10. THE ROLE OF DIVIDENDS ON EQUITY VALUATION: EVIDENCE FROM THE GCC COUNTRIES

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Abstract

The paper extends the research on the ability of dividends to predict three equity valuation attributes: net earnings, cash flows from operations, and abnormal net earnings. Results from 264 companies that traded on the GCC Exchange during 2006–2016 provide the following insights. First, current dividends are value-relevant in predicting future net earnings, cash flows from operations, and abnormal net earnings. Second, current dividends are better predictors of these aspects over the short horizon than over the long horizon. Finally, in explaining the dividend policy, future net earnings have better incremental information than cash flows from operations and abnormal net earnings, and cash flows from operations have better incremental information than abnormal net earnings. These results have important implications for potential investors. To know the relationship between current dividends and future stock prices is considered important for Investors' decisions in the GCC countries. This paper can be considered the first paper that studies the association between dividends and other three different equity valuation attributes as a comparative study of six emerging countries.

Keywords: dividends, net earnings, cash flows from operations, abnormal net earnings, GCC countries,

JEL Classification: M40, N25, O53, F30, G15

1. Introduction

Dividend policy is one of the most debatable topics in finance theory. Various theories presented by researchers are still open for discussion (Ahmed and Al-Mukit, 2014). Whether to pay dividends, keep and invest cash flow, or distribute part of earnings is an important decision to be made carefully. According to the available investment opportunities and to increase the future earnings, management should decide to or not to distribute the earnings to the shareholders (Modigliani and Miller, 1961). Regarding dividend payment, the logic states that cash must be paid if the amount of dividends has a net present value higher than the retained cash. Modigliani and Miller (1961) show that in perfect capital markets, where

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there are no taxes, no transaction costs, and no other market imperfections, the changes in dividend policy will not affect firm value when the investment policy is fixed.

Since the publication of Modigliani and Miller's (1961) paper, many studies have been conducted globally to find explanations of dividend policy and its effect on a firm's value. According to the literature review, many researchers have found a relationship between stock prices (as a proxy for the value of firms) and dividends (Lettau and Van Nieuwerburgh, 2008).

Ohlson (1991, 1995) provides the first evidence of the irrelevancy of firm value and dividends regarding book value and earnings. Yee (2005) argues that paying dividends decreases the current book value, which does not affect the expected earnings on the same date but decreases the expected future earnings. Soewignyo (2020) investigates the effect of dividend policy on firm value (which is reflected in the company's stock market value) and finds that an increase in dividend payout results in lower firm value. Bangun and Wati (2007) find that the dividend policy does not significantly affect firm value. In contrast, Sari (2013) insinuates that dividend policy has a positive and significant effect on firm value in terms of solvability. Anton (2016) also investigates the impact of dividend policy on firm value. He finds that the dividend payout ratio positively influences firm value.

One of the most commonly used approaches for estimating firm value is the expected share price in the market (Ohlson, 1991, 1995; Begley and Feltham, 2002; Liu *et al*. 2002; Easton, 2004). The real price may vary significantly depending on variables that determine the business value. The literature uses different approaches that affect the expected share price in the market. First, many studies (*e.g*., Ohlson, 1991, 1995; and Bartov *et al*., 2001) argue that reported income increases the market price. Second, other studies (*e.g*., Bowen *et al*., 1987; Ali, 1994; Cheng *et al*., 1996; and Bartov *et al*., 2001) suggest that cash flow affects market price. Finally, some studies (*e.g*., Bernard, 1995, and Penman and Sougiannis, 1998) research the correlation between abnormal earnings and market price. To summarize, the literature suggests that market price is affected by current dividends, which in turn affects future net earnings, cash flows from operations, and abnormal net earnings.

Given that the stock prices determine the firm value and firm value is affected by dividends, this study extends the research on equity valuation by examining the role of dividends in determining future net earnings, cash flows from operations, and abnormal net earnings with the help of three valuation models: the reported net earnings (NE) model, the cash flows from operations (CFO) model, and the abnormal net earnings (ABNE) model. In addition, previous studies have tested the ability of earnings to predict earnings and cash flows as important financial variables that determine firm value. However, this study is different, as it contributes to the existing literature on what dividends are informative about. Based on the Gulf Cooperation Council (GCC) countries' data from 2006 to 2016, the study examines the ability of dividends to predict future net earnings and cash flows from operations. It shows that dividends provide some information to capital market participants in the emerging countries, such as the GCC countries. In addition, this study tests the ability of dividends to predict abnormal net earnings, which has not yet been tested in the literature. It provides insight into the relationship between dividends and firm value by comparing the relative abilities of dividends to predict future net earnings, cash flows from operations, and abnormal net earnings. Finally, the study compares the superiority of net earnings over both cash flows from operations and abnormal net earnings and the superiority of cash flows from operations over abnormal net earnings in predicting dividends. This also has not been tested in the literature. The study used data from Compustat Global and the annual reports of publicly traded firms in the GCC stock exchanges during the period 2006–2016.

The study has important implications. Its findings will be of interest to policymakers, investors, and academics. These parties are interested in the correlation between dividends, net earnings, cash flows from operations, and abnormal net earnings, since these results affect the level of information asymmetry between managers and investors and, consequently, affect the firms' value. It is important for investors in the GCC countries to know that current dividends affect future stock prices, given that stock prices are determined by future net earnings, cash flows from operations, and abnormal net earnings.

The remainder of this paper is organized as follows: Section 2 introduces the literature review; Section 3 develops the hypotheses; Section 4 presents the empirical results; and finally, Section 5 summarizes and concludes the study.

2. Literature Review

Firms pay dividends to address various market imperfections, such as mitigation of information asymmetry, satisfying investors' excessive preferences, or mitigation of agency problems (Ganguli *et al*., 2020). Different factors affect the decisions of dividend policy. This may be explained through different theories in the literature: signaling theory, tax clientele theory, agency theory, life cycle theory, and catering theory. The results differ according to the theory, and each theory has its explanations. In the signaling theory, managers own better information than investors about the profitability and future growth of a firm. The dividend is used as a signal to mitigate this information gap (Al-Yahyaee *et al*., 2011). In the tax clientele theory, tax is important in deciding dividends. Investors in a tax-exempt entity may prefer dividends, while they prefer capital gain when a dividend tax is higher than a tax on the capital gain (Dhaliwal *et al*., 1999). Easterbrook (1984) and Jensen (1986) suggest the agency theory, which assumes that dividends reduce the free cash flow available in the firms and then prevents managers from excessive investment that does not generate a positive net present value. If retained earnings are not enough because of the high dividend payout, the management needs to finance investment by either debt or equity. In both cases, managers will be controlled by lenders and capital markets. Thus, a high dividend payout reduces the agency problems. DeAngelo *et al*. (2006) suggest the lifecycle theory, which predicts that dividend payout is lower during firms' growth phase since firms need to finance their investment projects. In subsequent years, firms pay out more dividends to address and mitigate the problem of free cash flow. Finally, the catering theory focuses on the large shareholders' influence on dividends. It suggests that when investors need dividends, they put a premium on dividend-paying firms, whereas they put a premium on non-payer firms when a dividend is not required (Baker and Wurgler, 2004). In the catering approach, firms set their dividend policy to maximize the benefit of the large shareholders, as they influence the board's decisions.

As discussed above, this study uses dividend payout as a proxy for the firm value. Many studies have reviewed and studied the valuation theory and the relationship between the firm value and accounting data. This study tests the security valuation model that depends on three capitalization attributes: net earnings, cash flows from operations, and abnormal net earnings. To estimate the firm value, one needs firm dividends. In this study, the first literature set examined the relation between current dividends, future earnings, and firm value. The firms' earnings are not only relevant to their survival but also affect the stakeholders' decisions. Since dividend payout is often limited to either earnings or equity increase, accounting earnings are one of the important factors that determine dividend payment. Some managers use dividends as a signal for the profitability of a firm. They

believe that the market reacts positively to high dividends per share and negatively to low dividends per share. Previous studies evidence the association between earnings and dividends (Brav *et al.*, 2005). Gordon and Shapiro (1956) and Lintner (1956) support the theory of relevance of the relationship between the dividends paid and the firm value, which are a result of reported net income and dividends paid. Crum *et al*. (1988) find that the previous year's dividends are the most important factors affecting dividends. Gordon and Shapiro (1956) suggest an evaluation model that assumes a relationship between the dividends policy and the market value of the company. The model suggests that dividends affect the market value of the company. It assumes that investors, in general, are risk-averse and seek a higher return in the short run; dividends reflect the in-hand amount, while capital gains reflect the expected amount. Skinner and Soltes (2011) find that dividend-paying firms have more persistent earnings than non-dividend–paying firms. Ohlson (1989) emphasizes the importance of the dividends-earnings interaction for accounting research. He finds that current earnings are incrementally useful in predicting future dividends. Tong and Miao (2011) indicate that the traditional dividend-signaling model predicts that dividends convey information about firms' future earnings prospects - an increase in dividends signals good news and a decrease in dividends signals bad news. Hanlon *et al*. (2007) hypothesize that investors can better predict future earnings for the dividend-paying firms as compared to the non-dividend–paying firms.

The second literature set examined the relation between current dividends, future cash flows from operations, and firm value. Cash flows are considered to be an important factor in determining a firm value (Al-Najjar and Belghitar, 2012). Estimating future cash flow is important for both shareholders and creditors. Shareholders are often concerned with long-term cash generation in order to estimate their firms' value, whereas creditors are concerned about estimating the company's ability in generating short-term cash flow. It is generally agreed that cash flows are important in determining the firm value (Belghitar *et al*., 2008). Since cash flow is considered a direct measure of liquidity, it is an important factor in determining dividend payment.

Until now, research on the relationship between dividend payment and cash flow has provided inconclusive results. For example, Simons (1994) examines the relationship between dividends and cash flow and finds that it is ambiguous. Livnat and Zarowin (1990) find a significantly positive correlation between returns and cash flows from operations. Amidu and Abor (2006) study the determinants of dividend payout ratio and find a positive correlation between dividend payout ratio and cash flow. Garrett and Priestley (2012) suggest that cash flow explains the recent stock price, and it can be estimated directly from dividends. Atieh and Hussain (2008) investigate whether corporate cash flow and accrual data explain dividends. Mistry (2010) examines the determinants of dividend payout ratio in India's pharmacy sector. He suggests that the dividend payout ratio is positively correlated with cash flow.

The third literature set examined the relation between current dividends, future abnormal earnings, and firm value. The abnormal earnings valuation model is currently used as an alternative to the discounted cash flow valuation models. The accurate valuation of publicly traded firms is crucial for investors to make decisions regarding buying, selling, or holding and for credit analysis and estimating the firm value for potential mergers and acquisitions (Lorek and Willinger 2003). Abnormal earnings are defined as accounting net earnings less the cost of equity capital (r) times the beginning-of-period book value of equity (Lorek and Willinger, 2003). Ohlson and Juettner-Nauroth (2005) propose an abnormal earnings growth valuation model, which depends on the expected future earnings and earnings growth.

Williams (1938) suggests a discounted dividends model that equates the firm's equity to the sum of the discounted expected dividend payments to shareholders over the firm's life. However, the forecasts are made over finite horizons and cannot go beyond the life of the firm. Ho *et al*. (2016) empirically compare the reliability of the dividends model, residual income valuation model, and abnormal earnings growth model. They find that valuation estimates from the abnormal earnings growth model are generally more reliable than those from the two other models.

In sum, various studies have examined the firm value and its correlation with different capitalization attributes. This paper adds to these studies by providing insight into the relationship between dividend and three capitalization attributes: future net earnings, cash flows from operations, and abnormal net earnings.

3. Hypotheses Development

Practicing investment analysts believe that earnings, cash flows, abnormal earnings, and dividends have different implications for firm value (Fridson, 1995). The increasing number of failing companies (Enron, WorldCom, Dell, Tyco International) is causing a loss of stakeholders' constancy in the creditability of accounting numbers and, more specifically, in earnings. As a result, the use of earnings as the only performance measurement can be questioned by stakeholders. Additional competing performance measurements are considered when the quality of earnings is doubtful. In this context, researchers started to empirically investigate the prediction ability of cash flows (Dechow, 1994) and abnormal earnings (Ho *et al*., 2016) regarding the usefulness of accounting data. As discussed above, numerous studies in the literature expect a relationship between earnings, cash flows, abnormal earnings, and firm value. Previous research relies on various empirical measures for evaluating the firm value, as no single measure exists. One of the most important measures of the firm value is the stock price. The stock price is directly affected by dividend payout. Therefore, this study uses dividend payout as a proxy to measure the firm value. Additionally, in this study, the security valuation model uses three capitalization attributes: net earnings, cash flows from operations, and abnormal net earnings. To estimate the value of a firm, one must forecast such attributes. Thus, the following hypotheses for predicting future net earnings, cash flows from operations, and abnormal net earnings can be stated in alternative forms:

H1A: Current dividends are value-relevant in predicting future net earnings, cash flows from operations, and abnormal net earnings.

H1A is tested empirically using equations (1a) through (1c):

$$NE_{t+1} = \alpha_{110} + \alpha_{111}DIV_t + \varepsilon_t \quad (1a)$$

$$CFO_{t+1} = \alpha_{120} + \alpha_{121}DIV_t + \varepsilon_t \quad (1b)$$

$$ABNE_{t+1} = \alpha_{130} + \alpha_{131}DIV_t + \varepsilon_t \quad (1c)$$

where: NE_{t+1} is a year ahead of net earnings not including extraordinary items and discontinued operations; CFO_{t+1} is a year ahead of cash flows from operations; $ABNE_{t+1}$ is a year ahead of abnormal net earnings, which is equal to NE - (cost of capital * book value of equity lag in one year); DIV_t is the current dividend. All variables are deflated by the number of subscribed shares. The α_{111}, α_{121}, and α_{131} coefficients reflect the ability of current dividends to predict future net earnings, cash flows from operations, and abnormal net earnings, respectively. Since H1A states that current dividends is value-relevant in predicting future net earnings, cash flows from operations, and abnormal net earnings, the α_{111}, α_{121}, and α_{131} coefficients are expected to be significantly different from zero.

Lintner (1956) assumes that firms' dividend policies depend on their long-run target dividend payouts and firms that are mature and stable in their earnings pay more dividends than the growing firms do. He finds that cutting dividend payments may give a negative signal about a firm in the market. The firms' choice to pay dividends to satisfy investors' preference is considered better than retaining the cash in the short and long run. This is because dividends give them information (signals) about the firms' future (signaling theory). This information is expected to be more accurate in the short run as compared to the long run since the predictions are more accurate within the short horizon. As a result, in this study, the following hypothesis was developed:

H1B: Current dividends is a better predictor of future net earnings, cash flows from operations, and abnormal net earnings over a short horizon than over a long horizon.

H1B is tested under medium-term (three years) and long term (five years) using equations (3a) through (3c) and (5a) through (5c), respectively:

$$NE_{t+3} = \alpha_{310} + \alpha_{311}DIV_t + \varepsilon_t \quad (3a)$$

$$CFO_{t+3} = \alpha_{320} + \alpha_{321}DIV_t + \varepsilon_t \quad (3b)$$

$$ABNE_{t+3} = \alpha_{330} + \alpha_{331}DIV_t + \varepsilon_t \quad (3c)$$

$$NE_{t+5} = \alpha_{510} + \alpha_{511}DIV_t + \varepsilon_t \quad (5a)$$

$$CFO_{t+5} = \alpha_{520} + \alpha_{521}DIV_t + \varepsilon_t \quad (5b)$$

$$ABNE_{t+5} = \alpha_{530} + \alpha_{531}DIV_t + \varepsilon_t \quad (5c)$$

where: $_{t+3}$, $_{t+5}$ denote three-year ahead and five-year ahead, respectively. The study uses the Diebold-Mariano (DM) forecast comparison test to compare a one-year horizon with three-year and five-year horizons for net earnings, cash flows from operations, and abnormal net earnings.

3.1. The Relative Information Content among Net Earnings, Cash Flows from Operations, and Abnormal Net Earnings

Previous studies suggested that the performance ability to predict firm value differs significantly among earnings, cash flows, accruals, abnormal earnings, and dividends (Barth *et al*., [1999] and Francis *et al*., [2000]). In addition, the relations between earnings, cash flows, accruals, abnormal earnings, and dividends are expected to differ among countries as well, owing to the unique socio-economic environments that cause variations in financial reporting and determination of stock prices (Barth *et al*., 2005). Bartov *et al*. (2001) investigate whether earnings or cash flows provide better information regarding equity valuation within the U.S., the U.K., Canada, Germany, and Japan. The authors show that earnings is superior to cash flows for equity valuation in the U.S., the U.K., and Canada. In Germany and Japan, on the other hand, earnings are not superior to cash flows for equity valuation. The findings show that the superiority of earnings over cash flows depends on factors such as the national reporting regime and attendant institutional factors.

Simons (1994) examines the superiority of earnings or cash flows to explain the dividend policy. He finds that earnings have better incremental information to explain dividend policy. In contrast, Al-Najjar and Belghitar (2012) find that cash flows are superior to earnings in dividend smoothing, suggesting that dividend policies depend on cash flows. In addition, Ohlson (1989) implies that current earnings are incrementally useful in predicting future dividends. Dechow (1994) regresses returns on earnings and cash flows and compares adjusted R^2 values to examine the effect of accruals on the performance of a firm. She finds that, over short intervals, earnings are more associated with stock returns than cash flows. While Dechow (1994) considers the stock returns as a benchmark measure of firm

performance, this study considers dividends as a benchmark measure of firm value. In sum, different studies find different results regarding the superiority of earnings or cash flows. Nevertheless, I expect net earnings to be superior to cash flows from operations and cash flows from operations to be superior to abnormal net earnings. Thus, I develop the following hypotheses:

***H2A**: Current dividends have a higher ability to predict future net earnings than to predict future cash flows from operations.*

***H2B**: Current dividends have a higher ability to predict future cash flows from operations than to predict future abnormal net earnings.*

Hypothesis H2A implies that the adjusted R^2 values in equations 1a, 3a, and 5a are significantly higher than those in equations 1b, 3b, and 5b, respectively. Hypothesis H2B implies that the adjusted R^2 values in equations 1b, 3b, and 5b are significantly higher than the adjusted R^2 values in equations 1c, 3c, and 5c, respectively.

4. Empirical Results

4.1. Data and Univariate Analyses

In this study, the data was extracted from Compustat Global and firms' annual reports. The sample comprised 216 companies that traded on the GCC countries' stock exchanges during 2006–2016 (which represents about 33.6% of all publicly traded firms in the GCC countries). The companies with less than five consecutive years' data were excluded. The number of firms reporting the required information prior to 2006 is small. All the variables were measured at fiscal year-end and expressed in Qatari Riyal and deflated by the number of common outstanding shares. After eliminating the extreme percentiles for each variable (1 percent and 99 percent to mitigate the effects of outliers), a total of 2138 firm-year observations were collected.

Table (1) (in the Appendix 1[2]) presents descriptive statistics for each of the variables used in the estimated equations. Panel A of Table (1) reports distributional statistics, and Panel B contains the Pearson correlations. Panel A of Table (1) shows that, on average, the net earnings per share in Qatar is the highest and ten times more than the net earnings per share in all the other GCC countries, except for Saudi Arabia. This is because the number of common shares in the Qatar stock exchange is much lower as compared to other GCC stock exchanges. Panel A also demonstrates that the mean of abnormal net earnings is positive in all GCC countries, since, on average, the market value is higher than the book value. Even though the results of the correlation coefficient will not be used to test the study hypotheses, the correlation coefficients in Panel B of Table (1) show that, as expected, most of the variables are significantly and positively correlated.

4.2. Regression Results

Panel A of Table (2) presents the regression results of one-year-ahead net earnings, cash flows from operations, and abnormal net earnings based on current dividend equations (1a) through (1c) for each country and pooled data (number of observations, Durbin-Watson test results, and White $\chi 2$ statistics results are available in Appendix 2 (online)). The coefficient estimates and *t*-statistics values are summarized in Panel A of Table (2). The results reveal

[2] *The Appendix 1 and 2 are available online as a suplemmentary material.*

that α_{111} is positive and significant for all countries as well as for pooled data. These results suggest that current dividends can predict one-year-ahead future net earnings. This finding agrees with Amidu and Abor (2006), Naeem and Nasr (2007), and Ahmad and Javid (2010) and supports the H1A hypothesis regarding the association between current dividends and future net earnings. Thus, dividend payments are value-relevant in determining future net earnings, which reflect the firm value.

In addition, the results reveal that α_{121} is positive and significant for all countries as well as for pooled data. These results suggest that current dividends can predict one-year-ahead future cash flows from operations. This finding agrees with Crum *et al*. (1988), Amidu and Abor (2006), Belghitar *et al*. (2008), Mistry (2010), and Garrett and Priestley (2012) and supports the H1A hypothesis regarding the association between current dividends and future cash flows from operations. Thus, current dividend payments are an important factor in determining future cash flows from operations.

Finally, the results reveal that α_{131} is positive and significant for all countries as well as for pooled data. These results suggest that current dividends can predict one-year-ahead future abnormal earnings. This finding agrees with Ohlson and Juettner-Nauroth (2005), Pope and Wang (2005), and Ho *et al.* (2016) and supports the H1A hypothesis regarding the association between current dividends and future abnormal earnings. Thus, current dividend payments are an important factor in determining future abnormal earnings.

In summary, the results in Panel A of Table (2) show that dividends are value-relevant in predicting one-year-ahead future net earnings, cash flows from operations, and abnormal net earnings. These results support the H1A hypothesis in the short horizon (one-year-ahead).

Panel B of Table (2) presents the regression results of three-year-ahead net earnings, cash flows from operations, and abnormal net earnings based on current dividend equations (3a) through (3c) for each country and pooled data. The coefficient estimates and *t*-statistics values are summarized in Panel B of Table (2). As in Panel A, the results in Panel B reveal that α_{311}, α_{321}, and α_{331} are positive and significant for all countries as well as for pooled data. These results suggest that current dividends can predict three-year-ahead future net earnings, cash flows from operations, and abnormal net earnings. In summary, the results in Panel B of Table (2) show that dividends are value-relevant in predicting three-year-ahead future net earnings, cash flows from operations, and abnormal net earnings. Thus, these results support the H1A hypothesis in the medium horizon (three-year-ahead).

Panel C of Table (2) presents the regression results of five-year-ahead net earnings, cash flows from operations, and abnormal net earnings based on current dividend equations (5a) through (5c) for each country and pooled data. The coefficient estimates and *t*-statistics values are summarized in Panel C of Table (2). As in Panel A and B, the results in Panel C reveal that α_{511}, α_{521}, and α_{531} are positive and significant for all countries as well as for pooled data. These results suggest that current dividends can predict five-year-ahead future net earnings, cash flows from operations, and abnormal net earnings. In summary, the results in Panel C show that dividends are value-relevant in predicting five-year-ahead future net earnings, cash flows from operations, and abnormal net earnings. Thus, the results in Panel C support H1A hypothesis in the long horizon (five-year-ahead).

Table 2

Summary statistics from regressions of one-year-ahead, three-year-ahead, and five-year-ahead net earnings, cash flows from operations, and abnormal net earnings on current dividends, 2006 - 2016

Panel A									
Country	α_{111}			α_{121}			α_{131}		
	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2
Qatar	.371	7.485***	.413	.270	14.850***	.276	.241	7.633***	.071
Kuwait	.194	7.927***	.176	.223	9.217***	.227	.247	5.269***	.085
Bahrain	.240	7.394***	.302	.296	7.679***	.220	.232	5.547***	.154
S.A.	.448	19.216***	.482	.239	10.704***	.223	.388	10.487***	.224
U.A.E.	.173	9.729***	.271	.178	6.650**	.146	.254	7.169***	.169
Oman	.734	20.150***	.505	.292	20.331***	.510	.639	9.765***	.194
Pooled	.507	29.273***	.591	.530	37.859***	.471	.286	4.747***	.113
Panel B									
Country	α_{311}			α_{321}			α_{331}		
	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2
Qatar	.312	5.486***	.427	.252	11.103***	.156	.213	6.475***	.074
Kuwait	.175	4.664***	.090	.159	6.417***	.161	.191	2.794***	.031
Bahrain	.228	6.938***	.323	.221	8.860***	.442	.211	5.077***	.200
S.A.	.372	10.266***	.274	.184	6.785***	.140	.368	9.694***	.166
U.A.E.	.097	4.144***	.177	.160	4.914**	.106	.142	1.984**	.014
Oman	.716	8.730***	.195	.235	9.624***	.228	.499	5.598***	.089
Pooled	.479	24.307***	.427	.518	32.083***	.358	.242	5.220***	.022
Panel C									
Country	α_{511}			α_{521}			α_{531}		
	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2
Qatar	.227	3.050***	.295	.239	9.063***	.139	.158	5.180***	.020
Kuwait	.121	3.621***	.233	.133	4.628***	.133	.182	2.196***	.028
Bahrain	.190	4.721***	.231	.194	6.814***	.394	.144	2.949***	.098
S.A.	.263	6.258***	.397	.160	3.316***	.260	.256	6.050***	.196
U.A.E.	.054	2.593***	.139	.117	4.440***	.117	.114	2.004**	.035
Oman	.656	6.671***	.262	.192	7.370***	.192	.459	5.040***	.098
Pooled	.372	17.187***	.265	.444	25.575***	.444	.255	4.808***	.027
For all regressions in this Table, the Durbin-Watson test does not reject the null hypothesis of zero autocorrelation, and the White $\chi 2$ statistics do not reject the null of homoscedasticity. ** = significant at 5% level, *** = significant at 1% level.									

Overall, the results in Table (2) support H1A, which states that current dividends are value-relevant in predicting future net earnings, cash flows from operations, and abnormal net earnings.

Table (3) presents the Diebold-Mariano (DM) test adopted to compare the predictive accuracy of a one-year period with a three-year period and a five-year period forecasting models of future earnings, cash flows from operations, and abnormal earnings.

Table 3

The Diebold-Mariano (DM) forecast comparison test for the one-year horizon, three-year horizon, and five-year horizon of earnings, cash flows from operations, and abnormal net earnings

Country		Panel A Earnings		Panel B Cash flows from operations		Panel C Abnormal net earnings	
		One-year horizon vs three-year horizon	One-year horizon vs five-year horizon	One-year horizon vs three-year horizon	One-year horizon vs five-year horizon	One-year horizon vs three-year horizon	One-year horizon vs five-year horizon
Qatar	DM statistics	-.312	-.103	-3.75	-3.84	-3.57	-1.33
	P-value	.776	.903	.000	.000	.000	.219
	Reject H_0	NO	NO	YES	YES	YES	NO
Kuwait	DM statistics	-3.56	-1.567	-1.046	-.965	-.546	-.884
	P-value	.000	.119	.296	.338	.596	.437
	Reject H_0	YES	NO	NO	NO	NO	NO
Bahrain	DM statistics	-4.86	-1.38	-.894	-.896	-2.65	-.574
	P-value	.000	.275	.415	.361	.009	.548
	Reject H_0	YES	NO	NO	NO	YES	NO
S. A.	DM statistics	-1.42	-.463	-.253	-.785	-.334	-.692
	P-value	.158	.637	.819	.427	.000	.320
	Reject H_0	N0	NO	NO	NO	YES	NO
U.A.E.	DM statistics	-.748	-.536	-2.03	-.563	-.352	-.236
	P-value	.436	.653	.044	.584	.734	.684
	Reject H_0	N0	NO	YES	NO	NO	NO
Oman	DM statistics	-4.75	-.256	-.365	-.265	-.245	-.813
	P-value	.000	.807	.726	.784	.824	.365
	Reject H_0	YES	N0	NO	NO	NO	NO
Pooled	DM statistics	-3.65	-.286	-3.45	-.924	-1.35	-1.81
	P-value	.000	.684	.000	.465	.167	.079
	Reject H_0	YES	NO	YES	NO	NO	NO

Panel A of Table (3) summarizes the DM test results between models (1a) and (3a), and models (1a) and (5a) for each country and for pooled data. The results show that model (1a) has better predictive accuracy than model (3a) for Qatar, Saudi Arabia, and the U.A.E. Moreover, when comparing model (1a) with model (5a), the results show that model (1a) has better predictive accuracy for the six GCC countries and pooled data. These results support H1B regarding the earnings. Panel B of Table (3) summarizes the DM test results between models (1b) and (3b), and models (1b) and (5b) for each country and for pooled data. The results show that model (1b) has better predictive accuracy than model (3b) for Kuwait, Bahrain, Saudi Arabia, and Oman. In addition, model (1b) has better predictive accuracy than model (5b) for Kuwait, Bahrain, Saudi Arabia, the U.A.E., Oman, and for pooled data. These results support H1B regarding cash flows from operations. Finally, panel C of Table (3) summarizes the DM test results between models (1c) and (3c), and models (1c) and (5c) for each country and for pooled data. The results show that model (1c) has better predictive accuracy than model (3c) for Kuwait, the U.A.E., Oman, and pooled data.

Moreover, when comparing model (1c) with model (5c), the results show that model (1c) has better predictive accuracy for the six GCC countries and pooled data. These results support H1B regarding abnormal earnings.

Overall, the results in Table (3) show that current dividends is a better predictor of future earnings, cash flows from operations, and abnormal earnings over a short horizon as compared to a long horizon. In sum, the results in Table (3) support H1B.

4.3. Relative Information Content Results

Biddle *et al*. (1995) argue that if one measure provides better information content than the other measure, then the first one has more relative information content than the other. To examine relative information content comparisons and determine whether the differences in the adjusted R^2 values between different models are significant, this study used the Vuong's likelihood-ratio test.

Table (4) presents relative information content comparisons between regressing one-year-ahead, three-year-ahead, and five-year-ahead net earnings based on current dividend equations (1a), (3a), and (5a), respectively, and one-year-ahead, three-year-ahead, and five-year-ahead cash flows from operations based on current dividend equations (1b), (3b), and (5b), respectively. The *z*-statistics values are summarized in Table (4). The results in Panel A of Table (4) show the relative information content comparisons between regressing one-year-ahead (short horizon) net earnings based on current dividend equation (1a) and one-year-ahead (short horizon) cash flows from operation based on current dividend equation (1b). The results reveal that, in a short horizon, cash flows from operations have a higher ability than net earnings to predict future dividends for Kuwait, while net earnings have a higher ability than cash flows from operations to predict future dividends for Qatar, Bahrain, Saudi Arabia, the U.A.E., and pooled data.

Table 4

Relative information content comparisons between regressing one-year-ahead, three-year-ahead, and five-year-ahead net earnings on current dividends (equations 1a, 3a, 5a respectively) and one-year-ahead, three-year-ahead, and five-year-ahead cash flow from operations on current dividends (equations 1b, 3b, and 5b respectively), 2006 - 2016

Country	Panel A			Panel B			Panel C		
	Equation (1a) Adj R^2	Equation (1b) Adj R^2	Z-statistics	Equation (3a) Adj R^2	Equation (3b) Adj R^2	Z-statistics	Equation (5a) Adj R^2	Equation (5b) Adj R^2	Z-statistics
Qatar	.413	.276	4.662***	.427	.165	5.337***	.295	.139	4.402***
Kuwait	.176	.227	-2.95***	.090	.161	-2.88***	.233	.133	3.964***
Bahrain	.302	.220	2.995***	.323	.442	-3.47***	.231	.394	-4.27***
S. A.	.482	.223	4.452***	.274	.140	4.173***	.397	.260	3.550***
U.A.E.	.271	.146	3.734***	.177	.106	3.049***	.139	.117	1.432
Oman	.505	.510	-0.523	.195	.228	-1.514	.262	.192	2.891***
Pooled	.591	.471	5.634***	.427	.358	3.874***	.265	.444	-5.77***

Z-statistics measures the significant differences between adjusted R^2s in cash flows from operations' model and net earnings' model. *** = significant at 1% level.

The results in Panel B of Table (4) show the relative information content comparisons between regressing three-year-ahead (medium horizon) net earnings based on current

dividend equation (3a) and three-year-ahead (medium horizon) cash flows from operations based on current dividend equation (3b). The results reveal that, in the medium horizon, cash flows from operations have a higher ability than net earnings to predict future dividends for Kuwait and Bahrain, while net earnings have a higher ability than cash flows from operations to predict future dividends for Qatar, Saudi Arabia, the U.A.E., and pooled data.

Finally, the results in Panel C of Table (4) show the relative information content comparisons between regressing five-year-ahead (long horizon) net earnings based on current dividends equation (5a) and five-year-ahead (long horizon) cash flows from operations based on current dividend equation (5b). The results reveal that, in the long horizon, cash flows from operations have a higher ability than net earnings to predict future dividends for Bahrain and pooled data, while net earnings have a higher ability than cash flows from operations to predict future dividends for Qatar, Kuwait, Saudi Arabia, and Oman.

In sum, the results in Table (4) show that net earnings have a higher ability than cash flows from operations to predict future dividends in 13 out of 21 cases. This partially supports H2A, which suggests that net earnings have a higher ability than cash flows from operations to predict future dividends.

Table (5) presents relative information content comparisons between regressing one-year-ahead, three-year-ahead, and five-year-ahead cash flows from operations based on current dividend equations (1b), (3b), and (5b), respectively, and one-year-ahead, three-year-ahead, and five-year-ahead abnormal net earnings based on current dividend equations (1c), (3c), and (5c), respectively. The *z*-statistics values are summarized in Table (5). The results in Panel A of Table (5) show the relative information content comparisons between regressing one-year-ahead (short horizon) cash flows from operations based on current dividend equation (1b) and one-year-ahead (short horizon) abnormal net earnings based on current dividend equation (1c). The results reveal that, in the short horizon, abnormal net earnings have a higher ability than cash flows from operations to predict future net dividends for the U.A.E., while cash flows from operations have a higher ability than abnormal net earnings to predict future dividends for Qatar, Kuwait, Bahrain, Oman, and pooled data.

The results in Panel B of Table (5) show the relative information content comparisons between regressing three-year-ahead (medium horizon) cash flows from operations based on current dividend equation (3b) and three-year-ahead (medium horizon) abnormal net earnings based on current dividend equation (3c). The results reveal that, in the medium horizon, abnormal net earnings have a higher ability than cash flows from operations to predict future dividends for Saudi Arabia, while cash flows from operations have a higher ability than abnormal net earnings to predict future dividends for Qatar, Kuwait, Bahrain, the U.A.E., Oman, and pooled data.

The results in Panel C of Table (5) show the relative information content comparisons between regressing five-year-ahead (long horizon) cash flows from operations based on current dividend equation (5b) and five-year-ahead (long horizon) abnormal net earnings based on current dividend equation (5c). The results reveal that *z*-statistics values are positive and significant for all the GCC countries and for pooled data as well. These results indicate that in the long horizon, cash flows from operations have a higher ability than abnormal net earnings to predict future dividends for all the GCC countries and pooled data.

In sum, the results in Table (5) show that cash flows from operations have a higher ability than abnormal net earnings to predict future dividends in 18 out of 21 cases. These results support H2B, which suggests that cash flows from operations have a higher ability than abnormal net earnings to predict future dividends.

Table 5

Relative information content comparisons between regressing one-year-ahead, three-year-ahead, and five-year-ahead cash flows from operations on current dividends (equations 1b, 3b, and 5b respectively) and one-year-ahead, three-year-ahead, and five-year-ahead abnormal net earnings on current dividends (equations 1c, 3c, and 5c respectively), 2006 - 2016

Country	Panel A			Panel B			Panel C		
	Equation (1b) Adj R^2	Equation (1c) Adj R^2	Z-statistics	Equation (3b) Adj R^2	Equation (3c) Adj R^2	Z-statistics	Equation (5b) Adj R^2	Equation (5c) Adj R^2	Z-statistics
Qatar	.276	.071	5.185***	.165	.074	3.196***	.139	.020	3.703***
Kuwait	.227	.085	4.867***	.161	.031	3.593***	.133	.028	3.514***
Bahrain	.220	.154	3.663***	.442	.200	4.398***	.394	.098	5.836***
S. A.	.223	.224	-0.423	.140	.166	-1.463	.260	.196	3.286***
U.A.E.	.146	.169	-2.03**	.106	.014	2.847***	.117	.035	3.794***
Oman	.510	.194	5.692***	.228	.089	3.687***	.192	.098	4.195***
Pooled	.471	.113	8.903***	.358	.022	9.892***	.444	.027	11.48***

*Z-statistics measures the significant differences between adjusted R^2s in cash flows from operations' model and net earnings' model. *** = significant at 1% level.*

4.4. Robustness Tests

Previous studies suggest that book value is an important variable in equity valuation. Ohlson (1995) develops a model that assesses a firm's market value by examining the relation between future earnings, book value, and dividends. The model provides a benchmark that can be used to conceptualize the firm value's correlation with the three accounting variables: earnings, book value, and dividends. Feltham and Ohlson (1995) examine the relationship between the market value of a firm and accounting data. Market value is expected to be equal to the net present value of future dividends, and under the clean surplus relation concept, market value equals book value plus the net present value of future abnormal earnings. Penman (2005) argues that any valuation model without including book value might come with a cost. In other words, omitting book value from the valuation model may result in the loss of balance sheet information, which may negatively affect the accuracy of an earnings forecast. Therefore, I added current book value to all the models used to test the hypotheses. After adjustment, the used equations become as follows:

$$NE_{t+1} = \alpha 110 + \alpha 111 DIV_t + \alpha 112 BV_t + \varepsilon_t \quad (1a')$$

$$CFO_{t+1} = \alpha 120 + \alpha 121 DIV_t + \alpha 122 BV_t + \varepsilon_t \quad (1b')$$

$$ABNE_{t+1} = \alpha 130 + \alpha 131 DIV_t + \alpha 132 BV_t + \varepsilon_t \quad (1c')$$

$$NE_{t+3} = \alpha 310 + \alpha 311 DIV_t + \alpha 312 BV_t + \varepsilon_t \quad (3a')$$

$$CFO_{t+3} = \alpha 320 + \alpha 321 DIV_t + \alpha 322 BV_t + \varepsilon_t \quad (3b')$$

$$ABNE_{t+3} = \alpha 330 + \alpha 331 DIV_t + \alpha 332 BV_t + \varepsilon_t \quad (3c')$$

$$NE_{t+5} = \alpha 510 + \alpha 511 DIV_t + \alpha 512 BV_t + \varepsilon_t \quad (5a')$$

$$CFO_{t+5} = \alpha 520 + \alpha 521 DIV_t + \alpha 522 BV_t + \varepsilon_t \quad (5b')$$

$$ABNE_{t+5} = \alpha 530 + \alpha 531 DIV_t + \alpha 532 BV_t + \varepsilon_t \quad (5c')$$

where: BV is book value per share. (All other variables are as previously described).

Table 6

Summary statistics for regressions of one-year-ahead, three-year-ahead, and five-year-ahead net earnings, cash flows from operations, and abnormal net earnings on current dividends and current book value, 2006 - 2016

Panel A

Country	α_{111}			α_{311}			α_{511}		
	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2
Qatar	.560	8.555***	.498	.503	7.768***	.463	.486	4.995***	.289
Kuwait	.287	4.659***	.219	.250	4.045***	.156	.273	2.856***	.427
Bahrain	.424	5.304***	.366	.357	5.029***	.365	.349	3.139***	.365
S.A.	.705	18.849***	.485	.537	9.951***	.271	.476	6.093***	.400
U.A.E.	.381	6.623***	.343	.161	2.150**	.333	.140	2.595***	.267
Oman	.478	8.920***	.541	.268	2.764***	.253	.294	2.712***	.264
Pooled	.407	14.733***	.397	.468	14.871***	.357	.476	12.418***	.280

Panel B

Country	α_{121}			α_{321}			α_{521}		
	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2
Qatar	.285	7.393***	.368	.198	3.264***	.268	.184	2.871***	.232
Kuwait	.242	4.344***	.366	.169	2.567***	.320	.140	2.672***	.298
Bahrain	.457	5.705***	.367	.560	6.753***	.478	.587	5.439***	.392
S.A.	.480	10.467***	.226	.404	6.937***	.151	.292	3.480***	.276
U.A.E.	.230	3.722***	.243	.230	3.722***	.243	.183	2.466**	.334
Oman	.471	8.860***	.549	.263	3.855***	.268	.258	3.356***	.191
Pooled	.517	21.396***	.339	.574	20.972***	.315	.647	20.267***	.501

Panel C

Country	α_{131}			α_{331}			α_{531}		
	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2	coef	t-stat	Adj R^2
Qatar	.493	8.555***	.211	.498	7.041***	.175	.332	3.325***	.145
Kuwait	.311	4.569***	.182	.169	2.143**	.128	.279	2.814***	.121
Bahrain	.479	5.308***	.191	.522	5.150***	.208	.400	3.067***	.099
S.A.	.583	18.849***	.384	.544	9.958***	.182	.510	6.564***	.187
U.A.E.	.429	6.623***	.167	.225	3.531***	.109	.225	2.261**	.110
Oman	.626	8.920***	.213	.445	4.514***	.095	.453	4.961***	.119
Pooled	.181	3.347***	.152	.218	5.605***	.126	.181	4.045***	.126

*Note: For all regressions in this table, the Durbin-Watson test does not reject the null hypothesis of zero autocorrelation, the White χ^2 statistics do not reject the null of homoscedasticity, and the Variance Inflation Factor (VIF) tests indicate no impacts of multicollinearity. ** = significant at 5% level,*** = significant at 1% level.*

Table (6) presents the regression results of one-year-ahead, three-year-ahead, and five-year-ahead net earnings, cash flows from operations, and abnormal net earnings based on current dividends as shown in equations (1a') through (1c') for each GCC country and pooled data. The dividends' coefficient estimates and t-statistics values are summarized in Table (6).

The results in Panels A through C of Table (6), as in Table (2), reveal that the α_{111}, α_{311}, α_{511}, α_{121}, α_{321}, α_{521}, α_{131}, α_{331}, and α_{531} coefficients are positive and significant for all countries and

pooled data. This finding suggests that current dividends can predict one-year-ahead, three-year-ahead, and five-year-ahead future net earnings, cash flows from operations, and abnormal net earnings, respectively. In summary, the results in Table (6) support the results in Table (2), which show that dividends are value-relevant in predicting future net earnings, cash flows from operations, and abnormal net earnings. This supports H1A.

DM test in un-tabulated results show that model (1a') has better predictive accuracy than model (3a') for five countries (Qatar, Bahrain, Saudi Arabia, the U.A.E., and Oman), model (1a') has better predictive accuracy than model (5a') for all the GCC countries and pooled data. In addition, model (1b') has better predictive accuracy than model (3b') for four countries (Kuwait, Bahrain, Saudi Arabia, and Oman), model (1b') has better predictive accuracy than model (5b') for five countries (Kuwait, Bahrain, Saudi Arabia, the U.A.E., Oman) and pooled data. Finally, model (1c') has better predictive accuracy than model (3c') for three countries (Kuwait, the U.A.E., Oman) and pooled data, model (1c') has better predictive accuracy than model (5c') for all the GCC countries and pooled data. Overall, the results support H1B, which states that current dividends are a better predictor of future net earnings, cash flows from operations, and abnormal net earnings over a one-year period compared with a three-year and a five-year period.

Additionally, similar to results in Tables (4) and (5), un-tabulated results show that net earnings have a higher ability than cash flows from operations to predict future dividends in 12 out of 21 cases. Moreover, the results show that cash flows from operations have a higher ability than abnormal net earnings to predict future dividends in 19 out of 21 cases. These results partially support H2A and fully support H2B, which suggest that net earnings have a higher ability than cash flows from operations to predict future dividends and cash flows from operations have a higher ability than abnormal net earnings to predict future dividends.

5. Summary, Conclusions, and Limitations

The role of dividends in equity valuation is still under debate. Some studies suggest that dividend policy does not affect firm value (*e.g.*, Modigliani and Miller, 1961, and Bangun and Wati, 2007). Conversely, other studies indicate that dividend policy positively affects firm value (*e.g.*, Anton, 2016), and some studies even imply that dividend policy negatively affects firm value (e.g., Soewignyo, 2020).

To estimate the firm value, most approaches consider the expected share price as the main engine. Different approaches have been used in the literature to study the correlation between the expected share price in the market and net earnings, cash flows from operations, and abnormal net earnings. This study extends the research on equity valuation by testing the ability of dividends to predict future net earnings, cash flows from operations, and abnormal net earnings. This study provides empirical evidence on the ability of current dividends based on the following three valuation models: reported net earnings (NE) model, cash flow from operations (CFO) model, and abnormal net earnings (ABNE) model. In other words, based on the current dividends of six different emerging countries, it tests whether future net earnings, cash flows from operations, and abnormal net earnings summarize firm performance better. The study compares the relative abilities of dividends to predict future net earnings, cash flows from operations, and abnormal net earnings. In addition, the study compares the superiority among net earnings, cash flows from operations, and abnormal net earnings in equity valuation. The study used data from Compustat Global and annual reports of publicly traded firms in the GCC countries' stock

exchanges during the period 2006–2016. Studying the association between dividends, net earnings, cash flow from operations, and abnormal net earnings as a comparative study for six emerging countries was the important motive of this study.

First, the results show that current dividends are value-relevant in predicting future net earnings, cash flows from operations, and abnormal net earnings. The results suggest that current dividends have the ability to predict one-year-ahead, three-year-ahead, and five-year-ahead future net earnings, cash flows from operations, and abnormal net earnings for all the GCC countries and pooled data. These results agree with the findings of Crum *et al*. (1988), Ohlson and Juettner-Nauroth (2005), Pope and Wang (2005), Amidu and Abor (2006), Naeem and Nasr (2007), Belghitar *et al*. (2008), Ahmad and Javid (2010), Mistry (2010), Garrett and Priestley (2012), and Ho *et al*. (2016) and support the H1A hypothesis, which states that the association between current dividend and future net earnings, cash flows from operations, and abnormal net earnings reflect the firm value.

Second, the Diebold-Mariano (DM) test was adopted to compare the predictive accuracy of a one-year period with a three-year period and a five-year period forecasting models of future earnings, cash flows from operations, and abnormal earnings. The results show that the predictive accuracy is higher for the short-horizon as compared to a long one. These results support H1B.

Third, in agreement with Bartov *et al*. (2001), Simons (1994), Ohlson (1989), and Dechow (1994), the findings indicate that current dividends are superior in forecasting future net earnings than future cash flows from operations; future net earnings than future abnormal net earnings; and future cash flows from operations than future abnormal net earnings. These results indicate that net earnings have better incremental information than both cash flows from operations and abnormal net earnings and that cash flows from operations have better incremental information than abnormal net earnings in explaining dividend policy.

In this study, robustness tests were used by adding book value as an important variable in equity valuation to all the used models. I find similar results.

The important limitation of this study is that it neglects the potential dividends that are not distributed but invested in liquid assets. The study assumes that only distributed cash dividends add value to the firms. Some previous studies support this idea (*e.g.*, Magni and Vélez-Pareja, 2009). I believe that this assumption will not affect the results, since non-cash dividends form a minor share.

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