividends, which results in sticky dividends[70], is rooted in several factors. One is the firm's concern about its capability to maintain higher dividends in future periods. Another is that markets tend to take a dim view of dividend decreases, and the stock price drops to reflect that (Kim, Lee and Lie, 2017). In reference to the aim of this study, we examine whether wealth transfer affects the dividend decision or not. Based on signalling theory, we assume that there is a positive relationship between transferring wealth and the probability of sticky dividend to avoid the signalling effect. Therefore, we consider the following hypotheses:

- *H2c: There is a positive relationship between transferring wealth and the probability of sticky dividend payments.*

[70] Dividend stickiness means the tendency of managers to keep dividends unchanged (Guttman et al., 2010).

5.3.2.2 Paying back Debt

Firms can use dividends as a tool for altering the financing mix (either the owner's funds—equity—or borrowed money—debt) and moving closer to an optimal debt ratio. Miller and Modigliani (1961) introduced the residual theory[71] of dividends based on the firm's sources and uses of funds. Based on this theory, firms facing higher debt constraints will have the less financial flexibility and thus pay lower dividends. Furthermore, Kalay (1980) Kim, Lee and Lie (2017) claim that sometimes a dividend reduction occurs due to restriction in the covenants contained in the debt contract. These restrictive covenants exist to prevent wealth transfers from the debtholders to shareholders (Smith and Warner, 1979). In light of the foregoing, we postulate that when the firm is paying outstanding debt, the probability of cut dividends is high. Symmetrically, the factors that predict cuts should reverse signs when predicting dividend increases. Therefore, based on residual dividend theory, we assume that there is a positive (negative) relationship between paying outstanding debt and the probability of dividend cut and dividend stickiness (dividend increase). For our empirical analysis, we consider the following hypotheses:

- *H3a: There is a positive relationship between paying outstanding debt and the probability of dividend cut.*
- *H3b: There is a negative relationship between paying outstanding debt and the probability of dividend increase.*

If the firms have to pay back debt and, at the same time, they have to pay a sticky dividend to the shareholders to avoid the effects of dividend reduction. Consequently, such a firm will not cut the dividend to pay off its debt. In reference to the aim of this study, we examine whether paying outstanding debt affects the dividend decision or not. Therefore, based on signalling theory, we assume that there is a positive relationship between paying outstanding debt and the probability of sticky dividend, we consider the following hypotheses:

- *H3c: There is a positive relationship between paying outstanding debt and the probability of sticky dividend payments.*

[71] According to the residual theory of dividend policy, the firm will only pay dividend from residual earnings, that is dividends should be paid only if funds remain after the optimum level of capital expenditures is incurred i.e. all suitable investment opportunities have been financed.

5.3.3 Control Variables

Based on agency theory predictions, dividend payments can mitigate the agency problem between principals (owners) and agents (managers), according to Easterbrook (1984). However, high payout ratios force firms to rely on external financing, which in turn increases the transaction costs (Rozef, 1982). From the transaction cost theory view, transaction costs are directly related to firm risk: if a firm has higher operating and financial leverage, all else being equal, the firm's dependence on external funding increases because of the volatility in its earnings. Both operating and financial leverage can be translated into an overall high total risk of stock returns, which will have a negative impact on dividend payments (Rozef, 1982 and Holder et al., 1998). As A Result, firms with higher business risk should pay fewer dividends. Several empirical studies have reported a negative relationship between business risk and dividend payouts, including Crutchley and Hansen (1989), Holder et al. (1998), and Al-Najjar, (2009), among others. However, Aivazian et al. (2003b) find mixed results for the relationship between dividend payouts and in business risk emerging markets (see, also Chang and Rhee, 1990). Thus, this suggests that the more (less) risk, the more dividends are cut (increased).

According to Holder et al. (1998), Gul and Kealey (1999), Koch and Shenoy (1999), Chang and Rhee (1990), Ho (2003), and Aivazian et al. (2003b), large firms are more likely to be mature and thus have easier access to capital markets, being able to pay more dividends. This indicates that large firms can afford to pay higher dividends than smaller ones. Thus, there is a positive relationship expected between firm size and dividend policy, indicating that large firms will have less issuing costs. Moreover, the larger firms exhibit a higher level of information asymmetry and, therefore, higher agency costs. This implies that larger firms should pay higher dividends to mitigate these costs (Zeng, 2003). Several studies confirm that firm size is a significant determinant of corporate dividend policy and is positively related to dividend payout ratios in developed and emerging markets (see among others, Crutchley and Hansen, 1989, Chang and Rhee, 1990, Redding, 1997, Holder et al., 1998, Fama and French, 2002, Deshmukh, 2003, Al-Malkawi, 2008, and Al-Najar, 2009). It can, therefore, be assumed that the bigger (smaller) firms are more likely to increase (cut) dividends.

In general, the firm's assets are divided into the current (short-term) and fixed (long-term) assets. Long-term assets, in turn, can be either tangible or intangible. The firm's tangible assets can be used as collateral against debt financing, especially in securing long-term debt (see, for example, Booth, Aivazian, Demirguc-Kunt and Maksimovic, 2001, and Bevan and Danbolt, 2004). Hence, ceteris paribus, a high level of tangibility in a firm's asset structure, increases its debt capacity. This indicates less reliance on retained earnings, which in turn implies that there will be more cash to be paid as dividends. Consequently, firms with more tangible assets are more likely to pay dividends. This assertion implies that asset tangibility and dividend payouts should be positively correlated. However, according to Aivazian et al. (2003b), find the opposite, i.e. a negative relationship between the firm assets tangibility and dividends for firms operating in emerging markets. They attribute this result to the peculiarity of the financial system of these countries, where short-term bank financing is more prevalent. They argue that, since short-term bank debt dominates GCC stock market, more tangible assets are associated with less availability of short-term assets for banks to lend against, which leads to imposed financial constraints on a firm's operations. Therefore, the smaller the proportion of long-term tangible assets, the more short-term financing is secured, and the lower the agency conflicts. Therefore, we claim that the more (less) tangible assets, the higher the dividend cut (increase).

Jensen and Meckling (1976), Jensen (1986) and Crutchley, Jensen, Jahera, and Raymond (1999) argue that the use of debt and dividend distributions are alternative tools to monitor managers and control agency-related problems. Thereby, agency cost theory suggests an inverse relationship between debt and dividends. Nonetheless, the use of debt has been associated with lower agency costs and enhanced firm profitability, both of which tend to improve dividend payment. Various studies confirm the negative relationship between dividend policy and the level of debt (see, Crutchley and Hansen, 1989; Al-Twaijry, 2007; and Papadopoulos and Charalambidis, 2007). Many interpretations of this association are found in the literature. For instance, firms with a high level of debt prefer to cut dividends, voluntarily or under the pressure of creditors, to maintain the cash needed to fulfil their obligations toward corporate debtholders (see, Agrawal and Jayaraman, 1994; Faccio, Lang and Young, 2001; and Gugler and Yurtoglu, 2003). Otherwise, the increase in a firm's riskiness due to the increasing debt raises their external financing costs and makes them more dependent on retained

earnings (Hufft and Dufrene, 1996). Thus, the hypothesis that will be tested is: there is an inverse relationship between debt ratio and dividends increase and vice versa in the case of dividend cuts.

In light of the free cash flow (FCF) hypothesis, Jensen (1986) argues that agency problems between insiders and minority shareholders increase as the level of FCF increases. In their attempt to serve their goals, the agents spend the excess cash on projects with (NPV), which decreases the wealth of shareholders (see, e.g., Allen and Rachim, 1996; Zwiebel, 1996; and Hu and Kumar, 2004). According to Faccio et al. (2001), dividend payouts are significantly impacted by the vulnerability of a firm's minority shareholders to expropriation by insiders in East Asian and Western European firms. Several studies reveal that paying high dividends can be used to reduce agency costs and mitigate information asymmetry problems through the reduction of discretionary funds that could be spent on value-destroying projects (see, e.g., Gomes, 2000; Faccio et al., 2001; and Fairchild, 2010). For instance, Sawicki (2009) shows that a high dividend payout ratio is an efficient tool to build or improve a firm's reputation for decent corporate governance in emerging countries. Therefore, firms paying high dividends are perceived to be less risky and experience low information asymmetry and agency problems (Jensen, 1986; Hope, 2003). Hence, it could conceivably be hypothesised that the high (low) level of free cash flow leads to a dividend increase (cut).

Dividends are the distribution of a firm's profits to shareholders. Consequently, it can be argued that the profitability of a firm is the key determinant in making dividend policy decisions. It is expected that profitable firms are more likely to pay dividends compared with non-profitable firms. The pecking order hypothesis suggests that firms finance their investments with internally generated (retained) earnings and, if external financing is needed, they prefer to issue debt before issuing equity to reduce the costs of information asymmetry and other transactions (see, Myers, 1984; and Myers and Majluf, 1984). This financing hierarchy thesis might also influence the dividend decision. That is, considering the issuing debt costs and equity financing, less profitable firms will not find it optimal to pay dividends, ceteris paribus. Conversely, highly profitable firms are more able to pay dividends and to generate internal funds to finance investments. Prominent scholars such Fama and French (2001) interpret their results of

the positive impact of profitability on the likelihood to pay dividends for US firms as consistent with the pecking order hypothesis (see, Fama and French, 2002). Also, the studies by Chang and Rhee, (1990), Gul and Kealey (1999), Koch and Shenoy, (1999), Ho (2003), and Aivazian et al., (2003b) find that profitable firms pay dividends to convey their good financial performance. It has commonly been assumed that there is a negative (positive) association between profit and dividend cuts (increases).

Firms with high growth and investment opportunities will need internally generated funds to finance those investments, and thus tend to pay little or no dividends. This prediction is consistent with the pecking order hypothesis proposed by Myers and Majluf (1984). Accordingly, we expect a firm's growth and investment opportunities, as measured by the market-to-book ratio, to be negatively related to dividend payouts (see, Deshmukh, 2003). Accordingly, the more (less) growth opportunities, the larger the dividend cuts (increases). Moreover, the assets are used for operational activities of the firm. The greater assets expected operating results are generated by the firm (Fitri, Hosen and Muhari, 2016). However, firms with high growth rates and investment opportunities will require a large internal fund to finance these investments, so firms tend to pay a dividend that is low or even not pays one at all (Al-Malkawi, Twairesh and Harery, 2013). Fama and French (2001) assert that investment opportunities affect dividend payout decisions. They find that firms with better growth and investment opportunities have a lower dividend payment. Thus, the growth and investment opportunities of the firm have a negative relationship with dividend payments. If the assets growth rate of a firm increases, the amount of dividend payout ratio will decline.

5.4 Data Description and Research Methodology

5.4.1 Data Description

This section describes the data of the third empirical chapter, which investigates the predictability of dividend changes in the GCC stock market by creating a large-scale panel dataset that covers a relatively recent long-term period. Accordingly, the research sample contains a panel dataset of listed firms on the GCC. Data relating to listed firms were collected from each of the following stock exchanges, namely the Bahrain Stock Exchange, Kuwait Stock Exchange, Muscat Securities Market, Qatar Stock Exchange,

and Saudi Stock Exchange (Tadawul). For the UAE market, stocks from both Abu Dhabi Securities Exchange and Dubai Financial Market were clubbed together and included in this study. The dataset of annual dividend announcement dates in GCC stock market is available from the (ASMA) for six markets. Accounting and market data for the GCC All Tradable firms are extracted from the Thomson Reuters DataStream and Worldscope databases. The final unbalanced panel data[72] have 2398 firm-years. All data is yearly and obtained in US dollars. Our sample considers 377 firms across six countries for the period of 2000 through 2017.[73]

Most GCC firms only pay annual dividends. The primary idea is to test the determinants of dividend changes of the firms listed on the GCC stock exchanges. The intention was to assemble a large sample to obtain a more accurate result, collecting data of the factors for both non-financial and financial firms, for as many years as possible. At the same time, it was essential that the period in which the factors were observed be the same for all firms. However, due to the limited amount of or missing information on financial firms, it was not possible to collect the required data for the same period. This study mainly focuses on analysing the factors impacting firm dividend changes. Modelling these factors will help us predict any dividend cuts. The selected variables in our models are based on the commonly used variables by previous studies: firm size, profitability, cash flow (Bulan et al., 2007); leverage (Benito and Young, 2003); systematic risk, market-to-book ratio (Bulan et al., 2007); days, asset tangibility (Onali, 2016); and assets growth (Fama and French, 2001; Li and Zhao, 2008; Fairchild et al., 2014).

The descriptive statistics are based on numerical and tabular methods, which are used to explore, evaluate, and present the data. Table 5-1 reveals that the study contains a total of 2398 firm-year observations and out of the total number of observations, 37.65% are financial firms, while 62.35% are non-financial firms. There is a total number of 377 firms considered in the study's sample. In the study, the majority of the firms are from Saudi Arabia; this represents 23% of the sampled GCC firms. It is followed by Kuwaiti firms which represent 20.4% of the total firms. Moreover, in the financial sector, UAE has the most firms (29% of the total number of sampled financial

[72] Due to missing observations because of newly listed and delisted firms, the sample is not the same for every year during the period of study and, therefore, the study provides an unbalanced panel dataset.
[73] This time period has been selected because of data availability.

firms), while, proportionately, SA has the most non-financial firms (30% of the full non-financial sampled firms).

Table 5-1: Total number of firms based on each sample of GCC member states.

		Financial	Non-Financial	Total
UAE	Obs	271	183	454
	FIRMS	43	29	72
SA	Obs	105	457	562
	FIRMS	17	70	87
QA	Obs	127	132	259
	FIRMS	20	19	39
OM	Obs	133	346	479
	FIRMS	21	53	74
KU	Obs	180	245	425
	FIRMS	33	44	77
BA	Obs	87	132	219
	FIRMS	13	15	28
GCC	FIRM-YEAR Obs	903	1495	2398
	FIRMS	147	230	377

Notes: The table shows the total number of financial and non-financial firms within the GCC countries. Obs define as Firm-year observations.

Table 5-2 presents the descriptive statistics analysis of the variables included in the study. We consider the mean, standard deviation, minimum, and maximum (Argyrous, 2011). According to Table 5-2, our study describes further the time interval between dividend announcement dates of the GCC firms; the average of $Days$ is 0.364 during the period. The mean age of GCC firms is 14.6 years, with the maximum age of 24 years; while, in terms of log (total assets), the average of firms' size is equal to 13.5. Profitability represents the EBITDA to total assets and has an average value of 0.10 ($M = 0.10, SD = 0.079$). During the sampled period, the GCC firms' average beta is equal to 0.035, which is relatively low. The statistics reveal an average cash flow of 12.41%, with a high standard deviation (64%). Moreover, GCC firms have a low tangibility ($M = 29.46\%$) and high leverage ($M = 15.62397$). The mean SOA of a total of 2398 observations is 0.4057 (40.6%), with a relative standard deviation of 0.32. SOA represents the rate at which a firm closes its previous year's and target payout ratio gap (Arioglu and Tuan, 2014). It is regarded as a dividend smoothing measure.

Table 5-2: Descriptive statistics for all variables during the period from 2000 to 2017.

Variable	Mean	Std. Dev.	Min	Max	Obs
DAY	364.2214	17.36373	291	420	2398
BETA	.0358836	.0180866	0	.09	2398
SIZE	13.53462	2.05958	9.6	18.32	2398
TANG	.2946863	.281404	.0004	.9132	2398
DEBT	15.62397	16.78705	0	67.03	2398
FCF	.1241626	.636918	-1.71	4.086	2398
PRF	.1004074	.0791411	-.057	.386	2398
MTBV	1.720621	1.197816	.32	7.51	2398
Δ *TAd*	.0650125	.1418335	-.797	.744	2398

Notes: The table presents descriptive statistics for the timing of dividend announcements (*DAY*), systematic risk (*BETA*), firm size (*SIZE*), asset tangibility (*TANG*), debt ratio (*DEBT*), free cash flow (*FCF*), profitability (*PRF*), market-to-book ratio (*MTBV*), and change of total assets *(*Δ*Tad*)

Table 5-3: Correlation matrix[74]

	DD	*DI*	*DAY*	*SIZE(TA)*	*FC*	*BETA*	*PRF*	*TANG*	*DEBT*	ΔTA	*MTBV*
DD	1.000										
DI	0.416	1.000									
DAY	0.071	-0.097	1.000								
SIZE(TA)	-0.037	0.034	0.016	1.000							
FCF	-0.050	0.079	-0.013	0.164	1.000						
BETA	0.008	0.009	-0.007	0.067	-0.084	1.000					
PRF	-0.005	0.159	-0.030	-0.323	0.033	-0.006	1.000				
TANG	0.025	0.011	-0.044	-0.203	-0.179	-0.036	0.440	1.000			
DEBT	-0.045	0.002	-0.024	0.197	-0.060	0.026	-0.063	0.216	1.000		
ΔTA	-0.059	0.039	0.002	0.109	-0.031	0.019	-0.001	-0.082	0.083	1.000	
MTBV	0.040	0.145	-0.026	0.007	-0.041	0.042	0.493	0.208	0.053	0.062	1.000

Note: The table presents the correlation matrix for dividend decrease dummy (*DD*), dividend increase dummy (*DI*), the timing of dividend announcements (*DAY*), systematic risk (*BETA*), firm size (*SIZE*), asset tangibility (*TANG*), debt ratio (*DEBT*), free cash flow (*FCF*), profitability (*PRF*), market-to-book ratio (*MTBV*), and change of total assets (*ΔTad*)

[74] Table 5-3 shows the correlation matrix for all explanatory variables used in the analysis. The correlation matrix also confirmed the absence of multicollinearity among the explanatory variables used in the regressions.

5.4.2 Research Design, Models and Variables

The purpose of this chapter is to empirically investigate the impact of managerial actions on the propensity to increase or decrease dividends. Earlier studies use probit[75] estimation method to assess the impact of various variables on the probability of changing dividends. For instance, the impact of cash flow, leverage, investment opportunities, investment and company size (Benito and Young, 2003); the level of institutional ownership, the level of dividends (Kale et al., 2012); the announcement effect (Onali, 2016); implied dividends, implied volatilities and firm-specific financial and operating variables (Fodor et al., 2017) on the likelihood of increasing or decreasing dividends are examined using probit estimation method. This study follows the same approach to assess the influence of managerial actions on the probability of increasing or decreasing dividends by employing a probit estimation method with panel data. The standard probit model for a binary event is augmented by a random-effects term that allows for random unobservable differences in the propensity to increase (or cut) dividends across firms. The advantage of using the random-effects Probit takes unobserved heterogeneity into account (Greenaway, Guariglia and Kneller, 2007). Neglected heterogeneity may cause a serious inconsistency problem for marginal effects calculation, particularly when unobserved heterogeneity is correlated with independent variables (Wooldridge, 2002). The disparity in tastes and preferences across managers is one of the potential sources of unobserved heterogeneity exists for dividend policy (Baba, 2009). Some managers may be more cautious about the future prospects of their firms than others and hence may prefer borrowing or hoarding cash to paying dividends. Thus, a probit regression model is an appropriate econometric approach for this study to examine the determinants of the decision to increase dividends or cut dividends given the nature of the dependent variable[76].

An important question to be answered in this study is: what are the determinants of a firm's propensity to raise or cut or stick dividends for firms listed at the GCC? In other words, what factors affect the probability to increase or decrease or stick dividends of

[75] Probit model can be generalized to account for non-constant error variances in more advanced econometric settings (known as heteroscedastic probit models) and, hence, are used in some contexts by economists and political scientists.

[76] The dependent variable is dividend decisions (dummy) which takes the value of 1 if the firms increase or decrease or stick a dividend and 0 otherwise

those firms? In order to answer such a question, the probit estimation is used. The probability to pay dividends is estimated using the random effects specification on panel data (see, Arulampalam, 1999). The model is defined as:

$$y_{it}^{*} = \acute{\beta} x_{it} + u_{it} \tag{5.1}$$

The unobserved variable y_{it}^{*} is linked with the observed binary variable y_{it} by the relation:

$$y_{it} \begin{cases} = 0 \; if \; y_{it}^{*} \leq 0 \\ = 1 \; if \; y_{it}^{*} > 0 \end{cases}$$ with y_{it}= 1 if the firm i increased dividends at period t, and y_{it}= 0 otherwise. (5.2)

$$y_{it} \begin{cases} = 0 \; if \; y_{it}^{*} \geq 0 \\ = 1 \; if \; y_{it}^{*} < 0 \end{cases}$$ with y_{it}= 1 if the firm i decreased dividends at period t, and y_{it}= 0 otherwise. (5.3)

$$y_{it} \begin{cases} = 0 \; if \; y_{it}^{*} \neq 0 \\ = 1 \; if \; y_{it}^{*} = 0 \end{cases}$$ with y_{it}= 1 if the firm i unchanged dividends at period t, and y_{it}= 0 otherwise. (5.4)

where *i* indexes individuals (firms) *i*=1,…,N, *t* indexes time periods (years) *t*=1,…,T. $\acute{\beta}$ is a vector of corresponding coefficients; x_{it} is a vector of observed explanatory variables, represents the set of the individual exogenous characteristics of the firms that are assumed to condition the firms' decisions on dividend policy; and u_{it} is the error term, which is supposed to be $\sim N(0, \sigma_{\varepsilon}^{2})$.

Moreover, we outline a set of explanatory variables representing each of the hypotheses and define them based on the most common forms used in the literature. Our research sample is drawn from 11 industries and covers a relatively long period (2000–2017) for six markets. This study examines increases and decreases of dividend separately because "early" or "late" announcements are expected to increase the probability of a dividend cut, but not the probability of a dividend increase (Kalay and Loewenstein, 1986). Also, we examine the relationship between wealth transfer, paying back and the probability of dividend changes. We are taking into consideration the control variables such as debt, risk, firm size, tangibility, leverage, free cash flow, profitability, and growth. Also, we consider the effects of different regulatory frameworks across industries and unobserved time-varying factors, employing market, industry, and year dummies, respectively, to control for such consequences.

Accordingly, we formulate the related probit model by the following equation:

$$D_{it} = \alpha + \beta_1 DAY_{it} + \beta_2 D^{pay_{debt}} + \beta_3 D^{tr_{we}} + \beta_4 cont_{it} + \sum_{j=1}^{N} \beta_j MARK_{j,i,t} + \sum_{k=1}^{N} \beta_k IND_{k,i,t} + \sum_{t=1}^{T} \beta_t Y_{i,t} + \varepsilon_{it} \quad (5.5)$$

Where
D_{it} is a dummy variable equal to 1 if there is:
1. A DPS increase in year t relative to the past year and 0 otherwise.
2. A DPS decrease in year t relative to the past year and 0 otherwise.
$cont_{it}$ = control variables; $MARK_{j,i,t}$= country dummy; $IND_{k,i,t}$= industry dummy, and $Y_{i,t}$= years dummy.
α = the intercept of the regression equation, β_k = coefficients of independent variables, where k=1,2, 3…, ε = error term.

The firm's industry type dummy variable is given a value of 1 if a firm belongs to a financial sector and otherwise 0. The Country dummy variable represents the firm's country type, to which the value 1 is for UA, value 2 is for SA, value 3 is for QA, value 4 is for OM, value 5 is for KU, and value 6 is for BA. Also, year dummies have been included (YEARS) to control for year effects.

5.4.3 Main Variables

The dependent variables are the dummy variables $Dividend\ increase$ and $Dividend\ decrease$ equal to one if the dividend per share in a specific year for a particular firm is larger or smaller than the dividend per share in the previous year. The $Days$ variable represents the number of calendar days between dividend announcements dates (for years t – 1 and t) for the same firm and changes in dividends. In addition, in this chapter, the main independent variables are the dividend announcements date, transferring of wealth, and paying back debt.

Table 5-4 analyses the relative change in debt (between the current debt and previous debt) to the difference in assets (between the current assets and previous assets). In this regard, we distinguish three cases: increase (A), no change (B), or decrease (C); similarly, we have three different causes for the change in assets as well. Further, we identify three different situations for the relative relationship between the two, considering each type of change in debt A, B, and C.

As for case A, when the change in debt is positive, and there is no change in the firm's assets, we assume that the firms used the debt to pay dividends, which is evidence of transferring wealth. Whereas, when the change of the firm's assets is positive, and

$\Delta TA > \Delta DEBT$, we assume that the firm is raising debt to invest in assets and raise more equity. However, when the change in the firm's assets is positive, and $\Delta DEBT > \Delta TA$, we perceive that the firm is transferring wealth from debtholders to shareholders. Based on that, some debt is invested, and some debt is paid to dividends in order for debt and equity to be the same as assets. Since the change in debt is greater than the change in assets, the change in equity should be negative to balance out the two sides of the balance sheet. Decreasing equity is achieved either through share repurchases or cash dividend distribution. In this case, part of the debt has been invested, and part has been paid to shareholders (as wealth transfer), which is reflected in the reduction of equity.

When the change in the firm's assets is negative, and the change of the debt is positive, we assume that the firm is transferring wealth from the debtholders to the shareholders. The firm's assets decline, and the debt is raised (by borrowing extra money) because the firm uses both to pay dividends. Based on the above discussion, when the amount of assets declines or increase with a ratio less than the increase ratio of debt, we have a case of transfer of wealth, where debt is used to pay dividends. As our study is concerned with the influence of the transfer of wealth on the predictability of dividend changes, we use a dummy variable of 1 for the firms that transfer wealth, and 0 otherwise.

In the case of B, when the ratio of the change in debt to the change in assets equals zero, it means that there are no changes in debt and assets. While, when the difference in the firm's assets is positive, but there is no change in debt, it means the firm's equity is raised to be invested in expanding assets. When the difference in assets is negative, but there is no change in debt, we assume that these firms are selling their assets to pay dividends.

In the case of C, when the change in debt is negative, and there is no change in assets, we find that these firms are raising their equity to pay back the debt. While, when the change of assets is positive, we observe that the firm is raising its equity to pay back debt and invest in assets. However, when the difference in a firm's assets is negative, and the ratio is greater than 0 ($\Delta DEBT > \Delta TA$), we presume that these firms are decreasing the amount of assets, raising equity, and using both to pay back the debt. When the change in assets is negative, and the ratio is less than or equal to 0 ($\Delta TA >$

$\Delta DEBT$), we note that these firms are selling assets to pay back debt and the dividends. Based on the discussion above, we can conclude that when assets are increased or decreased with a ratio less than the decrease ratio of debt, we have a case of paying back debt, where debt is paid using the equity. As our study is intended to examine the influence of paying back the debt on dividends change, we use a dummy variable of 1 for the firms that pay back debt, and 0 otherwise.

Table 5-4: The change of debt relative to the change of assets.

	Debt change	Assets change			D^{pay_debt}	D^{tr_we}	Outcomes	OBS/ 2398
A	(+) DEBT 1074	ASSET	0		0	1	Debt raised to pay dividends (transfer of wealth)	(0)
			+	$x \leq 0$	0	0	Debt raised to invest in assets and equity raised	(730)
				$x > 0$	0	1	Assets increased, and debt raised to pay dividends (transfer of wealth)	(157)
			-		0		assets reduced and debt raised, Both paying dividends (transfer of wealth)	(187)
B	DEBT=0 431	ASSET	0		0	0	No change	(0)
			+		0	0	Equity raised to invest	(322)
			-		0	0	Assets reduced and dividends paid	(109)
C	(-) DEBT 893	ASSET	0		1	0	Equity raised to pay debt	(0)
			+		1	0	Assets increased, and Equity raised to pay back debt (Paying Debt)	(484)
			-	$x > 0$		0	Assets reduced, and Equity raised both to pay back debt (Paying Debt)	(212)
				$x \leq 0$	0	0	Assets reduced, part to pay debt and part to pay dividends	(197)

Note: $x = the\ relative\ change\ in\ debt\ to\ assets = \frac{debt_{it} - debt_{it-1}}{t.assets_{it} - t.assets_{it-1}}$ $while$ $t.assets_{it} \neq t.assets_{it-1}$ (5.6)

5.4.4 Control Variables

We also control for other firm characteristics that may affect a firm's dividend policy. In light of this literature, the control variables are the following: risk, size, asset tangibility, debt level, free cash flow FCF, profitability, and current and future investment opportunities. According to Fama and French (2001), firms that are bigger, more profitable and with lower investment opportunities tend to pay dividends. Further, DeAngelo et al. (2006) introduce the life cycle stage of a firm as a key factor in the decision to pay dividends. Such information asymmetries are lower for firms that are bigger, older, and with a high degree of asset tangibility and investment opportunities (Leary and Michaely, 2011).

Table 5-5: Description of variables.

CATEGORY	VARIABLES	EMPIRICAL PROXY	DEFINITION
DEPENDENT VARIABLE	Dividend changes	Δ *DPS Dummy*	Where D_{it} is a dummy variable equal to 1 if there is: 1. A DPS increase in year t relative to the previous year and 0 otherwise. 2. A DPS decrease in year t relative to the past year and 0 otherwise.
INDEPENDENT VARIABLE	Timing of dividend announcements	*DAY*	the number of trading days between two consecutive dividend announcement dates
	Paying the debt	D^{pay_debt}	Firms use equity to pay debt = 1, 0 otherwise
	Transferring of wealth	D^{tr_we}	Firms transfer wealth from lenders to stockholders
CONTROL VARIABLES	systematic risk	*BETA*	the slopes of the stock return market return.
	size	*SIZE*	The natural logarithm of the firms' total assets.
	Tangibility	*TANG*	The ratio of a tangible asset to total asset is used to measure asset tangibility the ratio of property, plant, and equipment to total assets
	The level of debt	*DEBT*	The ratio of total debt to total assets.
	Free Cash Flow	*FCF*	operating income before depreciation minus taxes, interest expense, preferred dividends, and common dividends, scaled by total asset
	Profitability	*PRF*	the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets.
	Future investment opportunities	*MTBV*	the ratio of the market capitalisation to the book value
	current investment opportunities	*Growth assets*	When $\Delta TA > 0$ =1, otherwise=0

Note: The table presents the brief definitions for the dependent variable, all the independent variables and all control variables.

5.5 Empirical Analysis

This portion of the chapter presents the main empirical findings concerning the probability of decrease, increase, or sticky dividends are estimated using the random effects probit specification on panel data (see, Arulampalam, 1999; Benito and Young, 2003; Fairchild et al., 2014; and Fodor et al., 2017). Tables 5-6, 5-7, and 5-8 contain the predicted probabilities of a dividend cut, dividend increase, and dividend stickiness. Here, the dependent variables are the dummy variables of dividend increase, dividend decrease, and dividend stickiness, as described in the previous section.

In order to provide further insights regarding the estimation coefficients, the marginal effects of the independent variables in the probit model are also calculated. The table illustrates the marginal effects[77] of explanatory variables to provide further interpretations. In addition, to the coefficients (statistical significance)—it is worth noting that the marginal effects reflect the marginal impact of each explanatory variable on the dependent variable at the mean values of other explanatory variables. They are provided in the same tables next to the coefficient estimations columns for each regression model, illustrating the marginal effects of the independent variables on the probability of decreasing or increasing dividends. The first main independent variable is the number of trading days between announcement dates, *DAY*, which is the difference between the dividend announcement dates of two consecutive years. For cases where there are late announcements, this variable is positive, while for cases with early announcements, this variable is negative. The results in Tables 5-6 and 5-7 show that the dividend announcement days are overall statistically significant at the 1% level, as evidenced by the Wald χ^2 tests.

[77] For computing the marginal effects see for example, Arulampalam (1999) and Greene (1999).

Table 5-6: Results of random effect probit models for the dividend cut of all GCC firms for the period 2000-2017.

GCC	1		2		3		4	
	DD	Mag.EF	DD	Mag.EF	DD	Mag.EF	DD	Mag.EF
DAY	0.01***	0.002***	0.01***	0.002***	0.01***	0.002***	0.01***	0.002***
	3.47	3.50	3.48	3.51	3.45	3.48	3.47	3.50
TR_WE	0.04	0.01			0.08	0.02		
	0.46	0.46			0.92	0.92		
PAY_DEBT	-0.11	-0.03	-0.12*	-0.03*				
	-1.56	-1.56	-1.75	-1.75				
BETA	-0.12	-0.03	-0.08	-0.02	-0.28	-0.08	-0.23	-0.06
	-0.06	-0.06	-0.04	-0.04	-0.15	-0.15	-0.13	-0.13
SIZE	0.001	0.000	0.002	0.0005	-0.004	-0.001	-0.004	-0.001
	0.06	0.06	0.08	0.08	-0.18	-0.18	-0.18	-0.18
TANG	-0.01	-0.004	-0.02	-0.005	-0.03	-0.01	-0.04	-0.01
	-0.10	-0.10	-0.11	-0.11	-0.21	-0.21	-0.26	-0.26
DEBT	-0.01***	-0.002***	-0.01***	-0.002***	-0.01***	-0.002***	-0.01***	-0.002***
	-3.41	-3.42	-3.38	-3.39	-3.28	-3.30	-3.18	-3.19
FCF	-0.11*	-0.03*	-0.11*	-0.03*	-0.11*	-0.03*	-0.11**	-0.03**
	-1.87	-1.87	-1.88	-1.89	-1.99	-1.99	-2.03	-2.04
PRF	-1.68***	-0.47***	-1.69***	-0.47***	-1.71***	-0.48***	-1.73***	-0.48***
	-2.93	-2.96	-2.94	-2.97	-2.98	-3.01	-3.01	-3.05
MTBV	0.05	0.01	0.05	0.01	0.05*	0.01*	0.05*	0.01*
	1.61	1.61	1.58	1.58	1.70	1.70	1.65	1.65
ΔTAd	-0.25***	-0.07***	-0.26***	-0.07***	-0.25***	-0.07***	-0.26***	-0.07***
	-3.79	-3.80	-3.99	-4.00	-3.70	-3.71	-3.99	-4.00
CON	-2.69***		-2.69***		-2.65***		-2.65***	
	-3.88		-3.88		-3.82		-3.81	
WALD CHI2	75.55		75.29		73.11		72.21	
PROB > CHI2	0.0000		0.0000		0.0000		0.0000	
LOG-LIKELIHOOD	-1211		-1211		-1212		-1213	
IND, MAR EF	YES	YES	YES	YES	YES	YES	YES	YES
OBS	2398	2398	2398	2398	2398	2398	2394	2395

Notes: The table reports the results of the random effect probit models for the dividend cut. The dependent variable, which is dividend decrease (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise, and (***tr_we***) Firms transfer wealth from lenders to stockholders. The control variables: (*BETA*) the slopes of the stock return market return, (*SIZE*) the natural log of book assets, (*TANG*) net property, plant and equipment divided by total assets, (*DEBT*) debt to asset ratio, (*FCF*) operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, scaled by total asset, (*PRF*), the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets, (*MTBV*) market-to-book ratio, and *(*ΔTad) When the change of total assets $\Delta TA>0$ =1, otherwise=0. All variables are winsorised at the 1st and 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 5-7: Results of random effect probit models for the dividend increase of all GCC firms for the period 2000-2017.

GCC	1		2		3		4	
	DI	Mag.EF	DI	Mag.EF	DI	Mag.EF	DI	Mag.EF
DAY	-0.01***	-0.003***	-0.01***	-0.003***	-0.01***	-0.003***	-0.01***	-0.003***
	-4.52	-4.58	-4.59	-4.65	-4.53	-4.58	-4.59	-4.65
TR_WE	-0.20**	-0.07**			-0.19**	-0.07**		
	-2.40	-2.41			-2.31	-2.32		
PAY_DEBT	-0.04	-0.01	-0.002	-0.001				
	-0.66	-0.66	-0.03	-0.03				
BETA	-0.18	-0.06	-0.31	-0.11	-0.24	-0.09	-0.32	-0.12
	-0.11	-0.11	-0.20	-0.20	-0.15	-0.15	-0.20	-0.20
SIZE	0.03*	0.01*	0.03	0.01	0.03	0.01	0.03	0.01
	1.65	1.65	1.57	1.57	1.57	1.57	1.58	1.58
TANG	-0.23*	-0.08*	-0.22*	-0.08*	-0.24*	-0.09*	-0.22*	-0.08*
	-1.83	-1.84	-1.74	-1.74	-1.90	-1.90	-1.75	-1.76
DEBT	0.002	0.001	0.002	0.001	0.002	0.001	0.002	0.001
	1.16	1.16	0.84	0.84	1.22	1.22	0.85	0.85
FCF	0.10**	0.04**	0.10**	0.04**	0.10**	0.03**	0.10**	0.04**
	2.23	2.24	2.27	2.28	2.18	2.19	2.28	2.29
PRF	2.90***	1.05***	2.92***	1.06***	2.89***	1.05***	2.92***	1.06***
	5.99	6.13	6.04	6.18	5.98	6.11	6.04	6.18
MTBV	0.08***	0.03***	0.08***	0.03***	0.08***	0.03***	0.08***	0.03***
	2.78	2.79	2.95	2.96	2.82	2.83	2.95	2.97
ΔTAd	0.09	0.03	0.13**	0.05**	0.10	0.04	0.13**	0.05**
	1.54	1.54	2.10	2.10	1.59	1.59	2.10	2.11
CON	1.37**		1.36**		1.38**		1.37**	
	2.24		2.25		2.27		2.25	
WALD CHI2	140.91		135.65		140.53		135.65	
PROB > CHI2	0.0000		0.0000		0.0000		0.0000	
LOG-LIKELIHOOD	-1524		-1527		-1524		-1527	
IND, MAR EF	YES	YES	YES	YES	YES	YES	YES	YES
OBS	2398	2398	2398	2398	2398	2398	2396	2397

Notes: The table reports the results of the random effect probit models for the dividend increase. The dependent variable, which is dividend increase (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise, and (***tr_we***) Firms transfer wealth from lenders to stockholders. The control variables: (*BETA*) the slopes of the stock return market return, (*SIZE*) the natural log of book assets, (*TANG*) net property, plant and equipment divided by total assets, (*DEBT*) debt to asset ratio, (*FCF*) operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, scaled by total asset, (*PRF*), the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets, (*MTBV*) market-to-book ratio, and *(*ΔTad) When the change of total assets ΔTA>0 =1, otherwise=0. All variables are winsorised at the 1st and 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 5-8: Results of random effect probit models for a dividend stickiness of all GCC firms for the period 2000-2017.

GCC	1		2		3		4	
	CD	Mag.EF	CD	Mag.EF	CD	Mag.EF	CD	Mag.EF
DAY	0.002	0.001	0.003	0.001	0.002	0.001	0.003	0.001
	1.51	1.52	1.57	1.57	1.53	1.54	1.57	1.57
TR_WE	0.182**	0.066**			0.124	0.045		
	2.09	2.09			1.49	1.49		
PAY_DEBT	0.153**	0.056**	0.113*	0.041*				
	2.30	2.31	1.78	1.78				
BETA	0.414	0.151	0.516	0.189	0.594	0.217	0.635	0.232
	0.23	0.23	0.29	0.29	0.33	0.33	0.35	0.35
SIZE	-0.026	-0.009	-0.025	-0.009	-0.019	-0.007	-0.019	-0.007
	-1.19	-1.19	-1.13	-1.14	-0.88	-0.88	-0.90	-0.90
TANG	0.273*	0.099*	0.264*	0.096*	0.301**	0.110**	0.289*	0.106*
	1.77	1.77	1.72	1.73	1.96	1.97	1.89	1.90
DEBT	0.003	0.001	0.004*	0.001*	0.003	0.001	0.003	0.001
	1.43	1.43	1.69	1.70	1.17	1.17	1.43	1.43
FC	-0.017	-0.006	-0.019	-0.007	-0.007	-0.003	-0.011	-0.004
	-0.32	-0.32	-0.36	-0.36	-0.14	-0.14	-0.20	-0.20
PRF	-1.938***	-0.707***	-1.968***	-0.718***	-1.881***	-0.687***	-1.914***	-0.700***
	-3.27	-3.31	-3.33	-3.37	-3.19	-3.22	-3.25	-3.28
MTBV	-0.133***	-0.048***	-0.138***	-0.050***	-0.136***	-0.050***	-0.139***	-0.051***
	-3.78	-3.82	-3.94	-3.98	-3.89	-3.93	-3.99	-4.03
ΔTAd	0.126*	0.046*	0.098	0.036	0.116*	0.042*	0.097	0.035
	1.91	1.92	1.52	1.53	1.76	1.77	1.50	1.51
CON	-0.566		-0.559		-0.619		-0.604	
	-0.85		-0.84		-0.94		-0.91	
WALD CHI2	98.28		94.68		93.77		91.90	
PROB > CHI2	0.0000		0.0000		0.0000		0.0000	
LOG-LIKELIHOOD	-1521		-1524		-1524		-1525	
IND, MAR EF	YES	YES	YES	YES	YES	YES	YES	YES
OBS	2398	2398	2398	2398	2398	2398	2396	2397

Notes: The table reports the results of the random effect probit models for the dividend stickiness. The dependent variable, which is dividend stickiness (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise, and (***tr_we***) Firms transfer wealth from lenders to stockholders. The control variables: (*BETA*) the slopes of the stock return market return, (*SIZE*) the natural log of book assets, (*TANG*) net property, plant and equipment divided by total assets, (*DEBT*) debt to asset ratio, (*FCF*) operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, scaled by total asset, (*PRF*), the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets, (*MTBV*) market-to-book ratio, and *(*ΔTad) When the change of total assets ΔTA>0 =1, otherwise=0. All variables are winsorised at the 1st and 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

5.5.1 Predicting Dividend Change from the Dividend Announcement Timing

For the case of the probability of dividend decrease in Table 5-6, the random effects probit estimates show that the coefficients of DAY are positive and statistically significant: $z = 3.47, 3.48, 3.45$, and 3.47, $p < 0.01$ in Models (1), (2), (3), and (4), respectively. The marginal effects of this variable, other things being equal, indicate that a 10-percentage point increase in "*Days*" will increase the probability of dividend cuts by about 0.02 percent, for an average firm. The evidence of this positive relationship between the timing of dividend announcements (delay) and dividend cut is consistent with the signalling theory (Kalay and Loewenstein, 1986; Onali, 2016), suggesting that firms with more delayed dividend announcements are more likely to cut their dividends. A negative announcement conveyed late will have a smaller effect on the share price on the announcement day than the same announcement conveyed early. This is because the market gradually adjusts prices downward between the predicted date and the actual late announcement date. Thus, the manager can reduce the immediate impact of a negative announcement by deferring it (Kalay and Loewenstein, 1986). Hence, this evidence lends support for (H1a).

In case of the probability of a dividend increase in Table 5-7, the results of Models (2) and (4) show that the coefficients of DAY are negative and statistically significant: $z = -4.52, -4.59, -4.53$, and -4.59, $p < 0.01$ in Models 1, 2, 3 and 4, respectively. From all models, the marginal effects indicate that a 10 percent point decrease during the days between two consecutive announcements will increase the probability of dividends increase by about 0.03 percent, other things being equal. This result indicates that early dividend announcements indicate a higher dividend payment. The result confirms the conclusion of Onali, (2016) who studies US firms from 1971 to 2014. Hence, this evidence provides support for (H1b). In the case of the probability of a dividend stickiness, the results of the dividend announcement timing in Table 5-8 show no significant impact of Days on dividend stickiness. Accordingly, this evidence reveals that the dividend announcements usually take place on the expected date. Hence, there is no relationship between late and early dividend announcement days and the probability of sticky dividends.

5.5.2 The Role of Debt and Equity Financing in Determining Dividend Decisions

The main factors that we examine in the study are the impact of paying back debt and the transferring of wealth on the probability of a dividend cut, dividend increase, and dividend stickiness. From Tables 5-6, 5-7, and 5-8, it can be seen that two new dummy variables that are related to the change of debt and assets are added. The first one is for the firms that attempt to pay back debt, while the second is for those that attempt to transfer wealth.

5.5.2.1 Wealth Transfer

The results in Table 5-6 on wealth transfer show no significant impact on the dividend cut. Hence, this leads us to reject (H2a). The results of Models (2) and (4) in Table 5-7 indicate that the propensity to increase dividends are negatively affected by the wealth transfer dummy variable since its coefficients are negative and significant: $= -2.67$, $p < 0.01$, and $z = -2.68$, $p < 0.10$ in Models (2) and (4), respectively. The marginal effects show that a 10-percentage point increase in the payment of principal debt will decrease the probability of dividends cut by -0.8 percent, for an average firm. This negative relationship between the transferring of wealth and dividend increase implies that when the firm is transferring wealth, it will not increase dividends. This means when the managers of the firm are borrowing money to pay a dividend because the firm does not have sufficient funds, their aim is not to increase dividends. Also, a firm will not transfer wealth at any given time, but only when it does not increase dividends. So, the transfer of wealth is not being used randomly. The firm performs the wealth transfer from a debtholder to maintain the dividend and not increase it. This result is consistent with the agency theory because the managers care about the shareholders' satisfaction. Therefore, (H2b) is rejected.

Furthermore, in the case of the probability of a sticky dividend, the results in Table 5-8 on transferring wealth show that it has a positive impact on the probability of sticky dividends to occur, since the coefficients of tr_we are positive and significant: $z = 0.182$ and $p < 0.05$ in the model (1). The marginal effects imply that a $10 - percentage\ points$ increase in tr_we results in an approximately 0.6 percentage point increase in the likelihood of dividend stickiness, ceteris paribus. This suggests that firms that transfer more wealth are more likely to maintain steady dividends. When firms

have a deficit to pay a dividend to the shareholders, they will have to borrow money from debtholders. This is called a conflict between a firm's debtholders and shareholders. Smith and Warner (1979) identify four significant sources of conflict between debtholders and shareholders—dividend payment, claim dilution, asset substitution and underinvestment. However, if firms follow the sticky dividend approach, they do not increase dividend payments, but rather distribute at least the same dividend as paid in the previous year. This result is consistent with the signalling theory because, when a firm increases its dividend, it sends a positive signal to investors: that management expects to be able to afford the higher dividend for the foreseeable future. Thus, (H2c) is accepted.

5.5.2.2 Paying the Debt

The results of Models (1) and (3) in Table 5-6 indicate that the propensity to cut dividends is negatively affected by the payment of principal debt dummy variable since the coefficients on this variable are negative and significant: $= -2.02$, $p < 0.05$, and $z = -1.74$, $p < 0.10$ in Models (1) and (3), respectively. The marginal effects show that a $10 - percentage\ points$ increase in the payment of principal debt will decrease the probability of dividends cut by around -0.33 and -0.39 percent, for an average firm. This negative relationship between the payment of the principal debt and a dividend cut implies that the managers are making sure that the dividend is never cut in a situation where they can pay back the debt. In other words, when firms that can afford to pay back debt with funds from different sources, such as assets, equity, or both, to try to apply dividend stickiness, they are unlikely to cut dividends. This result is consistent with the agency theory, which suggests that, when a firm has a surplus, its priority is to satisfy its shareholders by paying them dividends, and only after it pays liabilities and investments. Thus, the results above imply that (H3a) is rejected. For the dividend increase case in Table 5-7, the results of paying back debt are insignificant, so (H3b) is rejected accordingly.

In the case of the probability of a sticky dividend, the results of paying back debt in Table 5-8 report that it has a positive impact on the propensity to maintain steady dividends, since the coefficient of pay_debt is positive and significant in Models (1) and (2) for the probability of a sticky dividend: $z = 0.153$, $p < 0.05$, and $z = 0.113$, $p < 0.10$, respectively. The marginal effects imply that a $10 - percentage\ points$

increase in pay_debt results in an approximately 0.4–0.5 percent point increase in the likelihood of dividend stickiness, ceteris paribus. This suggests that paying back more debt is more likely to lead to steady dividends. Therefore, (H3c) is accepted, implying that when the firms have a surplus, they prefer to reduce their level of debt and, at the same time, aim to pay dividends to the shareholders. However, if firms follow the sticky dividend approach, they do not cut dividend payments to pay their debt, but rather distribute at least the same dividend payment as in the previous year. This is consistent with the signalling theory because, when managers cut dividends, it may signal that they have given up hope that earnings will rebound in the near future, and thus need to reduce dividends to save cash.

Taken together, these results suggest that there is an association between debt and equity financing and dividend changes. In the first case, paying the debt, findings have demonstrated that, when a firm has a surplus to pay the debt, its priority is to pay the dividends—and make sure they are not cut—to the shareholders, and pay the debt only after. The payment of principal debt is always secondary to the distribution of dividends to maintain their level of dividend. Therefore, by paying the principal debt, the firm is unlikely to cut dividends. In other words, it is ensured that dividends are not cut if the firm wants to pay back the debt for the following reasons: (1) to avoid sending bad news, (2) to satisfy the debtholders and shareholders, and (3) to maintain dividend levels as planned. In the second case, transferring wealth from debtholders to shareholders: findings corroborate that when the firm needs to distribute dividends but does not have enough money, it would need to borrow to pay expected dividends without increasing the distributed value. This is due to the following reasons: (1) to avoid sending bad news, (2) to satisfy the shareholders, and (3) to maintain dividend levels as planned. In brief, from the two previous situations, we understand that GCC firms that transfer wealth and pay or reduce principal debt, always worry about paying dividends to the shareholders and maintaining dividend levels. Furthermore, we suggest that it is more often that GCC firms pay sticky dividends in two cases: (1) when they pay back debt, using equity financing, and (2) when they transfer wealth from debtholders to shareholders.

5.5.3 Control Variables

The results of risk in Tables 5-6, 5-7, and 5-8 show no significant impact of risk ($BETA$) on dividend changes. Accordingly, this evidence reveals that risk does not affect the corporate dividend changes of GCC firms in a significant way. The $BETA$ is insignificant; this result is consistent with other GCC studies by Al-Kuwari (2010). However, these results are consistent with Abor and Bokpin (2010), who report that, in the case of emerging markets, the risk does not seem to play a role in explaining a firm's dividend payout decisions.

The results concerning firm size from Model (1) in Table 5-7 indicates that the probability of a dividend increase for GCC firms is positively affected by firm size ($SIZE$) since the coefficients on this variable are positive and significant ($z = 1.65$, $p < 0.10$). The marginal effects show that a $10 - percentage\ points$ increase in SIZE will increase the probability of a dividend increase by roughly 0.01 percent for an average firm. This positive relationship between firm size and dividend increase is consistent with various studies, such as Gaver and Gaver (1993); Barclay, Smith and Watts (1995); Fama and French (2001); Deshmukh (2003); Ferris et al. (2006); Bulan et al. (2007) and Onali (2016) who claim that firm size is positively related to dividend increases or initiations. Based on the agency problem arguments, this positive correlation indicates that larger firms generally have easier access to the capital markets to raise external financing at lower costs, and depend less on internal funds compared with smaller firms (Lloyd et al., 1985; Crutchley and Hansen, 1989; Holder et al., 1998) However, large firms often face higher potential agency conflicts, thus are more likely to pay dividends and even distribute higher amounts to mitigate such problems. The results on the firm size in Tables 5-6 and 5-8 show no significant impact of firm size on the probability of a dividend cut or a dividend stickiness.

Furthermore, the results in Table 5-7 report a negative impact of asset tangibility on the probability of a dividend increase, since the coefficients of TANG are negative and significant ($z = -1.83, -1.74, -1.90$, and -1.75, $p < 0.10$ in Models (1), (2), (3), and (4), respectively). The marginal effects imply that the level of asset tangibility, and the propensity to increase dividend decreases by about 0.8 percent for an average firm, corresponding to a $10 - percentage\ points$ point increase in $TANG$. This negative relationship is supported by the agency theory of dividend policy (Ho, 2003). Aivazian

et al. (2003b) find a negative correlation between asset tangibility and a firm's dividend policy. Thus, the more the tangible assets in the firm, the smaller the size of short-term assets that can be used as collateral for short-term debt financing and, hence, the lower debt financing. Therefore, firms will depend more on their retained earnings, which means a lower chance to pay dividends. Accordingly, this is consistent with results reported from a broad set of different financial markets, including US (Onali, 2016), Jordan (Al-Malkawi, 2007; Al-Najjar, 2009), and UK (Al-Najjar and Hussainey, 2009) markets, for which a negative relationship between asset tangibility and dividends is found.

However, concerning the propensity of firms to maintain dividend stickiness, the results in Table 5-8 report a positive impact of asset tangibility on the probability of sticky dividends, since the coefficients of TANG are positive and significant ($z = 1.77, 1.72,$ 1.96, and 1.89, $p < 0.10$ in Models (1), (2), (3), and (4), respectively. The marginal effects show that a $10 - percentage\ points$ increase in tangible assets will increase the probability of sticky dividends by roughly 1 percent for an average firm. These results suggest that, in the existence of large size of tangible assets, firms tend to have a higher propensity to maintain stable dividends. In the case of the probability of a dividend cut, results in Table 5-6 show no significant impact of asset tangibility (TANG) on the likelihood of a dividend cut. Accordingly, this evidence reveals that tangibility does not affect dividend cuts in GCC firms in a significant way. Researchers in the financial literature arena, such as Basiddiq and Hussainey (2012) for the UK, and Al-Malkawi et al. (2013) and Al-Ajmi and Abo Husain (2011) for Saudi Arabia, find the same results: there is no significant relationship between asset structure and dividend policy.

The results in Table 5-6 show that there is a negative and significant relationship between the debt level and dividend cuts. This result is consistent with Aivazian et al. (2006), and Fairchild et al. (2014); however, our results in Table 5-7 show that there is a positive but insignificant relationship between the debt level and dividend increases. These findings are unexpected, as they suggest that high (low)-levered firms tend to distribute lower (higher) dividends. In the case of sticky dividends in Table 5-8, the results show that there is a positive relationship between the debt level and the propensity to maintain dividends constantly. The positive association between leverage

and dividend payments is consistent with previous studies (see, e.g. Adedeji (1998) for the UK; Li and Lie, (2006) for the US; Marfo-Yiadom and Agyei, (2011) for Ghana; Singhania and Gupta, (2012) for India; and Yarram and Dollery, (2015) for Australia).

There are many reasons for the existence of a positive relationship between debt level and dividends or, in other words, to justify the reason to increase the probability of paying the dividend. And certainly, these reasons motivate the existence of the inverse relationship as well (the case of a dividend cut). That is, the association is negative between debt and the probability of cutting dividends. The higher the level of leverage, the lower the probability of cutting dividends. The reasons that justify the existence of a positive relationship are as follows. First, unexpected dividend increases would redistribute wealth from the debtholders to the shareholders if the increases were financed by issuing new debt (of equal or higher priority than the existing debt) or by reducing investment outlays. Thus, the positive (negative) impact of dividend increases (reductions) on shareholders' wealth can be at least partially explained by the debtholders' losses (gains) (Kalay and Loewenstein, 1986). Also, the positive correlation would mean that firms prefer to pay out dividends while having high amounts of debt because they need to be present in the capital market to obtain cost-efficient monitoring of their management (Dhaliwal, Krull, Li and Moser, 2005).

Moreover, firms probably tend to use debt payments and dividend payments as complementary means of disbursing funds to claimholders debt and governance role of dividends (Li and Lie, 2006). In addition, based on the signalling theory, a positive association is expected between leverage and dividend decisions since high leverage firms tend to keep paying dividends even despite the need to service their loans (by paying the principal amount and interest). Thus, the managers of firms try to signal financial health and confidence in the future of the firm to investors. In other words, managers keep paying a dividend despite high leverage because they believe that the high leverage will allow them to invest money in profitable projects and, thus, be able to pay the loans, interest, as well as the dividends (Abu Khalaf, 2013). Last, the positive correlation implies that the monitoring and disciplinary role that debt can play means that dividends and debt may complement each other (Yarram, and Dollery, 2015).

The coefficients of $DEBT$ in Table 5-6 are significant and negative $z = -3.41, -3.38, -3.28,$ and -3.18, $p < 0.01$ in Models (1), (2), (3), and (4),

respectively) and the marginal effects of the variables, all else being equal, illustrate that a $10 - percentage\ points$ increase in debt ratio will decrease the probability of dividends being cut by about 0.02 percent, for an average firm. The result suggests that firms with high debt ratios do not tend to pay lower dividends; therefore, the level of dividend cuts seems to be negatively correlated with the level of financial leverage. This negative relationship may be due to firms in GCC, decreasing their dividend payments, which would lead to the rising of available funds to finance profitable investments. As a result, firms would increase their debt by borrowing more (which increases financial leverage) to finance viable projects. This is in line with the pecking order theory. Also, a relationship between dividends and leverage based on the signalling theory is found by Chang and Rhee (1990, p. 23) who assume that "*Firms with high payout ratios tend to be debt financed, while firms with low payout ratios tend to be equity financed*".

The results in Table 5-6, regarding the propensity to cut dividends, reveal a negative association between the usage of *FCF* and the probability of dividend cuts. The coefficients of FCF are significant and negative: $z = -1.87, -1.88$, and -1.99, $p < 0.10$ in Models (1), (2), and (3); and $z = -2.03$, $p < 0.05$ in Model (4). The marginal effects of the variables, all else being equal, illustrate that a $10 - percentage\ points$ increase in free cash flow will decrease the probability of dividend cuts by about 0.3 percent, for an average firm. This result is consistent with Benito and Young (2003); Li and Lie (2006); Fairchild et al. (2014); and claims that low levels of cash flow are associated with an increased propensity to cut or omit dividends. Regarding the tendency to increase dividends, in Table 5-7, the results reveal a positive association between the FCF, and dividend increases. The coefficients of FCF are significant and positive: $= 2.23, 2.27, 2.18$, and 2.28, $p < 0.05$ in Models (1), (2), (3), and (4), respectively. The marginal effects of the variables, all else being equal, illustrate that a $10 - percentage\ points$ increase in free cash flow will increase the probability of a dividend increase by 0.4 percent, for an average firm. Our findings are consistent with Officer (2011), who reports that the return announcement for dividend initiations are positively related to cash flow. Also, Deshmukh (2003) concludes that the probability, or the hazard rate of a dividend initiation, is positively related to the level of cash flow. This positive relationship is supported by the free cash flow hypothesis (Jensen, 1986) and consistent with prior literature, such as Al-Malkawi (2007) for Jordan; Li and Lie

(2006) and Bulan et al. (2007) for the US; and Fairchild et al. (2014) for Thailand. The results in Table 5-8 show no significant impact of free cash flow on the probability of sticky dividends.

Furthermore, regarding the probability of dividend cuts, the results in Table 5-6 show that the coefficients of profitability (PRF) are negative and statistically significant: $z = -2.93, -2.94, -2.98$, and -3.01, $p < 0.01$ in Models (1), (2), (3), and (4), respectively. The marginal effects of these variables, other things being equal, indicate that a $10 - percentage\ points$ decrease in PRF will increase the probability of dividend cuts by around 5 percent, for an average firm. This result, consistent with DeAngelo et al. (1992), states that there is a relationship between low return on equity and predicting dividend cut. The evidence of this negative relationship between profitability and a dividend cut is consistent with the signalling theory (Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985; Fama and French, 2001; Saravanakumar, 2011; Onali, 2016), suggesting that less profitable firms are more likely to cut dividends.

With regard to the propensity to increase dividends, the coefficients of PRF (profitability) in Table 5-7 are positive and statistically significant: $= 5.99, 6.04, 5.98$, and 6.04, $p < 0.01$ in Models (1), (2), (3), and (4), respectively. The marginal effects of these variables, other things being equal, indicate that a $10 - percentage\ points$ increase in PRF will increase the probability of increased dividends by around 11 percent, for an average firm. Our findings are consistent with Bulan et al. (2007), they suggest that the return on assets is positively related to dividend initiations or increases. The evidence of this positive relationship between profitability and the probability of a dividend increase is consistent with the signalling theory (Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985; Li and Zhao, 2008; Al-Najjar and Hussainey, 2009), suggesting that more profitable firms are more likely to increase dividends, to show the market their good financial performance. The pecking order theory may also explain the relationship between profitability and dividends, that is, taking into account the costs of issuing debt and equity financing, less profitable firms will not find it optimal to pay dividends, ceteris paribus. In contrast, highly profitable firms are more able to pay dividends and to generate internal funds (retained earnings) to finance investments (Fama and French, 2002), suggesting that more profitable firms have

higher dividend payouts. This idea is also consistent with various studies from developed countries (see, e.g. Fama and French 2001; DeAngelo et al., 2006; Ferris et al., 2006; Li and Lie, 2006; Bulan et al., 2007; Onali, 2016) and developing countries (see, e.g. Aivazian et al., 2003b; Saravanakumar, 2011).

Regarding the probability of sticky dividends, the results in Table 5-8 show that the coefficients of profitability (*PRF*) are negative and statistically significant ($z = -3.27, -3.33, -3.19,$ and -3.25, $p < 0.01$ in Models (1), (2), (3), and (4), respectively). The marginal effects of these variables, other things being equal, indicate that a $10 - percentage\ points$ decrease in PRF will increase the probability of keeping dividend stickiness by around 7 percent, for an average firm. The results suggest that, if the firms do not achieve the targeted profit, and based on the agency cost theory, these firms have to distribute the dividend payment through alternative financing sources. This payment would not be less than the previous years.

We find mixed results for the relationship between growth opportunities and dividend changes in GCC stock market. Overall, the findings of current and future investment opportunities in Tables 5-6, 5-7, and 5-8 report that (1) there is a positive (negative) relationship between future (current) investment opportunities and dividend cuts, (2) there is a positive relationship between future and current investment opportunities and a dividend increase, and (3) there is a negative (positive) relationship between current (future) investment opportunities and dividend stickiness.

The results of both growth investment opportunity proxies in Table 5-7 report that there is a positive impact of growth on the probability of dividend increases to occur. This significant positive relationship is inconsistent with the pecking order, as well as the agency theory. Accordingly, this is inconsistent with Rozeff (1982); Jensen et al. (1992); Holder et al. (1998); Deshmukh (2003); Li and Lie (2006); and Kale et al. (2012). Moreover, this trend is also inconsistent with La Porta et al. (2000) study which uses data from countries with high legal protection, and which concludes that fast-growth firms pay lower dividends, as the shareholders are legally protected; they wait to receive their dividends when investment opportunities are good. The results are consistent with studies of emerging markets such as Aivazian et al. (2003b); Al-Najjar (2009); Kirkulak and Kurt (2010) and Jabbouri (2016), who find a positive relationship between growth and dividends. These studies report that the positive effect of the

market-to-book ratios on the likelihood of increasing dividends appears to contradict the growth opportunity argument. Abu Khalaf (2013) states that, in countries where shareholders have low levels of legal protection, firms increase dividend payments to build and maintain their strong reputation and assure shareholders, even though there are good investment opportunities. The level of investor protection and adequacy of governance mechanisms differs among investigated countries, which complicates the nature of the relationship between growth opportunities and dividend payout.

Furthermore, the coefficient of $MTBV$ in Table 5-6 is shown to be positive and significant for the probability of dividend cuts to occur. This positive relationship between growth and dividend cuts implies that firms with more future growth opportunities are more likely to cut dividends. According to Myers and Majluf (1984); Fama and French (2001); Deshmukh (2003); and Aivazian et al. (2003b) report that firms with high growth and investment opportunities need internally generated funds to finance those investments, and thus tend to pay little or no dividends. On the other hand, the study by Fairchild et al. (2014) finds different results—the market-to-book ratio has no significant impact on a firm's decision to increase or decrease dividends. Moreover, the result reports a negative impact of the assets growth rate on the propensity to cut dividends. This suggests that higher asset-growth firms are less likely to decrease dividends. This negative relationship implies that, when firms in the GCC plan to expand their activities, this does not mean they reduce dividends. However, previous studies indicate the opposite: as a firm expands, it tends to cut dividends.

The summary of the empirical results for the research hypotheses is illustrated in Table 5-9 below

Table 5-9: Summary of estimations results for the research hypotheses and the theoretical discussion to support the hypotheses.

Variables	Predicted Sign	Realised Sign	Findings	Justification of the Hypotheses
DAY with dividend cut	(+)	(+)	Late dividend announcement days has a significantly positive effect on the probability of dividend cuts. The evidence is consistent with (Kalay and Loewenstein, 1986; Onali, 2016), and providing support for the signalling theory of dividends, suggesting that firms with more delayed dividend announcements are more likely to cut their dividends. A negative announcement conveyed late will have a smaller effect on the share price on the announcement day than the same announcement conveyed early.	H1a is supported.
DAY with dividend increases	(-)	(-)	Rushed dividend announcement days has a significantly negative effect on the probability of dividend increase. The evidence is consistent with (Kale et al., 2012 and Onali, 2016), and providing support for the signalling theory of dividends.	H1b is supported.
tr_we with dividend cut	(-)	(+)	There is a positive correlation between transferring wealth and the probability of dividend cut, but this positive correlation is statistically insignificant. Therefore, the evidence suggests that when the firms are transferring the wealth from debtholders to shareholders, they will not cut their dividends.	H2a is not supported.
tr_we with dividend increases	(+)	(-)	There is a negative relationship between transferring wealth and the probability of dividend increase. This negative relationship between wealth transfer and dividend increase implies that when the firm is transferring wealth, it will not increase dividends. This means when the managers of the firm are borrowing money to pay a dividend because the firm does not have sufficient funds, their aim is not to increase dividends. The firm performs the wealth transfer from a debtholder to maintain the dividend and not increase it. This result is consistent with the agency theory because the managers care about the shareholders' satisfaction.	H2b is not supported.
tr_we with dividend stickiness	(+)	(+)	There is a positive relationship between transferring wealth and the probability of sticky dividend payments. This result is consistent with the signalling theory because, when a firm pays its dividend, it sends a positive signal to investors that management expects to be able to afford the higher dividend for the foreseeable future.	H2c is supported.

pay_debt with the dividend cut	(+)	(-)	There is a negative relationship between paying outstanding debt and the probability of dividend cut. This result is consistent with the agency theory, which suggests that, when a firm has a surplus, its priority is to satisfy its shareholders by paying them dividends, and only after it pays liabilities and investments. Also, cutting dividends is viewed by markets as a negative signal about future cash flows, and stock prices often decline in response. So, the management attempts to avoid dividend cut.	H3a is not supported.
pay_debt with dividend increases	(-)	(-)	There is a negative correlation between paying outstanding debt and the probability of dividend increase, but this negative correlation is statistically insignificant. Therefore, the evidence suggests that when the firms are paying back the debt, they will not increase their dividends.	H3b is not supported.
pay_debt with dividend stickiness	(+)	(+)	There is a positive relationship between paying outstanding debt and the probability of sticky dividend payments. This is consistent with the signalling theory because, when managers cut dividends, it may be a signal that they have given up hope that earnings will rebound shortly, and thus need to reduce dividends to save cash.	H3c is supported.

Notes: The table presents a summary of the empirical results for the research. The dependent variable, which is either dividend increase (the value = 1 but 0 otherwise) or dividend decrease (the value = 1 but 0 otherwise), or dividend stickiness (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***tr_we***) Firms transfer wealth from lenders to stockholders = 1, 0 otherwise, and (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise.

5.5.4 Further Analysis (The Determinants of a Dividend Change for Financial and Non-Financial Firms)

As previously stated in the previous chapter, the current study employed a further report that there is industry influence on dividend policy. In this section, we examine the likelihood that a firm will increase or decrease dividends for financial and non-financial firms. To do so, we estimate probit regressions, where the dependent variable is binary: equal to 1 if the firm increases (decreases) dividends, and 0 otherwise. The objective of the analysis is to examine the factors that determine the probability of raising and cutting dividends. From our results for the factors that influence the probability to increase or decrease dividends for financial and non-financial firms, we find that there are factors that impact both sectors, such as dividend announcement timing, profitability, and future investment opportunities. Other factors can affect one sector but not the other. For example, transferring wealth has an impact on the dividend increase, only on the non-financial sector, whereas paying the debt, asset tangibility, and free cash flow affect the dividend cut only in the financial sector. Based on the Global Industry Classification Standard (GICS), we split our sample into financial and non-financial firms. Financial firms can be found in banking, financial services, insurance, and real estate, while non-financial firms are active the fields of consumer discretionary, consumer staples, energy, health care, industry, information technology, materials, telecommunication services, and utilities.

Table 5-10: Results of random effect probit models for dividend cuts in non-financial and financial GCC firms.

	NON-FIN						FIN					
	1	Marg.EF	2	Marg.EF	3	Marg.EF	4	Marg.EF	5	Marg.EF	6	Marg.EF
DAY	0.006***	0.002***	0.006***	0.002***	0.006***	0.002***	0.008**	0.002**	0.008**	0.002**	0.008**	0.002**
	2.82	2.85	2.82	2.85	2.82	2.85	2.42	2.42	2.39	2.40	2.32	2.33
TR_WE	0.114	0.034			0.119	0.035	-0.082	-0.020			0.014	0.003
	1.04	1.04			1.13	1.13	-0.50	-0.50			0.08	0.08
PAY_DEBT	-0.012	-0.004	-0.039	-0.011			-0.325***	-0.081***	-0.311**	-0.077**		
	-0.14	-0.14	-0.46	-0.46			-2.57	-2.59	-2.52	-2.54		
BETA	2.722	0.802	2.795	0.824	2.703	0.797	-3.436	-0.850	-3.532	-0.875	-3.748	-0.938
	1.20	1.20	1.24	1.24	1.20	1.20	-1.01	-1.01	-1.04	-1.04	-1.10	-1.11
SIZE(TA)	0.047*	0.014*	0.049*	0.015*	0.047*	0.014*	-0.033	-0.008	-0.033	-0.008	-0.049	-0.012
	1.65	1.65	1.73	1.73	1.64	1.64	-0.95	-0.95	-0.94	-0.94	-1.42	-1.43
TANG	0.145	0.043	0.136	0.040	0.143	0.042	-0.715**	-0.177**	-0.714**	-0.177**	-0.717**	-0.180**
	0.83	0.83	0.77	0.77	0.82	0.82	-2.36	-2.37	-2.36	-2.38	-2.40	-2.41
DEBT	-0.010***	-0.003***	-0.009***	-0.003***	-0.009***	-0.003***	-0.006	-0.001	-0.006	-0.001	-0.004	-0.001
	-3.64	-3.69	-3.55	-3.59	-3.64	-3.68	-1.36	-1.36	-1.48	-1.48	-0.93	-0.93
FCF	-0.109	-0.032	-0.111	-0.033	-0.111	-0.033	-0.087*	-0.022*	-0.087*	-0.022*	-0.086*	-0.022*
	-1.32	-1.32	-1.34	-1.34	-1.35	-1.35	-1.67	-1.67	-1.67	-1.67	-1.66	-1.66
PRF	-1.706***	-0.503***	-1.721***	-0.508***	-1.710***	-0.504***	-0.447	-0.111	-0.370	-0.092	-0.628	-0.157
	-2.86	-2.90	-2.88	-2.92	-2.87	-2.91	-0.22	-0.22	-0.18	-0.18	-0.31	-0.31
MTBV	0.044	0.013	0.041	0.012	0.044	0.013	0.040	0.010	0.042	0.010	0.054	0.014
	1.33	1.33	1.26	1.26	1.34	1.34	0.46	0.46	0.49	0.49	0.64	0.64
ΔTAd	-0.299***	-0.088***	-0.315***	-0.093***	-0.298***	-0.088***	-0.114	-0.028	-0.097	-0.024	-0.089	-0.022
	-3.73	-3.75	-4.02	-4.05	-3.73	-3.75	-0.89	-0.89	-0.79	-0.79	-0.70	-0.70
CON	-3.203***		-3.199***		-3.201***		-3.234**		-3.216**		-3.024**	
	-3.89		-3.89		-3.88		-2.31		-2.30		-2.17	
WALD CHI2	57.69		56.78		57.64		36.49		36.41		30.96	
ρ	0.0000		0.0000		0.0000		0.0025		0.0015		0.0089	
LOG LIKELIHOOD	-785		-786		-785		-412		-412		-415	
MARKET EFF	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
OBS	1495	1495	1495	1495	1495	1495	903	903	903	903	903	903

Notes: The table reports the results of the random effect probit models for the dividend cut in non-financial and financial GCC firms. The dependent variable, which is dividend decrease (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise, and (***tr_we***) Firms transfer wealth from lenders to stockholders. The control variables: (*BETA*) the slopes of the stock return market return, (*SIZE*) the natural log of book assets, (*TANG*) net property, plant and equipment divided by total assets, (*DEBT*) debt to asset ratio, (*FCF*) operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, scaled by total asset, (*PRF*), the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets, (*MTBV*) market-to-book ratio, and *(*ΔTad) When the change of total assets ΔTA>0 =1, otherwise=0. All variables are winsorised at the 1st and 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 5-11: Results of random effect probit models for dividend increases in non-financial and financial GCC firms.

	NON-FIN						FIN					
	1	Marg.EF	2	Marg.EF	3	Marg.EF	4	Marg.EF	5	Marg.EF	6	Marg.EF
DAY	-0.006***	-0.002***	-0.006***	-0.002***	-0.006***	-0.002***	-0.010***	-0.004***	-0.011***	-0.004***	-0.010***	-0.004***
	-3.52	-3.57	-3.53	-3.58	-3.53	-3.58	-3.32	-3.38	-3.41	-3.47	-3.32	-3.38
TR_WE	-0.230**	-0.083**			-0.191*	-0.069*	-0.155	-0.054			-0.159	-0.056
	-2.16	-2.17			-1.86	-1.86	-1.07	-1.07			-1.12	-1.13
PAY_DEBT	-0.107	-0.039	-0.059	-0.021			0.013	0.005	0.039	0.014		
	-1.34	-1.34	-0.77	-0.77			0.13	0.13	0.39	0.39		
BETA	-2.089	-0.756	-2.228	-0.808	-2.231	-0.808	2.197	0.773	2.078	0.732	2.214	0.779
	-1.01	-1.01	-1.08	-1.08	-1.08	-1.08	0.81	0.81	0.77	0.77	0.82	0.82
SIZE(TA)	-0.042	-0.015	-0.046*	-0.017*	-0.046*	-0.017*	0.107***	0.037***	0.107***	0.038***	0.107***	0.038***
	-1.62	-1.62	-1.75	-1.76	-1.77	-1.77	3.77	3.86	3.80	3.89	3.85	3.95
TANG	-0.202	-0.073	-0.180	-0.065	-0.226	-0.082	-0.075	-0.026	-0.074	-0.026	-0.075	-0.026
	-1.23	-1.23	-1.10	-1.10	-1.39	-1.39	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33
DEBT	0.008***	0.003***	0.007***	0.003***	0.008***	0.003***	-0.004	-0.001	-0.004	-0.002	-0.004	-0.001
	3.21	3.24	2.98	3.00	3.24	3.27	-1.18	-1.19	-1.36	-1.36	-1.22	-1.23
FCF	0.112	0.041	0.115	0.042	0.097	0.035	0.054*	0.019*	0.054*	0.019*	0.053*	0.019*
	1.49	1.49	1.53	1.53	1.30	1.30	1.65	1.66	1.66	1.67	1.65	1.66
PRF	3.020***	1.093***	3.035***	1.101***	3.005***	1.088***	5.507***	1.938***	5.615***	1.978***	5.519***	1.942***
	5.74	5.93	5.77	5.97	5.72	5.91	3.23	3.28	3.30	3.36	3.24	3.29
MTBV	0.059**	0.021**	0.063**	0.023**	0.060**	0.022**	0.159**	0.056**	0.163**	0.057**	0.159**	0.056**
	1.96	1.96	2.10	2.11	2.02	2.03	2.22	2.24	2.27	2.29	2.22	2.23
ΔTAd	0.138*	0.050*	0.170**	0.062**	0.143*	0.052*	-0.030	-0.011	-0.003	-0.001	-0.031	-0.011
	1.82	1.83	2.30	2.31	1.90	1.90	-0.27	-0.27	-0.03	-0.03	-0.28	-0.28
CON	1.912***		1.903***		1.940***		1.466		1.495		1.460	
	2.63		2.62		2.67		1.20		1.22		1.19	
WALD CHI2	112.34		108.27		110.75		60.77		59.86		60.76	
ρ	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
LOG LIKELIHOOD	-947		-949		-948		-557		-558		-557	
MARKET EFF	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
OBS	1495	1495	1495	1495	1495	1495	903	903	903	903	903	903

Notes: The table reports the results of the random effect probit models for the dividend increase in non-financial and financial GCC firms. The dependent variable, which is dividend increase (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise, and (***tr_we***) Firms transfer wealth from lenders to stockholders. The control variables: (*BETA*) the slopes of the stock return market return, (*SIZE*) the natural log of book assets, (*TANG*) net property, plant and equipment divided by total assets, (*DEBT*) debt to asset ratio, (*FCF*) operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, scaled by total asset, (*PRF*), the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets, (*MTBV*) market-to-book ratio, and *(ΔTad*) When the change of total assets ΔTA>0 =1, otherwise=0. All variables are winsorised at the 1st and 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Table 5-12: Results of random effect probit models for dividend stickiness in non-financial and financial GCC firms.

	NON-FIN						FIN					
	1	Marg.EF	2	Marg.EF	3	Marg.EF	4	Marg.EF	5	Marg.EF	6	Marg.EF
DAY	0.002	0.001	0.002	0.001	0.002	0.001	0.004	0.002	0.005	0.002	0.004	0.002
	0.97	0.97	0.98	0.98	0.98	0.98	1.36	1.36	1.45	1.46	1.40	1.40
PAY_DEBT	0.148*	0.052*	0.114	0.041			0.196*	0.073*	0.155	0.057		
	1.74	1.75	1.42	1.42			1.82	1.83	1.48	1.49		
TR_WE	0.141	0.050			0.084	0.030	0.225	0.083			0.159	0.059
	1.30	1.30			0.81	0.81	1.54	1.55			1.13	1.13
BETA	-0.082	-0.029	-0.020	-0.007	0.082	0.029	0.575	0.213	0.780	0.289	0.822	0.305
	-0.04	-0.04	-0.01	-0.01	0.04	0.04	0.19	0.19	0.26	0.26	0.27	0.27
SIZE(TA)	0.011	0.004	0.013	0.005	0.016	0.006	-0.077**	-0.028**	-0.078**	-0.029**	-0.067**	-0.025**
	0.34	0.34	0.40	0.40	0.50	0.50	-2.30	-2.32	-2.34	-2.37	-2.03	-2.05
TANG	0.103	0.036	0.090	0.032	0.139	0.049	0.514*	0.190*	0.517*	0.191**	0.523*	0.194**
	0.52	0.52	0.46	0.46	0.71	0.71	1.92	1.94	1.95	1.97	1.95	1.97
DEBT	0.001	0.0002	0.001	0.0003	0.0004	0.0001	0.006	0.002	0.007*	0.002*	0.004	0.002
	0.21	0.21	0.35	0.35	0.14	0.14	1.59	1.60	1.84	1.86	1.23	1.24
FCF	-0.013	-0.005	-0.016	-0.006	0.010	0.004	-0.002	-0.001	-0.002	-0.001	-0.002	-0.001
	-0.15	-0.15	-0.18	-0.18	0.12	0.12	-0.05	-0.05	-0.07	-0.07	-0.05	-0.05
PRF	-1.728***	-0.614***	-1.745***	-0.620***	-1.690***	-0.602***	-5.285***	-1.952***	-5.473***	-2.026***	-5.077***	-1.882***
	-2.76	-2.79	-2.80	-2.82	-2.71	-2.73	-2.70	-2.74	-2.81	-2.86	-2.60	-2.64
MTBV	-0.116***	-0.041***	-0.120***	-0.043***	-0.119***	-0.042***	-0.177**	-0.065**	-0.184**	-0.068**	-0.186**	-0.069**
	-3.03	-3.06	-3.13	-3.17	-3.10	-3.13	-2.09	-2.11	-2.20	-2.22	-2.21	-2.23
ΔTAd	0.120	0.043	0.100	0.036	0.113	0.040	0.125	0.046	0.084	0.031	0.110	0.041
	1.49	1.49	1.27	1.27	1.40	1.41	1.08	1.09	0.75	0.75	0.96	0.96
CON	-0.663		-0.654		-0.699		-0.374		-0.394		-0.462	
	-0.83		-0.82		-0.88		-0.29		-0.31		-0.36	
WALD CHI2	59.97		58.60		57.20		53.02		51.48		49.97	
ρ	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
LOG LIKELIHOOD	-930		-931		-932		-579		-581		-581	
MARKET EFF	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
OBS	1495	1495	1495	1495	1495	1495	903	903	903	903	903	903

Notes: The table reports the results of the random effect probit models for the dividend stickiness in non-financial and financial GCC firms. The dependent variable, which is dividend stickiness (the value = 1 but 0 otherwise), and the independent variables: (*DAY*) the number of calendar days between two consecutive dividend announcements, (***pay_debt***) Firms use equity to pay debt = 1, 0 otherwise, and (***tr_we***) Firms transfer wealth from lenders to stockholders. The control variables: (*BETA*) the slopes of the stock return market return, (*SIZE*) the natural log of book assets, (*TANG*) net property, plant and equipment divided by total assets, (*DEBT*) debt to asset ratio, (*FCF*) operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, scaled by total asset, (*PRF*), the ratio of Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) to total assets, (*MTBV*) market-to-book ratio, and *(ΔTad*) When the change of total assets ΔTA>0 =1, otherwise=0. All variables are winsorised at the 1st and 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

5.5.4.1 Influential Factors for Financial and Non-financial Firms

The results in Table 5-10 show that, in both sectors, dividend cuts occur more often when dividend announcements are late. Whereas, the effects of dividend announcements timing in Table 5-11 are opposite, indicating that dividend increases occur more often when the dividend announcements are early. The results also show that profitability has a positive influence on a firm's decision to increase dividends in both sectors. This means that profitable firms are hypothesised to be more able to pay dividends. These findings are consistent with the signalling theory of dividends and pecking order theory, also in agreement with Benito and Young (2003); Bulan et al. (2007) and Charitou et al. (2011). The propensity to increase dividends is positively associated with growth opportunities (market-to-book ratio), for both sectors. Furthermore, the results in Table 5-12 suggest that the firms that pay back their debt or have a lower level of profit and growth, are more likely to settle their dividends.

5.5.4.2 Non-financial Firms

The results in Tables 5-10, 5-11, and 5-12 present the factors that influence the likelihood to change dividends in the non-financial sectors: dividend announcement timing, profitability, growth, transferring of wealth, size, and level of debt. The findings in Table 5-10 confirm that firms in the non-financial sectors are likely to cut their dividends if they are older, with lower current investment opportunities, profitability, and leverage. Also, they delay the bad news (dividend cut announcement). Whereas, the results in Table 5-11 show that younger firms, those with the reduced transfer of wealth, with a higher level of debt and current investment opportunities are more likely to increase dividends and they announce the dividend earlier. The results of Table 5-12 show that sticky dividends occur more often when the non- financial firms are paying back their debt.

5.5.4.3 Financial Firms

We estimate the likelihood to change dividends by using a probit model on our sample of financial firms. The results are presented in Tables 5-10, 5-11, and 5-12 show that the factors that influence the likelihood to increase, smooth, and decrease dividends are: dividend announcement timing, profitability, growth, paying the debt, size, tangibility, level of debt, and free cash flow. The results of Table 5-10 report that dividend cuts

occur more often for firms that do not pay their debt, those with a small size of tangible assets, and firms with lower cash flows. Also, they delay the bad news (dividend cut announcement). In addition, the results in Table 5-11 report that dividend increases occur more often when the firms are larger, have higher cash flow and announce the dividend earlier. The results of Table 5-12 show that dividend stickiness occurs more often when the firms are small, have a higher amount of tangible assets, and a higher level of debt.

In short, our results reveal that some common factors determine dividend changes in both financial and non-financial firms, while other factors affect only non-financial or financial firms. These results are consistent with Al-Yahyaee, K. (2006).

5.6 Conclusion

In this chapter, we presented a comprehensive analysis of the various aspects of dividend change decisions. Specifically, we empirically investigated what the managerial actions (such as dividend announcement timing and change in the capital structure) associated with dividend decisions, considering the reduction of the information asymmetry and avoid both the negative signalling effects and the agency problem are. We studied an emerging market by examining dividend changes of 377 listed firms in the GCC Stock Exchange over the 2000–2017 period. The conclusions regarding dividend changes in GCC stock market are as follows.

First, our findings suggest that the probability of dividend cuts increases when firms do not increase the debt level to expand their current or future investment opportunities, and thus achieve profits. The reason for this behaviour is that these firms simply do not have enough free cash flow (the excess of cash earnings over profitable investments). Moreover, managers of these firms often delay the release of bad news. Importantly, results indicate that dividend cuts occur more often when management cannot pay back debt due to the firm's bad financial situation. We can infer that, if the management of such firms must pay the debt and distribute dividends, it will not significantly cut dividends. Thus, managers are reluctant to cut dividends.

Second, our findings suggest that the higher probabilities of dividend increases occur when firms (1) expand their current or future investment opportunities, (2) have a high profit and free cash flow, (3) have low levels of tangible assets, and (4) have large sizes. Also, managers of these firms often announce the dividend earlier than the expected date. Significantly, our results indicate that dividend increases occur more often when a firm does not transfer wealth from debtholders to shareholders. In other words, firms that are borrowing money are not going to increase their dividends (thus they avoid using debt to increase the dividend). Management of such firms is reluctant to raise dividend rates to a level that could be difficult to sustain.

Third, findings suggest that an increase in the probability of sticky dividends occurs when firms: (1) pay back their debt using equity, (2) transfer wealth from debtholders to shareholders, (3) have high levels of tangible assets, debt, and current growth, and (4) have low profits and future investment opportunities. Last, when analysing the factors that influence the probability to increase or decrease dividends, for financial and

non-financial firms, we find that there are factors that have an impact on both sectors, such as dividend announcement timing, firm size, profitability, and investment opportunities. Whereas, other factors affect either only the financial or the non-financial sector. For example, wealth transfer, leverage, and asset growth have an impact on the non-financial sectors but not on the financial sectors. Whereas, paying back debt, asset tangibility, and free cash flow affect only on the financial sector.

Chapter Six: Summary and Conclusion

6.1 Introduction

This concluding chapter aims to briefly restate the purpose and approach of each chapter, emphasising on the main findings, their implications, limitations of the study, and conclusions. The chapter ends by suggesting several avenues for future research. The present thesis aims to analyse dividend policy and relevant issues in GCC firms. To have a clear picture of GCC dividend policy, we examine (1) the market reaction around dividend announcements, (2) the smoothness of dividend policy, and (3) the prediction of dividend changes.

6.2 Summary of the Study

Chapter 3 investigates the share price and trading volume reactions to dividend announcements. A few hypotheses are proposed, which relate to the market efficiency hypothesis, signalling theory, and clientele effect; data collected for six GCC states are used. The objectives of this chapter are the impact of dividend change announcements on share prices over both the short and long terms, in an absent tax market (GCC), and on the trading volumes, in a tax-free market. The hypotheses have been tested by using the panel data method with event study analysis. Our sample includes 1092 dividend announcements from 299 listed firms, during the period of January 2010–June 2015. By doing so, this is the first empirical study that comprehensively and systematically examines the effects of dividend policy changes in the GCC stock market, considering both trading volume and price effects.

We conducted a parallel examination of the impact of dividend announcements on both share price and trading volume. The information provided by dividend announcements may affect the market through individual investors, as shown by changes in trading volumes, even though these individual changes in expectations might not lead to aggregate effects such as share price changes. Our analysis of share price response is done on both the short and long term. In the short term, three different patterns of change in dividends, i.e. increase, decrease, and stick, are considered. For dividend increases, our results indicate that there are delayed reactions from investors. In other words, the share prices do not adjust immediately to the good news. This suggests that

the level of market efficiency is low in the GCC stock market, given that a dividend increase is reflected in the markets four days later.

In contrast, the efficient markets hypothesis states that markets should instantaneously reflect the information contained in the dividend announcement. In the meantime, dividend decreases reveal some significant adverse share price reactions. The bad news is reflected in the stock price before the news is released. So, there is another event which is dated three to four weeks before the dividend announcement. This may happen after the board meeting is conducted. That is, there is a leakage of information in the market about the dividend offered by the firm before its official announcement. Accordingly, for bad news, there is no signalling effect to the public dividend announcement, but there is a signalling effect to another event (board meeting) that is reflected in the stock price. The results of constant dividend indicate that leave share prices untouched. Nevertheless, tax-based signalling models claim that dividends are not informative in tax-free markets; however, our study found them informative in the GCC.

When the long-term abnormal returns are examined, significant negative cumulated abnormal returns were observed in the period before the dividend announcement in the case of the dividend-decrease sample, but there were no significant abnormal returns in the dividend-increase sample. This could be evidence of information leakage in the cases of bad news, as there should be no significant abnormal returns before the announcement (because the information has not yet been publicly disseminated to the markets). This is consistent with Khan et al. (2013). Further, the findings of our study show significant price changes before the dividend decrease announcement and immediately after the board meeting, suggesting that there may be considerable information leakage that needs to be plugged. After the announcement, there are positive and significant abnormal returns in good news cases, in the long run, suggesting that portfolio readjustments happen over the long term, and not immediately as indicated by the EMH. In bad news cases, however, there are no significant abnormal returns.

The results from the examination of the abnormal trading volume highlight the information content of dividend announcements, which is mainly reflected in changes in trading volume. There are significant increases in the abnormal trading volume

during the event window. This was observed for the full sample and all sub-samples. This result corresponds with the clientele effect, which predicts elevated trading volumes around the period of dividend announcements, as different investor groups adjust their positions in response to the new information conveyed by the dividend announcement. As a trading volume is a good indicator of investor behaviour, in our case, dividend announcements tend to convey new and valuable information to the investors. Because investors are distinctly informed of the precision of the private information they obtain before the announcement, they respond differently to new information, and this would result in an increase in trading volume due to dividend changes. In the GCC, investors react regardless of dividend change. Also, a possible explanation for this might be related to the bird-in-the-hand interpretation[78], suggesting that owing to the uncertainty of future cash flow, investors will often tend to prefer dividends to retained earnings.

Our findings confirm that GCC investors are irrational because of the herding effect, investor heterogeneity, rumours and the trader noise effect. Finally, we extend previous studies (see, e.g. Al-Yahyaee et al., 2011b; Dasilas and Leventis, 2011) on trading volume reactions to dividend change announcements by using the model proposed by Amihud and Murgia (1997). Instead of cumulated abnormal return, we consider the cumulated abnormal trading volume, for short-term event periods, as the dependent variable and investigate: (1) which changes have more impact on the investors' behaviour and (2) whether the announcement conveys to investors new information that influences their trading. In other words, we examine if the investors react based on their interpretations of the announcements. Our findings show that dividend news indeed contains information and that changes in earnings do not provide explanatory power to the variation in trading volume as a reaction to the announcement. Moreover, from our findings, we recommend policymakers in GCC to use the trading volume side-by-side with share price to characterise investor behaviour.

Chapter 4 looks at the degree of smoothness in dividend payouts for financial and non-financial firms, the effect of share price informativeness on the dividend smoothing behaviour, and the determinants of dividend smoothing. The chapter addresses four

[78] Tis theory states that, in a world of uncertainty and information asymmetry, dividends are differently valued compared with retained earnings (capital gains): "A bird in the hand (dividend) is worth two in the bush (capital gains)".

main hypotheses developed during this study, which are related to the information asymmetry models and agency theory. We used an unbalanced panel data for a sample that includes 8662 firm-year observations from 628 GCC-listed firms, during the period from 1994 to 2016. The hypotheses have been tested by using the panel data method, using pooled (OLS), (FE), (RE), and (GMM). Empirical evidence shows that the dividend smoothing decision is influenced not only by the public but also by private information.

Our empirical results can be summarised as follows: first, the Lintner model shows that the degree of dividend smoothing of GCC firms approaches the degree of dividend smoothing of a developed market. The estimation of the Lintner model for all GCC sectors indicates that firms have followed a stable dividend policy and are reluctant to cut dividends. However, this is inconsistent with Glen et al. (1995, p.24), who report that "*Emerging market firms often do have a target dividend payout ratio, like their developed country counterparts, but they are generally less concerned with volatility in dividends over time and, consequently, dividend smoothing over time is less important*."

Furthermore, we document that financial firms smooth their dividends more than non-financial firms. Inversely, the non-financial sector's payout ratio is larger than that of the financial sector. Next, to further explore the determinants of dividend smoothing, in the second part of the study, we extend the empirical study of Leary and Michaely (2011). Our results reveal that the dividend smoothing in GCC firms is sensitive to private information in share prices. Importantly, we provide a new avenue to empirically show that dividend smoothing decisions are considerably influenced not only by the GCC firms' unique characteristics, but also by the share price informativeness that is proxied by (ψ), BAPS, and (γ). As for the effect of share price informativeness, (ψ) has a significantly positive (negative) impact on SOA (dividend smoothing). In contrast, BAPS and (γ) have a significant negative (positive) impact on SOA (dividend smoothing). When BAPS and (γ) are bigger, there is more information asymmetry, and when (ψ) is bigger, there is less information asymmetry. We find that a negative relationship between share price informativeness and dividend smoothing, suggesting that firm managers do more dividend smoothing when share price informativeness is low because investors are not well informed of firms' future cash flows and prospects. These findings suggest that private information obtained from

share price movements can play a critical role in understanding the dividend behaviour in emerging markets.

Finally, results on the determinants of dividend smoothing indicate that agency-based models and information asymmetry theories affect the decisions to smooth dividends in GCC stock market. Findings show that there is a significant negative (positive) correlation between dividend smoothing (SOA) and the following variables: firm size, earnings volatility, investment horizon, dividend level, and growth opportunities. This means that the higher these variables, the higher the SOA, and vice versa. Furthermore, there is both a significant and positive (negative) correlation between dividend smoothing (SOA) and the following factors: firm age, dividend level, return volatility, leverage ratio, financial slack, and abnormal returns. This indicates that the higher these variables, the lower the SOA, and vice versa.

Chapter 5 analyses the predictions of dividend changes by investigating what are the managerial actions that are concord with dividend changes (dividend cut, a dividend increase, dividend stickiness). More specifically, the research objectives of chapter 5 are as follows. The first one is to consider the dividend announcement timing as an indicator for the dividend change in GCC stock market; the next one is to investigate the wealth transfer activity in association with dividend cuts, dividend stickiness, and dividend increases. The third objective is to examine the effect of repaying the debt on dividend changes, and the final goal of the chapter is to identify across different sectors the determinants affecting a firm's decision to change dividends. The hypotheses we analyse in this chapter relate to the signalling theory, agency theory and free cash flow, and the pecking order theory, using data collected from six GCC states. The hypotheses have been tested by using a panel dataset of 2398 firm-year observations from 377 listed firms in the stock exchanges of the GCC over the 2000–2017 period. We use the random effect probit model estimation procedure with unbalanced panel data.

First, the study finds that the longer (shorter) the time interval between dividend announcements, the larger the probability of a cut (increase) in the dividend, consistent with the view that firms delay (rush) the release of bad (good) news. In other words, the increase in the probability of dividend cuts occurs when the manager of the firm delays the release of bad news, and the increase in the probability of dividend increases occurs when the manager of the firm announces the dividend earlier than the expected

date. In case of the probability of a sticky dividend, dividend announcement timings show no significant impact on dividends remaining unchanged. Accordingly, this evidence reveals that dividend stickiness is usually announced on the expected date.

Second, a further contribution of our analysis consists of the impact of debt and equity financing on determining a dividend change. Our findings indicate that a dividend cut occurs more often when a firm cannot pay back debt due to its bad financial situation. We can infer that, if the firm has to pay its debt and distribute dividends, it will not significantly cut dividends, being reluctant to do so. Also, our findings indicate that a dividend increase occurs more often when the firm does not transfer wealth from debtholders to shareholders. In other words, a firm that is borrowing money is not going to increase its dividends—it avoids using debt to raise dividend rates to a level that could be difficult to sustain. Results suggest that an increase in the probability of sticky dividends occurs when firms pay their debt using equity, and firms transfer of wealth from debtholders to shareholders.

Third, our analysis further indicates that size, tangibility, leverage, free cash flow, profitability, and growth are considered the main predictors that help understand the occurrence of dividend changes. We find that the probability of dividend cuts increases when the firm does not increase the level of debt to expand its current or future investment opportunities, and thus achieve profits. Therefore, such a firm does not have enough free cash flow (excess of cash earnings over profitable investments). Next, the circumstances that raise the probability of dividend increases are: when the firm (1) expands its current or future investment opportunities, (2) has high profit and free cash flows, (3) has low tangible assets, and (4) is larger. The results suggest that the increase in the probability of sticky dividends occurs when firms have a high level of tangible asset, debt, and current growth, and low profit and future investment opportunities.

Finally, our results reveal that there are a few common factors that can predict dividend changes in both financial and non-financial firms; there are also factors that affect only one of the sectors. We find that the factors that have an impact on both sectors are the dividend announcement timing, firm size, profitability, and investment opportunities. Whereas, wealth transfer, leverage, and asset growth have an impact only on the non-financial sectors, and not on the financial ones. On the other hand, asset tangibility and free cash flow have an impact only on the financial sectors.

6.3 Implications

There are many reasons for undertaking this study. The most important is the fact that this type of research has significant potential implications—researchers could use this study as a benchmark for further investigation. Furthermore, this research can provide avenues for further research on dividend policy in an emerging market. Our study could also help all interested parties of the market, such as investors, policymakers, regulatory bodies, portfolio analysts of emerging markets—by providing some directions, law enforcing agencies (to enable them to take proper actions and steps to protect the interest of all associated parties in emerging markets). Consequently, all these effects will guide the GCC stock market towards maturity.

The first empirical study provides input into different spheres. First, it can guide managers to assess whether conveyed dividend announcements are correctly delivered to GCC investors. Second, it can help analysts, (1) to understand the GCC stock market mechanism and investor behaviour, and (2) to know whether they can predict dividend changes. Third, the study increases investors' awareness and may help them rationalise their behaviour. Our results could be beneficial in guiding investors into developing an "expectations framework" of dividends to be paid in the future, by concentrating on the variables that are related to a firm's dividend decision. Last, academics can benefit from our insights about GCC stock market mechanisms, efficiency and investor behaviour fill gaps in the literature.

The findings of our second empirical study have important policy implications. First, dividend policymakers in the emerging GCC stock market tend to make more stable dividend payments and adjust their target payout ratios at a lower speed. Adopting more stable dividend policies supports the view that policymakers regard such corporate decisions as signalling mechanisms. This also implies that dividend policymakers only increase dividend payments when they believe that earnings can permanently sustain higher dividend levels. They are also reluctant to drastically decrease or cut dividends, since these are bad signals regarding the firm's future prospects that the market receives, especially in emerging economies where financial markets are much less stable compared to developed economies. Second, we shed some light on the importance of share price informativeness in determining dividends smoothing. We show that share price informativeness is amongst the important determinants of the

smoothness of dividends. Moreover, these results should be beneficial to researchers in understanding dividend differences between firms, even in the same industry. That is, the level of share price informativeness may propose an additional explanation for these differences. In addition, share price informativeness has significant effects on dividend smoothing, which could help firms make better decisions concerning their dividend policies. Specifically, to the extent that stock prices incorporate more information about the firm fundamentals, the need for dividends as a signalling mechanism reduces. What is more, firms with higher share price informativeness are more subject to the scrutiny and monitoring of the capital markets. Hence, they have a lesser need to use dividends as a disciplining mechanism.

The findings of the third empirical study reported in the present thesis could help investors wishing to understand more precisely the knowledge of factors influencing the predictions of dividend decision. First, managers of GCC firms prefer to delay the dividend decrease announcements, whereas they announce increases in dividends earlier than the expected date. Second, if the distributed dividend is reduced, the principal reason for it does not need to be that the firm has paid its outstanding debts. Finally, if the distributed dividend is higher than in the previous year, the main reason is not necessarily that the firm has transferred wealth from the debtholders to the shareholders. In addition, our study encourages researchers in GCC region, in particular, to focus on the differences between the financial and non-financial sectors in their future studies, which may offer useful and important information to managers, decision-makers, regulators, investors, etc.

6.4 Limitations of the Study

- Various challenges were encountered during the present study. The main difficulty was the data collection process. The limited access to data is considered as one of the main shortcomings, as it was hard to extract the relevant corporate governance data in the GCC region, preventing us from incorporating other determinants of corporate dividend policy in the GCC.
- The thesis was also restricted to firms which are listed on the GCC stock exchanges and excluded non-listed firms. Although the use of listed firms alone limits the generalizability of the results, there are also clear advantages of this approach.

- Dividend policy literature focuses mostly on studying the cash dividend payment behaviour of firms because cash dividends are the most common form to distribute profits to shareholders. We also limit our analysis to cash dividend payments. Dividend policy, however, involves other types of payouts, such as share dividends or share repurchases. Further research, therefore, could be conducted on whether different payout mechanisms such as share dividends and repurchases have different effects on systematic liquidity risk and on how they are affected by share price informativeness.

However, it should be noted that facing difficulties and challenges motivated us to put in more effort and ensure the success of the study.

6.5 Extended Research

In order to cover the payout policy in the GCC from all aspects, several research topics are suggested for future research.

- The present study has examined (1) the market reaction around dividend announcements, (2) the smoothness of dividend policy, and (3) the predictions of dividend changes in emerging markets using GCC as a case study. The analysis has produced some interesting results, and one avenue for future research is to extend the investigation to other emerging markets, especially those in the Middle East and North Africa (MENA) region. The incentives for further research on other emerging markets come from the contradictory results and limitations of existing studies.
- It is also suggested to study the effect of investor sentiment on the market reaction to dividend change announcements—in other words, to analyse how the market reactions to dividend change announcements diverge with investor sentiment.
- Research needs to be done to test share price reaction around ex-dividend days in GCC stock market to make inferences about investor preferences for dividends and capital gains. We were unable to do this in the current study because of the unavailable data concerning this topic, although we are hopeful that such data might be available shortly through databases.

- Also, one possible direction of future research is that, since our study is the first to examine the impact of share price informativeness on dividend smoothing, then it is important to test this factor on developed markets.
- Although the present thesis has relied on secondary data to investigate the formulated research questions, further research using primary data, such as questionnaire surveys and interviews conducted with firm management and market investors, may enhance the current findings. Therefore, it would be useful to understand their perceptions about the interaction of dividend changes and the financing mix (either owner's funds—equity—or borrowed money—debt).
- In the GCC context, further research could be conducted to examine whether corporate governance influences dividend policy. This aspect of dividend policy research has been very important within the theoretical and empirical literature, although it was not the focus of the present study.

Bibliography

Abor, J. and Bokpin, G. A. (2010) 'Investment opportunities, corporate finance, and dividend payout policy: Evidence from emerging markets', *Studies in economics and finance*, 27(3), pp. 180-194.

Abu Khalaf, B.K. (2013). Dividend smoothness, determinants, and impact of dividend announcements on share prices: empirical evidence from Jordan. PhD, Heriot-Watt University.

Acker, D. (1999) 'Stock return volatility and dividend announcements', *Review of Quantitative Finance and Accounting*, 12(3), pp. 221-243.

Adaoglu, C. (2000) 'Instability in the dividend policy of the Istanbul Stock Exchange (ISE) corporations: evidence from an emerging market', *Emerging Markets Review*, 1(3), pp. 252-270.

Adedeji, A. (1998) 'Does the pecking order hypothesis explain the dividend payout ratios of firms in the UK?', *Journal of Business Finance and Accounting*, 25(9-10), pp. 1127-1155.

Agrawal, A. and Jayaraman, N. (1994) 'The dividend policies of all-equity firms: A direct test of the free cash flow theory', *Managerial and decision economics*, 15(2), pp. 139-148.

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

Ahmed, H. and Javid, A.Y. (2008) 'Dynamics and determinants of dividend policy in Pakistan (evidence from Karachi stock exchange non-financial listed firms)', *International Research Journal of Finance and Economics*, 25(3), pp. 148–171.

Aivazian, V. Booth, L. and Cleary, S. (2003a) 'Dividend policy and the organization of capital markets', *Journal of multinational financial management*, 13(2), pp. 101-121.

Aivazian, V. Booth, L. and Cleary, S. (2003b) 'Do emerging market firms follow different dividend policies from US firms?', *Journal of Financial Research*, 26(3), pp. 371-387.

Aivazian, V.A. Booth, L. and Cleary, S. (2006) 'Dividend smoothing and debt ratings', *Journal of Financial and Quantitative Analysis*, 41(2), pp. 439-453.

Akhigbe, A. and Madura, J. (1996) 'Dividend policy and corporate performance', *Journal of Business Finance and Accounting*, 23(9-10), pp. 1267-1287.

Akhtar, S. (2018) 'Dividend payout determinants for Australian Multinational and Domestic Corporations', *Accounting and Finance*, 58(1), pp. 11-55.

Al-Ajmi, J. (2010) 'Modelling the dividend policy of banks in Gulf Cooperation Council countries', *Applied Economics Letters*, 17(14), pp. 1423-1428.

Al-Ajmi, J. and Abo Hussain, H. (2011) 'Corporate dividends decisions: evidence from Saudi Arabia', *The Journal of Risk Finance*, 12(1), pp. 41-56.

Al-Ajmi, J. and Kim, J.H. (2012) 'Are Gulf stock markets efficient? Evidence from new multiple variance ratio tests', *Applied Economics*, 44(14), pp. 1737-1747.

Al-Bassam, W.M., Ntim, C.G., Opong, K.K. and Downs, Y. (2015) 'Corporate Boards and Ownership Structure as Antecedents of Corporate Governance Disclosure in Saudi Arabian Publicly Listed Corporations', *Business and Society*, 57(2), pp. 335-377.

Al-Hunnayan, S. (2011). The Payout Policy in the GCC: The Case of Islamic Banks. PhD, Durham University, Durham.

Al-Kuwari, D. (2007). Determinants of the dividend payout ratio of companies listed on emerging stock exchanges: the case of the Gulf Corporation Council (GCC) countries. PhD, Cardiff University.

Al-Kuwari, D. (2009) 'Determinants of the dividend policy of companies listed on emerging stock exchanges: the case of the Gulf Cooperation Council (GCC) countries', *Global Economy and Finance Journal*, 2(2), pp. 38-63.

Al-Kuwari, D. (2010) 'To pay or not to pay: using emerging panel data to identify factors influencing corporate dividend payout decisions', *International Research Journal of Finance and Economics*, (42), pp. 19-36.

Allegretto, S.A., Dube, A. and Reich, M. (2011) 'Do minimum wages really reduce teen employment? Accounting for heterogeneity and selectivity in state panel data', *Industrial Relations: A Journal of Economy and Society*, 50(2), pp. 205-240.

Allen, D. E. and Rachim, V. S. (1996) 'Dividend policy and stock price volatility: Australian evidence', *Applied financial economics*, 6(2), pp. 175-188.

Allen, F. and Michaely, R. (1995). Dividend policy. Handbooks in operations research and management science, 9, pp. 793-837.

Allen, F. and Michaely, R. (2003). Payout policy. In Handbook of the Economics of Finance (Vol. 1, pp. 337-429).

Allen, F. Bernardo, A.E. and Welch, I. (2000) 'A theory of dividends based on tax clienteles', *The journal of finance*, 55(6), pp. 2499-2536.

Alli, K.L. Khan, A.Q. and Ramirez, G.G. (1993) 'Determinants of corporate dividend policy: A factorial analysis', *Financial Review*, 28(4), pp. 523-547.

Al-Malkawi, H. A. N. (2008) 'Factors Influencing Corporate Dividend Decision: Evidence from Jordanian Panel Data', *International Journal of Business*, 13(2), pp. 177-195.

Al-Malkawi, H. A. N. Twairesh, A. E. and Harery, K. (2013) 'Determinants of the likelihood to pay dividends: Evidence from Saudi Arabia', *Journal of American Science*, 9(12), pp. 518-528.

Al-Malkawi, H.A. (2007) 'Determinants of corporate dividend policy in Jordan: an application of the Tobit model', *Journal of Economic and Administrative Sciences*, 23(2), pp. 44-70.

Al-Malkawi, H.A.N. Bhatti, M.I. and Magableh, S.I. (2014) 'On the dividend smoothing, signaling and the global financial crisis', *Economic Modelling*, 42, pp. 159-165.

Almeida, H. Campello, M. and Weisbach, M. S. (2004) 'The cash flow sensitivity of cash', *The Journal of Finance*, 59(4), pp. 1777-1804.

Al-Najjar, B. (2009) 'Dividend behaviour and smoothing new evidence from Jordanian panel data', *Studies in Economics and Finance*, 26(3), pp. 182-197.

Al-Najjar, B. and Belghitar, Y. (2012) 'The information content of cash flows in the context of dividend smoothing', *Economic Issues*, 17(2), pp. 57-70.

Al-Najjar, B. and Hussainey, K. (2009) 'The association between dividend payout and outside directorships', *Journal of Applied Accounting Research*, 10(1), pp. 4-19.

Al-Najjar, B. and Kilincarslan, E. (2017) 'Corporate dividend decisions and dividend smoothing', *International Journal of Managerial Finance*, 13(3), pp. 304-331.

AlQudah, A. and Badawi, A. (2015) 'The Signaling Effects and Predictive Powers of Dividend Announcements: Evidence from Kingdom of Saudi Arabia', *Journal of Business and Economics*, 6(3), pp. 550-557.

Al-Twaijry, A. (2007) 'Dividend policy and payout ratio: evidence from the Kuala Lumpur stock exchange', *The Journal of Risk Finance*, 8(4), pp. 349-363.

Al-Yahyaee, K. (2006). Capital structure and dividend policy in a personal tax-free environment: the case of Oman. PhD, University of New South Wales, School of Banking and Finance.

Al-Yahyaee, K. Pham, T. and Walter, T. (2010) 'Dividend stability in a unique environment', *Managerial Finance*, 36(10), pp. 903-916.

Al-Yahyaee, K. Pham, T. and Walter, T. (2011a) 'Dividend smoothing when firms distribute most of their earnings as dividends', *Applied Financial Economics*, 21(16), pp. 1175-1183.

Al-Yahyaee, K. Pham, T. and Walter, T. (2011b) 'The information content of cash dividend announcements in a unique environment', *Journal of Banking and Finance*, 35(3), pp. 606–612.

Amidu, M. and Abor, J. (2006) 'Determinants of dividend payout ratios in Ghana', *The journal of risk finance*, 7(2), pp. 136-145.

Amihud, Y. (2002) 'Illiquidity and stock returns: cross-section and time-series effects', *Journal of financial markets*, 5(1), pp. 31-56.

Amihud, Y. and Murgia, M. (1997) 'Dividends, Taxes, and Signaling: Evidence from Germany', *The Journal of Finance*, 52(1), pp. 397-408.

Amin, A. Dutta, S. Saadi, S. and Vora, P. (2015) 'Institutional shareholding and information content of dividend surprises: Re-examining the dynamics in dividend-reappearance era', *Journal of Corporate Finance*, 31, pp. 152-170.

Andres, C. and Hofbaur, U. (2017) 'Do what you did four quarters ago: Trends and implications of quarterly dividends', *Journal of Corporate Finance*, 43, pp. 139-158.

Andres, C. Betzer, A. Goergen, M. and Renneboog, L. (2009) 'Dividend policy of German firms: A panel data analysis of partial adjustment models', *Journal of Empirical Finance*, 16(2), pp. 175-187.

Andres, C., Doumet, M., Fernau, E. and Theissen, E. (2015) 'The Lintner model revisited: Dividends versus total payouts', *Journal of Banking and Finance*, 55, pp. 56-69.

Ang, J.S. (1987). Do dividends matter?: a review of corporate dividend theories and evidence (No. 2). Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University.

Argyrous, G. (2011). Statistics for research: with a guide to SPSS. Sage Publications.

Arioglu, E. and Tuan, K. (2014) 'Speed of adjustment: evidence from Borsa Istanbul', *Borsa Istanbul Review*, 14(2), pp. 126-131.

Arouri, M.E.H. Lahiani, A. and Nguyen, D.K. (2011) 'Return and volatility transmission between world oil prices and stock markets of the GCC countries', *Economic Modelling*, 28(4), pp. 1815-1825.

Arulampalam, W. (1999) 'A note on estimated coefficients in random effects probit models', *Oxford Bulletin of Economics and Statistics*, 61(4), pp. 597-602.

Asiri, B. K. (2014) 'Dividend Announcement: Is It a Good News to the Bahrain Bourse?', *International Journal of Economics and Finance*, 6(12), p. 228.

Asquith, P. and Mullins Jr, D. W. (1986) 'Signalling with dividends, stock repurchases, and equity issues', *Financial Management*, pp. 27-44.

Asquith, P. and Mullins, D.W. (1983) 'The impact of initiating dividend payments on shareholders' wealth', *Journal of business*, 56(1), pp. 77-96.

Athari, S. Adaoglu, C. and Bektas, E. (2016) 'Investor protection and dividend policy: The case of Islamic and conventional banks', *Emerging Markets Review*, 27, pp. 100-117.

Awwad, B.S.A. and Hamdan, A.M.M. (2018) 'Gulf Cooperation Council Energy Sectors Governance and Dividend Policy', *International Journal of Economics and Financial Issues*, 8(4), pp. 163-171.

Baba, N. (2009) 'Increased presence of foreign investors and dividend policy of Japanese firms', *Pacific-Basin Finance Journal*, 17(2), pp. 163-174.

Badreddine, S. (2009). Sources and practicality of momentum profits: evidence from the UK market. PhD, Durham University.

Bajaj, M. and Vijh, A. M. (1990) 'Dividend clienteles and the information content of dividend changes', *Journal of Financial Economics*, 26(2), pp. 193–219.

Bajaj, M. and Vijh, A.M. (1995) 'Trading behavior and the unbiasedness of the market reaction to dividend announcements', *The journal of Finance*, 50(1), pp. 255-279.

Baker, H. and Weigand, R. (2015) 'Corporate dividend policy revisited', *Managerial Finance*, 41(2), pp. 126-144.

Baker, H. K. (1988) 'The relationship between industry classification and dividend policy', *Southern Business Review*, 14(1), p. 1.

Baker, H. K. Veit, E. T. and Powell, G. E. (2001) 'Factors influencing dividend policy decisions of Nasdaq firms', *Financial Review*, 36(3), pp. 19-38.

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

Baker, H.K. Farrelly, G.E. and Edelman, R.B. (1985) 'A survey of management views on dividend policy', *Financial Management*, 14(3), pp. 78-84.

Baker, H.K., Kilincarslan, E. and Arsal, A.H. (2018) 'Dividend policy in Turkey: Survey evidence from Borsa Istanbul firms', *Global Finance Journal*, 35, pp.43-57.

Baker, M. and Wurgler, J. (2004a) 'A catering theory of dividends', *The Journal of Finance*, 59(3), pp. 1125-1165.

Baker, M. and Wurgler, J. (2004b) 'Appearing and disappearing dividends: The link to catering incentives', *Journal of financial economics*, 73(2), pp. 271-288.

Balcilar, M. Demirer, R. and Hammoudeh, S. (2013) 'Investor herds and regime-switching: Evidence from Gulf Arab stock markets', *Journal of International Financial Markets, Institutions and Money*, 23, pp. 295–321.

Bali, R. (2003) 'An empirical analysis of stock returns around dividend changes', *Applied Economics*, 35(1), pp. 51-61.

Ball, R. and Brown, P. (1968) 'An Empirical Evaluation of Accounting Income Numbers', *Journal of Accounting Research*, 6(2), pp. 159-178.

Baltagi, B. (2016). Econometric Analysis of Panel Data. Chichester (West Sussex): John Wiley & Sons, Inc.

Barclay, M. J. Smith, C. W. and Watts, R. L. (1995) 'The determinants of corporate leverage and dividend policies', *Journal of applied corporate finance*, 7(4), pp. 4-19.

Basiddiq, H. and Hussainey, K. (2012) 'Does asymmetric information drive UK dividends propensity?', *Journal of Applied Accounting Research*, 13(3), pp. 284-297.

Baskin, J.B. and Miranti Jr, P.J. (1999). A history of corporate finance. Cambridge University Press.

Basse, T. and Reddemann, S. (2011) 'Inflation and the dividend policy of US firms', *Managerial Finance*, 37(1), pp. 34-46.

Bates, T. W. Kahle, K. M., and Stulz, R. M. (2009) 'Why do US firms hold so much more cash than they used to?', *The journal of finance*, 64(5), pp. 1985-2021.

Beaver, W.H. (1968) 'The information content of annual earnings announcements', *Journal of accounting research*, 6, pp. 67-92.

Beer, F. (1993) 'Dividend Signalling Equilibria: Quantitative Evidence from The Brussels Stock Exchange', *The Financial Review*, 28(2), pp. 139-157.

Bekaert, G. and Harvey, C.R. (2002) 'Research in emerging markets finance: looking to the future', *Emerging markets review*, 3(4), pp. 429-448.

Ben Naceur, S. Goaied, M. and Belanes, A. (2005) 'A Re-Examination of Dividend Policy: A Dynamic Panel Data Analysis', Working paper. ESSEC Tunis, IHEC Carthage.

Ben Naceur, S. Goaied, M. and Belanes, A. (2006) 'On the determinants and dynamics of dividend policy', *International Review of Finance*, 6(1-2), pp. 1-23.

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

Benavides, J. Berggrun, L. and Perafan, H. (2016) 'Dividend payout policies: Evidence from Latin America', *Finance Research Letters*, 17, pp. 197-210.

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

Benlemlih, M. (2019) 'Corporate social responsibility and dividend policy', *Research in International Business and Finance*, 47, pp. 114-138.

Ben-Nasr, H. and Alshwer, A. A. (2016) 'Does stock price informativeness affect labor investment efficiency?', *Journal of Corporate Finance*, 38, pp. 249-271.

Ben-Nasr, H. and Cosset, J. (2014) 'State Ownership, Political Institutions, and Stock Price Informativeness: Evidence from Privatization', *Journal of Corporate Finance*, 29, pp. 179-199.

Bernhardt, D. Douglas, A. and Robertson, F. (2005) 'Testing dividend signalling models', *Journal of Empirical Finance*, 12(1), pp. 77-98.

Bernstein, P.L. (1996) 'Dividends: The Puzzle', *Journal of Applied Corporate Finance*, 9(1), pp. 16-22.

Bessler, W. and Nohel, T. (2000) 'Asymmetric information, dividend reductions, and contagion effects in bank stock returns', *Journal of Banking and Finance*, 24(11), pp. 1831-1848.

Bevan, A. A. and Danbolt, J. O. (2004) 'Testing for inconsistencies in the estimation of UK capital structure determinants', *Applied Financial Economics*, 14(1), pp. 55-66.

Bharati, R. Gupta, M. and Nanisetty, P. (1998) 'Are dividends smoothed signals of earnings asymmetry? An empirical investigation', *International Journal of Business*, 3(2), pp. 1-18.

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

Bhattacharya, S. (1980) 'Non dissipative signaling structures and dividend policy', *The quarterly journal of Economics*, 95(1), pp. 1-24.

Black, F. (1976) 'The dividend puzzle', *The Journal of Portfolio Management*, 2(2), pp. 5-8.

Black, F. and Scholes, M. (1974) 'The effects of dividend yield and dividend policy on common stock prices and returns', *Journal of financial economics*, 1(1), pp. 1-22.

Bley, J. (2011) 'Are GCC stock market predictable?', *Emerging Markets Review*, 12(3), pp. 217-237.

Bliss, B. Cheng, Y. and Denis, D. (2015) 'Corporate payout, cash retention, and the supply of credit: Evidence from the 2008–2009 credit crisis', *Journal of Financial Economics*, 115(3), pp. 521-540.

Blundell, R. and Bond, S. (1998) 'Initial conditions and moment restrictions in dynamic panel data models', *Journal of econometrics*, 87(1), pp. 115-143.

Booth, L. Aivazian, V. Demirguc-Kunt, A. and Maksimovic, V. (2001) 'Capital structures in developing countries', *The journal of finance*, 56(1), pp. 87-130.

Bowers, H.M. and Fehrs, D. 1(995) 'Dividend buying: Linking dividend announcements and ex-dividend day effects', *Journal of Accounting, Auditing and Finance*, 10(3), pp. 421-435.

Bradley, M. Capozza, D. R. Seguin, P. J. (1998) 'Dividend policy and cash-flow uncertainty', *Real Estate Economics*, 26(4), pp. 555-580.

Brav, A. and Heaton, J. (1998) 'Did ERISA's Prudent Man Rule Change the Pricing of Dividend Omitting Firms?', Working paper, Duke University.

Brav, A. Graham, J. R. Harvey, C. R. and Michaely, R. (2005) 'Payout policy in the 21st century', *Journal of Financial Economics*, 77(3), pp. 483–527.

Brealey, R.A. Myers, S.C. and Allen, F. (2006). Corporate Finance: International Edition. McGraw-Hill/Irwin.

Bremberger, F., Cambini, C., Gugler, K. and Rondi, L. (2016) 'Dividend policy in regulated network industries: Evidence from the EU', *Economic Inquiry*, 54(1), pp. 408-432.

Brennan, M. J. and Subrahmanyam, A. (1996) 'Market microstructure and asset pricing: On the compensation for illiquidity in stock returns', *Journal of financial economics*, 41(3), pp. 441-464.

Brennan, M.J. (1970) 'Taxes, market valuation and corporate financial policy', *National tax journal*, 23(4), pp. 417-427.

Brennan, M.J. and Thakor, A.V. (1990) 'Shareholder preferences and dividend policy', *The Journal of Finance*, 45(4), pp. 993-1018.

Breuer, W. Rieger, M. and Soypak, K. (2014) 'The behavioral foundations of corporate dividend policy a cross-country analysis', *Journal of Banking and Finance*, 42, pp. 247-265.

Brittain, J.A. (1964) 'The tax structure and corporate dividend policy', *The American economic review*, 54(3), pp. 272-287.

Brittain, J.A. (1966). Corporate dividend policy (Washington: The Brookings Institution).

Brockman, P. and Unlu, E. (2009) 'Dividend policy, creditor rights, and the agency costs of debt', *Journal of Financial Economics*, 92(2), pp. 276-299.

Brockman, P. and Yan, X. (2009) 'Block ownership and firm-specific information', *Journal of Banking and Finance*, 33(2), pp. 308-316.

Brockman, P. Tresl, J. and Unlu, E. (2014) 'The impact of insider trading laws on dividend payout policy', *Journal of Corporate Finance*, 29, pp. 263-287.

Brown, J. Liang, N. and Weisbenner, S. (2007) 'Executive Financial Incentives and Payout Policy: Firm Responses to the 2003 Dividend Tax Cut', *The Journal of Finance*, 62(4), pp. 1935-1965.

Brown, S. J. and Warner, J. B. (1985) 'Using daily stock returns: The case of event studies', *Journal of Financial Economics*, 14(1), pp. 3–31.

Bulan, L. Subramanian, N. and Tanlu, L. (2007) 'On the timing of dividend initiations', *Financial Management*, pp. 31-65.

Byrne, J. and O'Connor, T. (2017) 'Creditor rights, culture and dividend payout policy', *Journal of Multinational Financial Management*, 39, pp. 60-77.

Caliskan, D. and Doukas, J. (2015) 'CEO risk preferences and dividend policy decisions', *Journal of Corporate Finance*, 35, pp. 18-42.

Campbell, J. Y. and Shiller, R. J. (1988) 'The dividend-price ratio and expectations of future dividends and discount factors', *The Review of Financial Studies*, 1(3), pp. 195-228.

Campbell, J. Y. Lo, A. W. and MacKinlay, A. C. (1997) 'Event-study analysis', *The Econometrics of Financial Markets*, Princeton, New Jersey: Princeton University Press, pp. 149–180.

Capstaff, J., Klaeboe, A. and Marshall, A.P. (2004) 'Share price reaction to dividend announcements: Empirical evidence on the signaling model from the Oslo stock exchange', *Multinational Finance Journal*, 8(1/2), pp. 115-139.

Chae, J. Kim, S. and Lee, E.J. (2009) 'How corporate governance affects payout policy under agency problems and external financing constraints', *Journal of Banking and Finance*, *33*(11), pp. 2093-2101.

Chan, K., Hameed, A. and Kang, W. (2013) 'Stock price synchronicity and liquidity', *Journal of Financial Markets*, 16(3), pp. 414-438.

Chang, R. P. and Rhee, S. G. (1990) 'The impact of personal taxes on corporate dividend policy and capital structure decisions', *Financial Management*, pp. 21-31.

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

Charitou, A. and Vafeas, N. (1998) 'The association between operating cash flows and dividend changes: An empirical investigation', *Journal of Business Finance and Accounting*, 25(1-2), pp. 225-249.

Charitou, A. Lambertides, N. and Theodoulou, G. (2011) 'Dividend increases and initiations and default risk in equity returns', *Journal of Financial and Quantitative Analysis*, 46(5), pp. 1521-1543.

Chaussé, P. (2010) 'Computing generalized method of moments and generalized empirical likelihood with R', *Journal of Statistical Software*, 34(11), pp. 1-35.

Chemmanur, T.J. He, J. Hu, G. and Liu, H. (2010) 'Is dividend smoothing universal?: New insights from a comparative study of dividend policies in Hong Kong and the US', *Journal of Corporate Finance*, 16(4), pp. 413-430.

Chen, C. and Wu, C. (1999) 'The dynamics of dividends, earnings and prices: evidence and implications for dividend smoothing and signaling', *Journal of Empirical Finance*, 6(1), pp. 29-58.

Chen, D.H. Liu, H.H. and Huang, C.T. (2009) 'The announcement effect of cash dividend changes on share prices: An empirical analysis of China', *Chinese Economy*, 42(1), pp. 62-85.

Chen, J. Leung, W. and Goergen, M. (2017) 'The impact of board gender composition on dividend payouts', *Journal of Corporate Finance*, 43, pp. 86-105.

Chen, J.C. and Roberts, R.W. (2010) 'Toward a more coherent understanding of the organization–society relationship: A theoretical consideration for social and environmental accounting research', *Journal of business ethics*, 97(4), pp. 651-665.

Chen, L. and Zhao, X. (2009) 'Return decomposition', *The Review of Financial Studies*, 22(12), pp. 5213-5249.

Chen, Q. Goldstein, I. and Jiang, W. (2006) 'Price informativeness and investment sensitivity to stock price', *The Review of Financial Studies*, 20(3), pp. 619-650.

Cheung, A. Hu, M. and Schwiebert, J. (2018) 'Corporate social responsibility and dividend policy', *Accounting and Finance*, 58(3), pp. 787-816.

Ciner, C. and Karagozoglu, A.K. (2008) 'Information asymmetry, speculation and foreign trading activity: Emerging market evidence', *International Review of Financial Analysis*, 17(4), pp. 664-680.

Claessens, S. and Yurtoglu, B.B. (2013) 'Corporate governance in emerging markets: A survey', *Emerging markets review*, *15*, pp.1-33.

Collins, D. W. Kothari, S. P. Shanken, J. and Sloan, R. G. (1994) 'Lack of timeliness and noise as explanations for the low contemporaneous return-earnings association', *Journal of Accounting and Economics*, 18(3), pp. 289-324.

Conroy, R.M. Eades, K.M. and Harris, R.S. (2000) 'A test of the relative pricing effects of dividends and earnings: Evidence from simultaneous announcements in Japan', *The journal of finance*, 55(3), pp. 1199-1227.

Cooper, I. and Lambertides, N. (2018) 'Large dividend increases and leverage', *Journal of Corporate Finance*, 48, pp. 17-33.

Copeland, R. M. (1968) 'Income smoothing', *Journal of Accounting Research*, pp. 101-116.

Crutchley, C. E. and Hansen, R. S. (1989) 'A test of the agency theory of managerial ownership, corporate leverage, and corporate dividends', *Financial Management*, pp. 36-46.

Crutchley, C. Jensen, M. Jahera, J. and Raymond, J. (1999) 'Agency problems and the simultaneity of financial decision making', *International Review of Financial Analysis*, 8(2), pp. 177-197.

Cuny, C. J. Martin, G. S. and Puthenpurackal, J. J. (2009) 'Stock options and total payout', *Journal of Financial and Quantitative Analysis*, 44(2), pp. 391-410.

Damodaran, A. (1989) 'The weekend effect in information releases: A study of earnings and dividend announcements', *The Review of Financial Studies*, 2(4), pp. 607-623.

Damodaran, A. (1999). Applied Corporate Finance (Returning Cash to the Owners: Dividend Policy). New York: J. Wiley & Sons.

Dasilas, A. and Leventis, S. (2011) 'Stock market reaction to dividend announcements: Evidence from the Greek stock market', *International Review of Economics and Finance*, 20(2), pp. 302–311.

David, T. and Ginglinger, E. (2016) 'When cutting dividends is not bad news: The case of optional stock dividends', *Journal of Corporate Finance*, 40, pp. 174-191.

De Cesari, A. and Huang-Meier, W. (2015) 'Dividend changes and stock price informativeness', *Journal of Corporate Finance*, 35, pp. 1-17.

DeAngelo, H. and DeAngelo, L. (2007) 'Capital structure, payout policy, and financial flexibility', *Marshall school of business working paper no. FBE*, pp. 02-06.

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

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

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

DeAngelo, H. DeAngelo, L. and 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), pp. 227-254.

Demarzo, P. and Sannikov, Y. (2016) 'Learning, Termination, and Payout Policy in Dynamic Incentive Contracts', *The Review of Economic Studies*, 84(1), pp. 182-236.

Dempsey, S. J. Laber, G. and Rozeff, M. S. (1993) 'Dividend policies in practice: is there an industry effect?', *Quarterly Journal of Business and Economics*, pp. 3-13.

Denis, D. J. and Osobov, I. (2008) 'Why do firms pay dividends? International evidence on the determinants of dividend policy', *Journal of Financial Economics*, 89(1), pp. 62-82.

Deshmukh, S. (2003) 'Dividend initiations and asymmetric information: A hazard model', *Financial Review*, 38(3), pp. 351-368.

Dewenter, K. L. and Warther, V. A. (1998) 'Dividends, asymmetric information, and agency conflicts: Evidence from a comparison of the dividend policies of Japanese and US firms', *the Journal of Finance*, 53(3), pp. 879-904.

Dhaliwal, D. Krull, L. Li, O. Z. and Moser, W. (2005) 'Dividend taxes and implied cost of equity capital', *Journal of Accounting Research*, 43(5), pp. 675-708.

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

Dhrymes, P.J. and Kurz, M. (1967) 'Investment, dividend, and external finance behavior of firms', In *Determinants of investment behavior,* NBER, pp. 427-485.

Dupuis, D. (2019) 'Ex-dividend day price behavior and liquidity in a tax-free emerging market', *Emerging Markets Review*, 38, pp. 239-250.

Durnev, A. Morck, R. and Yeung, B. (2004) 'Value-enhancing capital budgeting and firm-specific stock return variation', *The Journal of Finance*, 59(1), pp. 65-105.

Durnev, A., Morck, R., Yeung, B. and Zarowin, P. (2003) 'Does greater firm-specific return variation mean more or less informed stock pricing?', *Journal of Accounting Research*, 41(5), pp. 797-836.

Eades, K. M. (1982) 'Empirical evidence on dividends as a signal of firm value', *Journal of Financial and Quantitative Analysis*, 17(04), pp. 471–500.

Easley, D. Hvidkjaer, S. and O'hara, M. (2002) 'Is information risk a determinant of asset returns?', *The journal of finance*, 57(5), pp. 2185-2221.

Easterbrook, F.H. (1984) 'Two agency-cost explanations of dividends', *The American economic review*, 74(4), pp. 650-659.

Eberhart, A. and Damodaran, A. (1997) 'Relative valuation, differential information, and cross-sectional differences in stock return volatility' (*Working Study Series* No. 96-23). New York University, Leonard N. Stern School of Business-.

Ebrahim, R. H. (2017). Dividend Policy, Stock Liquidity and Stock Price Informativeness (Doctoral dissertation, University of Bradford).

El-Sady, H. Hamdy, H. Al-Mawazini, K. and Alshammari, T. (2012) 'Dividends policies in an emerging market', *International Review of Business Research Papers*, 8(2), pp. 12-28.

Elton, E.J. and Gruber, M.J. (1970) 'Marginal stockholder tax rates and the clientele effect', *The Review of Economics and Statistics*, 52(1), pp. 68-74.

Enache, L. and Hussainey, K. (2020) 'The substitutive relation between voluntary disclosure and corporate governance in their effects on firm performance', *Review of Quantitative Finance and Accounting*, 54(2), pp. 413-445.

Faccio, M., Lang, L. and Young, L. (2001) 'Dividends and Expropriation', *American Economic Review*, 91(1), pp. 54-78.

Fairchild, R. (2010) 'Dividend policy, signalling and free cash flow: an integrated approach', *Managerial Finance*, 36(5), pp. 394-413.

Fairchild, R. Guney, Y. and Thanatawee, Y. (2014) 'Corporate dividend policy in Thailand: Theory and evidence', *International Review of Financial Analysis*, 31, pp. 129-151.

Fama, E. F. (1998) 'Market efficiency, long-term returns, and behavioral finance', *Journal of Financial Economics*, 49(3), pp. 283–306.

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

Fama, E. F. and French, K. R. (2002) 'Testing trade-off and pecking order predictions about dividends and debt', *The review of financial studies*, 15(1), pp. 1-33.

Fama, E. F. Fisher, L. Jensen, M. C. and Roll, R. (1969) 'The adjustment of stock prices to new information', *International Economic Review*, 10(1), pp. 1–21.

Fama, E.F. (1970) 'Efficient capital markets: A review of theory and empirical work', *The journal of Finance*, 25(2), pp. 383-417.

Fama, E.F. (1974) 'The empirical relationships between the dividend and investment decisions of firms', *The American Economic Review*, 64(3), pp. 304-318.

Fama, E.F. and Babiak, H. (1968) 'Dividend policy: An empirical analysis', *Journal of the American Statistical Association*, 63(324), pp. 1132-1161.

Fenn, G. W. and Liang, N. (2001) 'Corporate payout policy and managerial stock incentives', *Journal of financial economics*, 60(1), pp. 45-72.

Fernandes, N. and Ferreira, M. A. (2008b) 'Insider trading laws and stock price informativeness', *The Review of Financial Studies*, 22(5), pp. 1845-1887.

Fernandes, N. and Ferreira, M.A. (2008a) 'Does international cross-listing improve the information environment', *Journal of Financial Economics*, 88(2), pp. 216-244.

Fernandez, M. and Kumar, R. (2016) 'Dividend Trends in the GCC: A Survey', *Journal of Accounting and Finance*, 16(7), pp. 96-108.

Fernau, E. and Hirsch, S. (2019) 'What drives dividend smoothing? A meta regression analysis of the Lintner model', *International Review of Financial Analysis*, 61, pp. 255-273.

Ferreira, D. Ferreira, M. A. and Raposo, C. C. (2011) 'Board structure and price informativeness', *Journal of Financial Economics*, 99(3), pp. 523-545.

Ferreira, M. A. and Laux, P. A. (2007) 'Corporate governance, idiosyncratic risk, and information flow', *The Journal of Finance*, 62(2), pp. 951-989.

Ferreira, M. Massa, M. and Matos, P. (2010) 'Dividend Clienteles Around the World: Evidence from Institutional Holdings', Working Paper. The University of Southern California.

Ferris, S. P. Sen, N. and Yui, H. P. (2006) 'God save the queen and her dividends: Corporate payouts in the United Kingdom', *the Journal of Business*, 79(3), pp. 1149-1173.

Fitri, R. R. Hosen, M. N. and Muhari, S. (2016) 'Analysis of factors that impact dividend payout ratio on listed companies at Jakarta Islamic index', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(2), pp. 87-97.

Fliers, P. (2019) 'What is the relation between financial flexibility and dividend smoothing?', *Journal of International Money and Finance*, 92, pp. 98-111.

Florackis, C. Kanas, A. and Kostakis, A. (2015) 'Dividend policy, managerial ownership and debt financing: A non-parametric perspective', *European Journal of Operational Research*, 241(3), pp. 783-795.

Fodor, A. Stowe, D.L. and Stowe, J.D. (2017) 'Option Implied Dividends Predict Dividend Cuts: Evidence from the Financial Crisis', *Journal of Business Finance and Accounting*, 44(5-6), pp. 755-779.

Foucault, T. and Fresard, L. (2014) 'Learning from peers' stock prices and corporate investment', *Journal of Financial Economics*, 111(3), pp. 554-577.

Frank, M. Z. and Goyal, V. K. (2003) 'Testing the pecking order theory of capital structure', *Journal of financial economics*, 67(2), pp. 217-248.

French, K. R. and Roll, R. (1986) 'Stock return variances: The arrival of information and the reaction of traders', *Journal of financial economics*, 17(1), pp. 5-26.

Frésard, L. (2011) 'Cash savings and stock price informativeness', *Review of Finance*, 16(4), pp. 985-1012.

Friend, I. and Puckett, M. (1964) 'Dividends and stock prices', *The American Economic Review*, 54(5), pp. 656-682.

Fudenberg, D. and Tirole, J. (1995) 'A theory of income and dividend smoothing based on incumbency rents', *Journal of Political economy*, 103(1), pp. 75-93.

Fuller, K. P. (2003) 'The impact of informed trading on dividend signaling: a theoretical and empirical examination', *Journal of Corporate Finance*, 9(4), pp. 385–407.

Gallant, A. R. Rossi, P. E. and Tauchen, G. (1992) 'Stock prices and volume', *Review of Financial Studies*, 5(2), pp. 199–242.

Garrett, I. and Priestley, R. (2000) 'Dividend behaviour and dividend signaling', *Journal of financial and quantitative analysis*, 35(2), pp. 173-189.

Gaver, J. J. and Gaver, K. M. (1993) 'Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies', *Journal of Accounting and Economics*, 16(1-3), pp. 125-160.

Gelb, D. S. and Zarowin, P. (2002) 'Corporate disclosure policy and the informativeness of stock prices', *Review of Accounting Studies*, 7(1), pp. 33-52.

Glen, J.D. Karmokolias, Y. Miller, R.R. and Shah, S. (1995). Dividend policy and behavior in emerging markets: to pay or not to pay. The World Bank.

Glosten, L. R. and Harris, L. E. (1988) 'Estimating the components of the bid/ask spread', *Journal of Financial Economics*, 21(1), pp. 123-142.

Goergen, M., Renneboog, L. and Da Silva, L.C. (2005) 'When do German firms change their dividends?', *Journal of corporate finance*, 11(1-2), pp. 375-399.

Gombola, M. J. and Liu, F. Y. (1993) 'Considering dividend stability in the relation between dividend yields and stock returns', *Journal of Financial Research*, 16(2), pp. 139-150.

Gomes, A. (2000) 'Going public without governance: Managerial reputation effects', *The Journal of Finance*, 55(2), pp. 615-646.

Gordon, M.J. (1959) 'Dividends, earnings, and stock prices', *The review of economics and statistics*, pp. 99-105.

Gordon, M.J. (1963) 'Optimal investment and financing policy', *The Journal of Finance*, 18(2), pp. 264-272.

Gordon, M.J. and Shapiro, E. (1956) 'Capital equipment analysis: the required rate of profit', *Management Science*, 3(1), pp. 102-110.

Graham, B., Dodd, D., Buffett, W. and Klarman, S. (2009). Security Analysis. New York: McGraw-Hill.

Graham, J. R. Harvey, C. R. and Rajgopal, S. (2005) 'The economic implications of corporate financial reporting', *Journal of accounting and economics*, 40(1-3), pp. 3-73.

Graham, J. R. Leary, M. T. and Roberts, M. R. (2015) 'A century of capital structure: The leveraging of corporate America', *Journal of Financial Economics*, 118(3), pp. 658-683.

Greenaway, D., Guariglia, A. and Kneller, R. (2007) 'Financial factors and exporting decisions', *Journal of international economics*, 73(2), pp. 377-395.

Greene, W. (1999) 'Marginal effects in the censored regression model', *Economics Letters*, 64(1), pp. 43-49.

Gregoriou, A. and Ioannidis, C. (2006) 'Information costs and liquidity effects from changes in the FTSE 100 list', *The European Journal of Finance*, 12(4), pp. 347-360.

Grossman, S. J. and Stiglitz, J. E. (1980) 'On the impossibility of informationally efficient markets', *The American economic review*, 70(3), pp. 393-408.

Grullon, G. and Michaely, R. (2002) 'Dividends, share repurchases, and the substitution hypothesis', *The Journal of Finance,* 57(4), pp. 1649-1684.

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

Gugler, K. and Yurtoglu, B. B. (2003) 'Corporate governance and dividend pay-out policy in Germany', *European economic review*, 47(4), pp. 731-758.

Guizani, M. (2017) 'Free Cash Flow, Agency Cost and Dividend Policy of Sharia-Compliant and Non-Sharia-Compliant firms', *International Journal of Economics and Management*, 11(2), pp. 355-370.

Guizani, M. (2018) 'The mediating effect of dividend payout on the relationship between internal governance and free cash flow', *Corporate Governance: The international journal of business in society*, 18(4), pp. 748-770.

Gujarati, D. and Porter, D. (2008). Basic Econometrics. London: McGraw-Hill Publishing.

Gul, F. A. and Kealey, B. T. (1999) 'Chaebol, investment opportunity set and corporate debt and dividend policies of Korean companies', *Review of Quantitative Finance and Accounting*, 13(4), pp. 401-416.

Gul, F. A. Srinidhi, B. and Ng, A. C. (2011) 'Does board gender diversity improve the informativeness of stock prices?', *Journal of Accounting and Economics*, 51(3), pp. 314-338.

Guttman, I. Kadan, O. and Kandel, E. (2007) 'A theory of dividend smoothing', Working Paper, Stanford University, Stanford, CA.

Guttman, I. Kadan, O. and Kandel, E. (2010) 'Dividend stickiness and strategic pooling', *The Review of Financial Studies*, 23(12), pp. 4455-4495.

Gwilym, O. A. Morgan, G. and Thomas, S. (2000) ‘Dividend stability, dividend yield and stock returns: UK evidence’, *Journal of Business Finance and Accounting*, 27(3-4), pp. 261-281.

Haggard, K. S. Martin, X. and Pereira, R. (2008) 'Does voluntary disclosure improve stock price informativeness?', *Financial Management*, 37(4), pp. 747-768.

Hail, L. Tahoun, A. and Wang, C. (2014) ‘Dividend payouts and information shocks’, *Journal of Accounting Research*, 52(2), pp. 403-456.

Hamdan, A.M. (2018) ‘Dividend policy, agency costs and board independence’, *International Journal of Critical Accounting*, 10(1), pp. 42-58.

Hanifa, H. Hamdan, M. and Haffar, M. (2018) ‘Dividend policy in the banking sector in G-7 and GCC countries: A comparative study’, *Risk Governance and Control: Financial Markets and Institutions*, 8(3), pp. 70-79.

Hasbrouck, J. (1991) ‘The summary informativeness of stock trades: An econometric analysis’, *The Review of Financial Studies*, 4(3), pp. 571-595.

Hausman, J.A. (1978) ‘Specification Tests in Econometrics’, *Econometrica*, 46(6), pp. 1251-1271.

Haw, I. and Kim, W. (1991) ‘Firm Size and Dividend Announcement Effect’, *Journal of Accounting, Auditing and Finance*, 6(3), pp. 325-344.

He, W. Li, D. Shen, J. and Zhang, B. (2013) ‘Large foreign ownership and stock price informativeness around the world’, *Journal of International Money and Finance*, 36, pp. 211-230.

Healy, J. Hathorn, J. and Kirch, D. (1997) ‘Earnings growth and the differential information content of initial dividend announcements’, *Accounting Enquiries*, 6, pp. 187–220.

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

Hegde, S. P. and McDermott, J. B. (2003) 'The liquidity effects of revisions to the S&P 500 index: An empirical analysis', *Journal of Financial Markets*, 6(3), pp. 413-459.

Hess, P.J. (1982) 'The Ex-Dividend Day Behavior of Stock Returns: Further Evidence on Tax Effects', *The Journal of Finance*, 37(2), pp. 445-456.

Higgins, R.C. (1972) 'The corporate dividend-saving decision', *Journal of Financial and Quantitative Analysis*, 7(2), pp. 1527-1541.

Ho, H. (2003) 'Dividend policies in Australia and Japan', *International Advances in Economic Research*, 9(2), pp. 91-100.

Hoang, E. and Hoxha, I. (2016) 'Corporate payout smoothing: A variance decomposition approach', *Journal of Empirical Finance*, 35, pp. 1-13.

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

Hope, O. K. (2003) 'Firm-level disclosures and the relative roles of culture and legal origin', *Journal of International Financial Management and Accounting*, 14(3), pp. 218-248.

Hotchkiss, E.S. and Lawrence, S. (2007) 'Empirical evidence on the existence of dividend clienteles', Working Paper, Boston College, Boston, MA.

Hu, A. and Kumar, P. (2004) 'Managerial entrenchment and payout policy', *Journal of Financial and Quantitative Analysis*, 39(4), pp. 759-790.

Huang, R. D. and Stoll, H. R. (1997) 'The components of the bid-ask spread: A general approach', *The Review of Financial Studies*, 10(4), pp. 995-1034.

Hufft, E. M. and Dufrene, U. (1996) 'Small firm capital structure decisions: The effect of agency cost', *United States Association for Small Business and Entrepreneurship*.

Hull, T.J. (2013) 'Does the timing of dividend reductions signal value? Empirical evidence', *Journal of Corporate Finance*, 22, pp. 193-208.

Hull, T.J. (2015) ‘How the timing of dividend reductions can signal value’, *Journal of Corporate Finance*, 30, pp. 114-131.

Impson, M. (1997) ‘Market Reaction to Dividend-Decrease Announcements: Public Utilities VS. Unregulated Industrial Firms’, *Journal of Financial Research*, 20(3), pp. 407–422.

Ismail, T.H. (2002) ‘An empirical investigation of factors influencing voluntary disclosure of financial information on the Internet in the GCC countries’, Working Paper, Cairo University, Faculty of Commerce, Egypt. *Available at SSRN 420700*.

Jabbouri, I. (2016) ‘Determinants of corporate dividend policy in emerging markets: Evidence from MENA stock markets’, *Research in International Business and Finance*, 37, pp. 283-298.

Jamaani, F. and Roca, E. (2015) ‘Are the regional Gulf stock markets weak-form efficient as single stock markets and as a regional stock market?’, *Research in International Business and Finance*, 33, pp. 221-246.

Javakhadze, D. Ferris, S.P. and Sen, N. (2014) ‘An international analysis of dividend smoothing’, *Journal of Corporate Finance*, 29, pp. 200-220.

Jensen, G.R., Solberg, D.P. and Zorn, T.S. (1992) ‘Simultaneous determination of insider ownership, debt, and dividend policies’, *Journal of Financial and Quantitative analysis*, 27(2), pp. 247-263.

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

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

Jeong, J. (2013) ‘Determinants of dividend smoothing in emerging market: The case of Korea’, *Emerging markets review*, 17, pp. 76-88.

Jiang, F., Ma, Y. and Shi, B. (2017) ‘Stock liquidity and dividend payouts’, *Journal of Corporate Finance*, 42, pp. 295-314.

John, K. and Nachman, D. (1986) 'On the optimality of intertemporal smoothing of dividends', working paper, New York University and Georgia Institute of Technology.

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

Kalay, A. (1980) 'Signaling, information content, and the reluctance to cut dividends', *Journal of financial and Quantitative Analysis*, 15(4), pp. 855-869.

Kalay, A. (1982) 'Stockholder-bondholder conflict and dividend constraints', *Journal of financial economics*, 10(2), pp. 211-233.

Kalay, A. and Loewenstein, U. (1985) 'Predictable events and excess returns: The case of dividend announcements', *Journal of Financial Economics*, 14(3), pp. 423-449.

Kalay, A. and Loewenstein, U. (1986) 'The informational content of the timing of dividend announcements', *Journal of Financial Economics*, 16(3), pp. 373-388.

Kale, J. R. Kini, O. and Payne, J. D. (2012) 'The dividend initiation decision of newly public firms: Some evidence on signaling with dividends', *Journal of Financial and Quantitative Analysis*, 47(2), pp. 365-396.

Karpavičius, S. (2014) 'Dividends: Relevance, rigidity, and signaling', *Journal of Corporate Finance*, 25, pp. 289-312.

Karpoff, J.M. (1987) 'The relation between price changes and trading volume: A survey', *Journal of Financial and Quantitative Analysis*, 22(1), pp. 109-126.

Kasanen, E. Kinnunen, J. and Niskanen, J. (1996) 'Dividend-based earnings management: Empirical evidence from Finland', *Journal of Accounting and Economics*, 22(1-3), pp. 283-312.

Khan, N. Burton, B. and Power, D. (2013) 'The signalling effect of dividends in Pakistan: executive and analyst perspectives', *Journal of Accounting in Emerging Economies*, 3(1), pp. 47–64.

Kim, J., Lee, K.H. and Lie, E. (2017) 'Dividend stickiness, debt covenants, and earnings management', *Contemporary Accounting Research*, 34(4), pp. 2022-2050.

Kim, O. and Verrecchia, R. (1991) ‘Trading Volume and Price Reactions to Public Announcements’, *Journal of Accounting Research*, 29(2), pp. 302-321.

Kirkulak, B. and Kurt, G. (2010) ‘Are dividends disappearing or shrinking? Evidence from the Istanbul Stock Exchange’, *Emerging Markets Finance and Trade*, 46(2), pp. 38-52.

Koch, P. D. and Shenoy, C. (1999) ‘The information content of dividend and capital structure policies’, *Financial Management*, pp. 16-35.

Kothari, S. P. Shu, S. and Wysocki, P. D. (2009) ‘Do managers withhold bad news?’, *Journal of Accounting Research*, 47(1), pp. 241–276.

Koussis, N. Martzoukos, S. and Trigeorgis, L. (2017) ‘Corporate liquidity and dividend policy under uncertainty’, *Journal of Banking and Finance*, 75, pp. 200-214.

Krishnaswami, S. and Subramaniam, V. (1999) ‘Information asymmetry, valuation, and the corporate spin-off decision’, *Journal of Financial Economics*, 53(1), pp. 73-112.

Kumar, A. and Vergara-Alert, C. (2018) ‘The Effect of Financial Flexibility on Payout Policy’, *Journal of Financial and Quantitative Analysis*, pp. 1-48.

Kumar, P. (1988) ‘Shareholder-manager conflict and the information content of dividends’, *The Review of Financial Studies*, 1(2), pp. 111-136.

Kumar, P. and Lee, B.S. (2001) ‘Discrete dividend policy with permanent earnings’, *Financial Management*, 30(3), pp. 55-76.

Kumar, P.C. and Tsetsekos, G.P. (1999) ‘The differentiation of 'emerging' equity markets’, *Applied Financial Economics*, 9(5), pp. 443-453.

La Porta, R. Lopez-de-Silanes, F. and Shleifer, A. (1999) ‘Corporate ownership around the world’, *The journal of finance*, 54(2), pp. 471-517.

La Porta, R. Lopez-de-Silanes, F. Shleifer, A. and Vishny, R.W. (2000) ‘Agency problems and dividend policies around the world’, *The journal of finance*, 55(1), pp. 1-33.

Lambrecht, B. M. and Myers, S. C. (2012) 'A Lintner model of payout and managerial rents', *The Journal of Finance*, 67(5), pp. 1761-1810.

Lang, L.H. and Litzenberger, R.H., (1989) 'Dividend announcements: Cash flow signalling vs free cash flow hypothesis?', *Journal of Financial Economics*, 24(1), pp. 181-191.

Larkin, Y. Leary, M. and Michaely, R. (2016) 'Do Investors Value Dividend-Smoothing Stocks Differently?', *Management Science*, 63(12), pp. 4114-4136.

Lasfer, M. A. (1996) 'Taxes and dividends: The UK evidence', *Journal of Banking and Finance*, 20(3), pp. 455-472.

Leary, M.T. and Michaely, R. (2008) 'Why firms smooth dividends: empirical evidence', *Johnson School Research Paper Series* (11-08), pp. 1-35.

Leary, M.T. and Michaely, R. (2011) 'Determinants of dividend smoothing: Empirical evidence', *The Review of Financial Studies*, 24(10), pp. 3197-3249.

Lee, B.-S. and Yan, N. A. (2003) 'The market's differential reactions to forward-looking and backward-looking dividend changes', *Journal of Financial Research*, 26(4), pp. 449–468.

Lee, C. M. Mucklow, B. and Ready, M. J. (1993) 'Spreads, depths, and the impact of earnings information: An intraday analysis', *The Review of Financial Studies*, 6(2), pp. 345-374.

Leippold, M. Trojani, F. and Vanini, P. (2008) 'Learning and asset prices under ambiguous information', *Review of Financial Studies*, 21(6), pp. 2565–2597.

Lemmon, M. L. and Zender, J. F. (2010) 'Debt capacity and tests of capital structure theories', *Journal of Financial and Quantitative Analysis*, 45(5), pp. 1161-1187.

Li, K. and Zhao, X. (2008) 'Asymmetric information and dividend policy', *Financial Management*, 37(4), pp. 673-694.

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

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

Lintner, J. (1962) 'Dividends, Earnings, Leverage, Stock Prices and the Supply of Capital to Corporations', *The Review of Economics and Statistics*, 44(3), pp. 243-269.

Lipson, M. Maquieira, C. and Megginson, W. (1998) 'Dividend Initiations and Earnings Surprises', *Financial Management*, 27(3), pp. 36–45.

Litzenberger, R.H. and Ramaswamy, K. (1979) 'The effect of personal taxes and dividends on capital asset prices: Theory and empirical evidence', *Journal of financial economics*, 7(2), pp. 163-195.

Litzenberger, R.H. and Ramaswamy, K. (1980) 'Dividends, short selling restrictions, tax-induced investor clienteles and market equilibrium', *The Journal of Finance*, 35(2), pp. 469-482.

Llorente, G. Michaely, R. Saar, G. and Wang, J. (2002) 'Dynamic volume-return relation of individual stocks', *The Review of Financial Studies*, 15(4), pp. 1005-1047.

Lloyd, W. P. Jahera, J. S. and Page, D. E. (1985) 'Agency costs and dividend payout ratios', *Quarterly Journal of Business and Economics*, 24, pp. 19-29.

Lonie, A. A. Abeyratna, G. Power, D. M. and Sinclair, C. D. (1996) 'The stock market reaction to dividend announcements: A UK study of complex market signals', *Journal of Economic Studies*, 23(1), pp. 32–52.

Loureiro, G., Taboada, A.G. (2012) 'The Impact of IFRS adoption on stock price informativeness', Working paper, University of Tennessee, US.

Luo, H.R. (2017) 'Bid-ask spread decomposition and information asymmetry of firms cross-listed in the London and New York exchanges', *International Finance and Banking*, 4(1), pp.16-32.

MacKinlay, A.C. (1997) 'Event studies in economics and finance', *Journal of economic literature*, 35(1), pp. 13-39.

Malkiel, B.G. (1989) 'Efficient market hypothesis', In *Finance* (pp. 127-134). Palgrave Macmillan, London.

Mantripragada, K.G. (1976) 'An empirical test of the stable dividend hypothesis', *Journal of Business Research*, 4(4), pp.325-335.

Marfo-Yiadom, E. and Agyei, S.K. (2011) 'Determinants of dividend policy of banks in Ghana', *International Research Journal of Finance and Economics*, 61(61), pp. 99-108.

Marsh, T.A. and Merton, R.C. (1987) 'Dividend behavior for the aggregate stock market', *The Journal of Business*, 60(1), pp. 1-40.

McCabe, G.M. (1979) 'The empirical relationship between investment and financing: a new look', *Journal of Financial and Quantitative Analysis*, 14(1), pp. 119-135.

McCluskey, T. Burton, B. M. Power, D. M. and Sinclair, C. D. (2006) 'Evidence on the Irish stock market's reaction to dividend announcements', *Applied Financial Economics*, 16(8), pp. 617–628.

McDonald, J. G. Jacquillat, B. and Nussenbaum, M. (1975) 'Dividend, investment and financing decisions: empirical evidence on French firms', *Journal of Financial and Quantitative Analysis*, 10(05), pp. 741-755.

McQueen, G. Pinegar, M. and Thorley, S. (1996) 'Delayed reaction to good news and the cross-autocorrelation of portfolio returns, *The Journal of Finance*, 51(3), pp. 889–919.

Michaely, R. and Roberts, M.R. (2012) 'Corporate dividend policies: Lessons from private firms', *The Review of Financial Studies*, 25(3), pp. 711-746.

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

Michel, A. (1979) 'Industry influence on dividend policy', *Financial Management*, 8(3), pp. 22-26.

Mikluš, M. and Oplotnik, Z. J. (2016) 'Capital Market Response to the Change in the Dividend Policy: The Case of Slovenian Stock Market', *Research in Applied Economics*, 8(1), pp. 42–57.

Miller, M. and Modigliani, F. (1961) 'Dividend Policy, Growth, and the Valuation of Shares', *The Journal of Business*, 34(4), pp. 411-433.

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

Miller, M.H. and Scholes, M.S. (1978) 'Dividends and taxes', *Journal of financial economics*, 6(4), pp. 333-364.

Miller, M.H. and Scholes, M.S. (1982) 'Dividends and taxes: Some empirical evidence', *Journal of Political Economy*, 90(6), pp. 1118-1141.

Mishra, C.S. and Narender, V. (1996) 'Dividend policy of SOEs in India: An analysis', *Finance India*, 10(3), pp. 633-645.

Modigliani, F. and Miller, M.H. (1958) 'The cost of capital, corporation finance and the theory of investment', *The American economic review*, 48(3), pp. 261-297.

Møller, S. and Sander, M. (2017) 'Dividends, earnings, and predictability', *Journal of Banking and Finance*, 78, pp. 153-163.

Morck, R. Yeung, B. and Yu, W. (2000) 'The information content of stock markets: why do emerging markets have synchronous stock price movements?', *Journal of financial economics*, 58(1-2), pp. 215-260.

Mori, N. and Ikeda, N. (2015) 'Majority support of shareholders, monitoring incentive, and dividend policy', *Journal of Corporate Finance*, 30, pp. 1-10.

Muhammad, N., Islam, A.R.M. and Marashdeh, H.A. (2016) 'Financial development and economic growth: an empirical evidence from the GCC countries using static and dynamic panel data', *Journal of Economics and Finance*, 40(4), pp. 773-791.

Muller, N. and Svensson, T. (2014). Dividend smoothing in Sweden: An empirical investigation of determinants of dividend smoothing. Master thesis, Lunds University, Department of Business Administration.

Myers, S.C. (1984) 'The capital structure puzzle', *The journal of finance*, 39(3), pp. 574-592.

Myers, S.C. and Majluf, N.S. (1984) 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of financial economics*, 13(2), pp. 187-221.

Ng, J. Rusticus, T. O. and Verdi, R. S. (2008) 'Implications of transaction costs for the post-earnings announcement drift', *Journal of Accounting Research*, 46(3), pp. 661–696.

Nicolosi, G. (2013) 'Demographics of dividends', *Journal of Corporate Finance*, 23, pp. 54-70.

Officer, M.S. (2011) 'Overinvestment, corporate governance, and dividend initiations', *Journal of Corporate Finance*, 17(3), pp. 710-724.

Ogaki, M. (1993) 17 Generalized method of moments: Econometric applications. *Handbook of statistics*, 11, pp.455-488.

O'Hara, M. (2003) 'Presidential address: Liquidity and price discovery', *The Journal of Finance*, 58(4), pp. 1335-1354.

Omar, N. and Rizuan, S. (2014) 'Financial deceitful trick through dividend smoothing', *Procedia-Social and Behavioral Sciences*, 145, pp. 300-307.

Omet, G. (2004) 'Dividend policy behaviour in the Jordanian capital market', *International Journal of Business*, 9(3), pp. 287-299.

Onali, E. (2016) 'Can we predict dividend cuts?', *Economics Letters*, 146, pp. 71-76.

Osman, D. and Mohammed, E. (2010) 'Dividend Policy in Saudi Arabia', *The International Journal of Business and Finance Research*, *4*(1), pp. 99-113.

Pandey, I. M. and Bhat, R. (2007) 'Dividend behaviour of Indian companies under monetary policy restrictions', *Managerial Finance*, 33(1), pp. 14-25.

Papadopoulos, D. L. and Charalambidis, D. P. (2007) 'Focus on present status and determinants of dividend payout policy: Athens stock exchange in perspective', *Journal of Financial Management and Analysis*, 20(2), pp. 24-37.

Park, H.M. (2011) 'Practical guides to panel data modeling: a step-by-step analysis using stata', *Public Management and Policy Analysis Program, Graduate School of International Relations, International University of Japan*, pp. 1-52.

Penman, S. H. (1987) 'The distribution of earnings news over time and seasonalities in aggregate stock returns', *Journal of Financial Economics*, 18(2), pp. 199-228.

Petacchi, R. (2015) 'Information asymmetry and capital structure: Evidence from regulation FD', *Journal of Accounting and Economics*, *59*(2-3), pp. 143-162.

Pettit, R. R. (1977) 'Taxes, transactions costs and the clientele effect of dividends', *Journal of Financial Economics*, 5(3), pp. 419–436.

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

Pillai, R. and Al-Malkawi, H.A.N. (2018) 'On the relationship between corporate governance and firm performance: Evidence from GCC countries', *Research in International Business and Finance*, 44, pp. 394-410.

Pindado, J., Requejo, I. and de la Torre, C. (2012) 'Do family firms use dividend policy as a governance mechanism? Evidence from the Euro zone', *Corporate Governance: An International Review*, 20(5), pp. 413-431.

Piotroski, J. D. and Roulstone, D. T. (2004) 'The influence of analysts, institutional investors, and insiders on the incorporation of market, industry, and firm-specific information into stock prices', *The Accounting Review*, 79(4), pp. 1119-1151.

Poterba, J.M. and Summers, L.H. (1984) 'New evidence that taxes affect the valuation of dividends', *The Journal of Finance*, 39(5), pp. 1397-1415.

Preinreich, G.A. (1932) 'Stock yields, stock dividends and inflation', *Accounting Review*, pp. 273-289.

Ramadan, E. (2015) 'Sustainable urbanization in the Arabian Gulf region: problems and challenges', *Arts and Social Sciences Journal*, 6(2), pp. 1-4.

Ranajee, R. Pathak, R. and Saxena, A. (2018) 'To pay or not to pay: what matters the most for dividend payments?', *International Journal of Managerial Finance*, 14(2), pp. 230-244.

Rangvid, J. Schmeling, M. and Schrimpf, A. (2014) 'Dividend Predictability Around the World', *Journal of Financial and Quantitative Analysis*, 49(5-6), pp. 1255-1277.

Reckers, P.M. Ed. (2005) Advances in accounting (Vol. 21). Elsevier.

Redding, L. S. (1997) 'Firm size and dividend payouts', *Journal of Financial Intermediation*, 6(3), pp. 224-248.

Rezvanian, R. Ariss, R.T. and Mehdian, S.M. (2015) 'Investors' reaction to unexpected price innovations: the case of GCC countries', *International Journal of Behavioural Accounting and Finance*, 5(2), pp. 154-174.

Rhee, K. and Park, K.S. (2018) 'Changes in dividend smoothing after the financial crisis', *Economics Letters*, 172, pp.37-39.

Richardson, G. Sefcik, S. E. and Thompson, R. (1986) 'A test of dividend irrelevance using volume reactions to a change in dividend policy', *Journal of Financial Economics*, 17(2), pp. 313–333.

Roll, R. (1988) 'The Stochastic Dependence of Security Price Changes and Transaction Volumes: Implications for the Mixture-of-Distributions Hypothesis', *The Journal of Finance*, 43(3), pp. 541-566.

Ross, S. (1977) 'The Determination of Financial Structure: The Incentive-Signalling Approach', *The Bell Journal of Economics*, 8(1), pp. 23-40.

Rozeff, M.S. (1982) 'Growth, beta and agency costs as determinants of dividend payout ratios', *Journal of Financial Research*, 5(3), pp. 249-259.

Rozycki, J.J. (1997) 'A tax motivation for smoothing dividends', *The Quarterly Review of Economics and Finance*, 37(2), pp. 563-578.

Sage, G.H. (1937) 'Dividend policy and business contingencies', *Harvard Business Review*, 15(2), pp. 245-252.

Sahut, J.M. and Teulon, F. (2017) 'What are the determinants of dividend policies? A new perspective in Emerging Markets', *Economics Bulletin*, 37(3), pp. 2234-2246.

Sant, R. and Cowan, A.R. (1994) 'Do dividends signal earnings? The case of omitted dividends', *Journal of Banking and Finance*, 18(6), pp. 1113-1134.

Saravanakumar, S. (2011) 'Determinants of corporate dividend policy', *Asia Pacific Business Review*, 7(2), pp. 25-36.

Sawicki, J. (2009) 'Corporate governance and dividend policy in Southeast Asia pre- and post-crisis', *The European Journal of Finance*, 15(2), pp. 211-230.

Saxena, A.K. (1999) 'Determinants of dividend payout policy: regulated versus unregulated firms', *Journal of Applied Topics in Business and Economics*, 34(1), pp. 42-52.

Scholz, J.K. (1992) 'A direct examination of the dividend clientele hypothesis', *Journal of Public Economics*, 49(3), pp. 261-285.

Shevlin, T. (1982) 'Australian corporate dividend policy: Empirical evidence', *Accounting and Finance*, 22(1), pp. 1-22.

Sias, R. W. and Starks, L. T. (1995) 'The day-of-the-week anomaly: The role of institutional investors', *Financial Analysts Journal*, 51(3), pp. 58-67.

Singhania, M. and Gupta, A. (2012) 'Determinants of corporate dividend policy: A Tobit model approach', *Vision*, 16(3), pp. 153-162.

Smith Jr, C.W. and Warner, J.B. (1979) 'On financial contracting: An analysis of bond covenants', *Journal of financial economics*, 7(2), pp. 117-161.

Spence, M.S., M. (1973) 'Job market signalling', *Quarterly Journal of Economics*, 90, pp. 225-243.

Spindle, B. (2008). *Crisis could knock GCC cash surplus* | The National. Retrieved 20 April 2015, from https://www.thenational.ae/business/crisis-could-knock-gcc-cash-surplus-1.524536

Stock, J.H. and Watson, M.W., 2003. *Introduction to econometrics* (Vol. 104). Boston: Addison Wesley.

Stolowy, H. and Breton, G. (2000, March) 'A review of research on accounts manipulation', In *Paper for the Annual Congress of European Accounting Association*, pp. 29-31.

Strong, N. (1992) 'Modelling abnormal returns: a review article', *Journal of Business Finance and Accounting*, 19(4), pp. 533–553.

Takeda, F. and Tomozawa, T. (2008) 'A change in market responses to the environmental management ranking in Japan', *Ecological Economics*, 67(3), pp. 465-472.

Tan, Y. Zeng, C. C. and Elshandidy, T. (2017) 'Risk disclosures, international orientation, and share price informativeness: Evidence from China', *Journal of International Accounting, Auditing and Taxation*, 29, pp. 81-102.

Torres-Reyna, O. (2007) 'Panel data analysis fixed and random effects using Stata (v. 4.2)', *Data and Statistical Services, Priceton University*, *112*.

Travlos, N.G. Trigeorgis, L. and Vafeas, N. (2001) 'Shareholder wealth effects of dividend policy changes in an emerging stock market: The case of Cyprus', *Multinational Finance Journal*, 5(2), pp. 87-112.

Uddin, M. H. and Chowdhury, G. M. (2005) 'Effect of dividend announcement on shareholders' value: Evidence from Dhaka Stock Exchange', *Journal of Business Research*, 7(1), pp. 61-72.

Vishwanath, S. R. (2007). Corporate finance: Theory and practice. SAGE Publications India.

von Eije, H. Goyal, A. and Muckley, C. (2017) 'Flexible firm-level dividends in Latin America', *Finance Research Letters*, 23, pp. 133-136.

Walter, J.E. (1963) 'Dividend policy: its influence on the value of the enterprise', *The Journal of Finance*, 18(2), pp. 280-291.

Wansley, J. W. Sirmans, C. F. Shilling, J. D. and Lee, Y. (1991) 'Dividend change announcement effects and earnings volatility and timing', *Journal of Financial Research*, 14(1), pp. 33–49.

Withisuphakorn, P. and Jiraporn, P. (2015) 'The effect of CEO power on the informativeness of stock prices: an empirical note', working paper, Pennsylvania State University, State College, PA.

Wooldridge, J.M. (2002). Econometric Analysis of Cross Section and Panel Data. The MIT Press, Cambridge, Massachusetts.

Woolridge, J.R. (1983) 'Dividend changes and security prices', *The Journal of Finance*, 38(5), pp. 1607-1615.

Woolridge, J.R. and Ghosh, C. (1985) 'Dividend cuts: Do they always signal bad news', *Midland Corporate Finance Journal*, 3(2), pp. 20-32.

Wurgler, J. (2000) 'Financial markets and the allocation of capital', *Journal of financial economics*, 58(1-2), pp. 187-214.

Yarram, S. R. and Dollery, B. (2015) 'Corporate governance and financial policies: Influence of board characteristics on the dividend policy of Australian firms', *Managerial Finance*, 41(3), pp. 267-285.

Zeng, T. (2003) 'What determines dividend policy: a comprehensive test', *Journal of American Academy of Business, Cambridge*, 2(2), pp. 304-304.

Zwiebel, J. (1996) 'Dynamic capital structure under managerial entrenchment', *The American Economic Review*, pp. 1197-1215.