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IMPACT OF PEER PRESSURE ON DIVIDEND POLICY: EVIDENCE FROM FOOD & ALLIED AND POWER & FUEL SECTORS IN BANGLADESH

Hossain Mohammad Shahriar
Department of Finance, University of Dhaka, Bangladesh

Shahriar-2016412671@fin.du.ac.bd

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ABSTRACT

Firms' decisions are not independent of their peers. This study aims to assess the impact of peer pressure on firms' dividend policy. In a sample of 29 firms from 2014–2020, this study employed a fixed effect regression model and revealed that Bangladeshi firms adjusted their dividend policy in response to their peers. Firms adjust the dividend payout ratio (DPR) by 5.6 percent as a response to their peers. Social learning theory, reputation-based model of peer influence, persuasion bias and rivalry-based theory of mimicking explain how peer influence affects a firm's dividend policy. The findings of positive peer effects on dividend policy are robust to an alternative proxy of dividend policy – dividend yield. Therefore, the study implied that managers' decisions regarding the dividend policy are not independent of their peer firms. Investors can adjust their expectations of a firm's dividend policy based on the overall dividend policy in the industry.

Keywords: Peer effects, dividend policy, payout policy, dividend payout ratio, corporate finance.

JEL Classification: G12, G18, G28.

INTRODUCTION

The dividend payout policy is a crucial decision of management. This decision is influenced differently depending on the circumstances. Peer pressure has emerged as a potential determinant of dividend policy. The dividend payout policy involves a decision on dividend payment, such as whether the firm will pay dividends. If the firm pays dividends, what will be the proportion of earnings that will be disbursed amongst shareholders as dividends and the portion of earnings that will be retained? When a firm makes a profit, it has two options: distributing it as a dividend or keeping it within the firm. Furthermore, a combination of both options is prevalent. The goal of a financial manager is to maximise the shareholders' wealth. Managers have to make decisions that fulfil shareholders' interests. Despite many empirical and conceptual studies on dividend policy, it has remained controversial.

According to Brealey and Myers (2005), dividend policy has been one of the world's top ten challenging unanswered questions in financial economics. Black (1976) mentioned, "The harder we look at the dividend picture, the more it seems like a puzzle with pieces that just do not fit together." Therefore, dividend policy is still a significant matter of study. Research on dividend policy finds that liquidity, profitability, tangibility, institutional ownership, managerial ownership, previous dividends, growth opportunity, risk, market value to book value ratio and market capitalisation are vital factors affecting dividend payment policy. Nevertheless, the impact of these factors differs across studies. Empirical studies on dividend policy have revealed that peer pressure significantly affects dividend policy because firms are influenced by decisions taken by their peers. Popadak (2012), Adhikari and Agarwal (2018) and Grennan (2019) discovered peer pressure to be a significant determinant of dividend policy through their research conducted in different countries and different periods.

Peer firms refer to firms with similar business models, size and interest, while peer pressure is the pressure caused by the effects of activities or decisions of peer firms. For instance, during a pandemic, a firm's involvement in corporate social activities creates pressure on its competitors. Smaller and younger firms in an industry tend to follow successful, older and larger firms (Lee, 2020). Managers tend to follow the strategies of successful managers of their peers.

Several issues are drivers of peer effects. Social learning causes herd behaviour, leading managers to make decisions following their peers (Banerjee, 1992). Sharing the blame effects states, as Zeckhauser et al. (1991) mentioned, that when managers are assessed based on relative performance, they attempt to protect themselves from criticism by following peers' capital structure decisions. Moreover, firms mimic the decisions and policies of their peers to maintain respective competition and shrink rivalry. According to Lieberman and Asaba (2006), it happens when competing firms have similar sizes and positions in markets and core resources. In uncertain environments, peer pressure also affects firms as there is insufficient information.

In Bangladesh, empirical studies have assumed the dividend policy to be independent of peers. Nevertheless, several empirical studies regarding the impact of peer pressure on dividend policy, for example, Popadak (2012), Adhikari and Agarwal (2018) and Grennan (2019), have been conducted in different countries. Those studies reported a positive effect of peer pressure on dividend policy decisions. This study investigates whether the managers decide on dividend policy solely based on firm-specific factors (independent of their industry-related factors) or consider the industry and respond to their peers. This study's unique contribution is the assessment of peer pressure on dividend policy in Bangladesh.

THEORETICAL BACKGROUND OF DIVIDEND POLICY

In 1961, Modigliani and Millar brought the dividend irrelevance theory. Based on the theory, dividend policy does not affect the firm's share price under the assumptions of an efficient market, absence of tax, bankruptcy and financial distress costs, investors' rationality and information asymmetry. Therefore, dividend policy is irrelevant (Miller & Modigliani, 1961). If an individual is in a high tax bracket, they will prefer a low dividend payout policy. In contrast, other factors besides tax favour a higher dividend payout policy. The clientele effect implies that these two sets of forces offset impact each other. The study by Allen and Michaely (2003) found that individual investors are in a higher tax bracket and prefer low dividend payout. On the contrary, institutional investors' tax range is down, so they prefer a high payout policy. Gordon (1963) suggested the 'Birds in the Hand' theory. The theory emphasised that shareholders prefer

cash dividends to capital gains because of certainty. Cash on hand is more definite than capital gain, which will be found in an uncertain future. According to this principle, as people prefer cash dividends, they look for a stock that pays higher cash dividends, resulting in higher prices for those high dividend-paying shares. Cash dividends have a low level of risk and uncertainty; therefore, the discount rate for cash flow is also low. Consequently, through the valuation process, the company is valued highly. Miller and Modigliani (1961) argued against the concept that cash dividends do not necessarily increase the value of a firm.

The signalling theory proposed that a change in share price following a change in dividend payment is not for the dividend payment amount. Instead, it happens because of detailed information provided by dividend payment. The investors evaluate the changes in dividend payment and consider changes in dividend payment as a precaution about the potential future earnings of the firm. In the presence of information asymmetry, Miller and Rock (1985) showed the existence of consistent signalling equilibrium in a firm's dividend, investment and financing decisions. The agency theory of dividend policy suggests that as managers are appointed to work for shareholders, they may pay extra dividends and transfer the wealth to shareholders from bondholders. As debt providers know of such incidents, they seek protection through bond covenants and loan agreements. Therefore, they prohibit outflow from the firm to shareholders. Moh'd et al. (1995) found that firms attempt to minimise the cost of agency conflicts and transaction costs towards dividend payout. Furthermore, firms adjust dividend payout to respond to the dynamic changes in agency cost structures.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Dividend policy has long been a source of contention. Research has been conducted around the world for years.

Dividend Payout Policy: International

Myers and Bacon (2004) examined 439 United States (US) companies. Their research revealed that a higher price-to-earnings (P/E) ratio is

associated with lower risk and a higher dividend payout ratio (DPR). On the contrary, insider ownership possesses an inverse association with dividend payout policy. It also suggests that management is incentivised to reduce dividends and increase the value of their stock option. A survey study by Baker and Powell (2000) on US firms from The New York Stock Exchange (NYSE) reported the management's view on dividend policy. Managers considered current earnings, expected future earnings and past dividend patterns as the key determining factors of dividend policy. In another study on US firms, Gill et al. (2010) found that DPR in the service industry depended on profitability, sales growth and leverage, while in the manufacturing industry, profitability, market-to-book ratio and tax were critical factors for DPR. Using a sample of non-US firms listed in the USA, Perretti et al. (2013) reported that size, growth opportunities and nature of capital influenced dividend policies. Changes in dividend policies are caused by the firm's profitability and the home country's macroeconomic condition cause. Using a sample of Euronext 100, Ahmad et al. (2018) reported that dividend yield is unrelated to the firm's profitability. Growth expectations and size affect dividend yield negatively. Significantly, leverage shapes the dividend yield differently in the presence of stable dividend payout and dividend per share. A study in Poland revealed an inverse association of dividend payment with leverage and profitability, which was explained by the agency cost theory of dividend policy and the pecking order theory of capital structures (Kaźmierska-Jóźwiak, 2015).

Razak et al. (2022) studied listed manufacturing companies in Indonesia. They have found that return on equity (ROE) and collateralisable assets positively impact dividend policy, implying that profitability and availability of collateralisable assets were crucial to dividend payment. Janet et al. (2021) revealed that profit after tax and past dividends were the most significant determinants of dividends of manufacturing companies in Nigeria. It was also found that larger manufacturing firms paid more dividends than smaller ones because of access to funds, stable cash flows and better performance. Mehta (2012) discovered that size and profitability were the most significant determinants of dividend decisions in the United Arab Emirates (UAE). The study by Issa (2015) revealed that profitability, earnings, market capitalisation and market-to-book value were important for dividend payout policy in Malaysia and were positively correlated.

Setiawan and Vivien (2021) saw a significant impact of firm size and profitability on the DPR of the consumer goods sector in Indonesia.

Jabbouri (2016) found a positive relationship between dividend policy and liquidity, profitability and size in his study on the Middle East and North African (MENA) stock markets. Leverage, growth and free cash flow were inversely related to dividend policy. A negative relation with free cash flow could indicate agency problems. Evidence from the Indian market suggested that size, profitability, maturity and liquidity positively affected the DPR. Leverage, risk and investment opportunity tended to lower the DPR (Labhane & Mahakud, 2016).

Dividend Payout Policy: Bangladesh

Hossain (2016) examined ten private commercial banks in Bangladesh to identify the determinants of dividend payment policy. The study revealed that firm growth, liquidity condition and the previous year's dividend positively affected dividend policy, while leverage and profitability had a negative impact. The firm's size, ownership structure and risk factors do not significantly impact the dividend payout policy. Abu (2012) found that liquidity and current earnings were potential determinants of the dividend policy of listed commercial banks in Bangladesh. Alam and Hossain (2012) conducted a comparative study of Bangladesh and United Kingdom-based (UK) companies. They reported that leverage, liquidity, profitability and market capitalisation negatively influenced dividend rate while growth positively impacted dividend payout. Rifat et al. (2020) investigated the impact of microeconomic and macroeconomic factors on dividend payout policy. They revealed that growth, leverage, liquidity, retained earnings and tax were significant determinants of dividend payout policy for highly liquid firms. In contrast, liquidity, tax, size and retained earnings were substantial determinants of dividend payout policy for low-liquid firms. Macroeconomic factors, such as money supply, positively affected dividend payout by increasing earnings and cash flow of firms. Inflation negatively influenced dividend payout.

Peer Pressure

Peer pressure is the impact of a group on individual members of that group's behaviour so that the individuals are more likely to do what everyone else does (Shu & Trong, 2018). This phenomenon is not new in the world of business. Different synonyms have been used to define peer pressure, for example, mimicking, herd behaviour, bandwagon effect and social interaction. The impact of peer pressure has been observed in many areas of finance. A survey by Graham and Harvey

(2001) revealed that almost 25 percent of Chief Financial Officers (CFOs) considered peer firms' capital structure as a critical driver of their own capital structure decision. Leary and Roberts (2014) found that decisions taken by peer firms in the industry played a vital role in financial policies and capital structure decisions. Furthermore, less prosperous and smaller firms were susceptible to more prominent and successful competitors, but not vice versa. Frank and Goyal (2009) discovered that the average or median industry leverage ratio was a critical determinant of an individual firm's financing and capital structure decision. Mackay and Phillips (2005) also confirmed the impact of industry standards on a firm's financial structure. Kaustia and Rantala (2015) examined the existence of peer pressure and social learning in Finland. They concluded that firms were more inclined to stock split if their peers had done so recently.

Malik et al. (2018) investigated the impact of peer pressure on corporate social responsibility-related (CSR) decisions of firms in the banking industry and their long-term influence on performance. They found a significant positive effect of peer firms over CSR expenditures of peers. Nevertheless, they did not observe peer pressure on non-peer groups. Research conducted in China by Yang et al. (2017) revealed that if there is a difference between peer firms and a particular firm, stakeholders and the general public will pressure that specific firm to raise CSR performance. Therefore, peer firms always play a role in CSR decision-making.

Voluntary disclosure activities are also influenced by peer pressure. Lin et al. (2018) documented that peer pressure is a vital determinant of a corporation's policy on voluntary disclosures. Charles et al. (2018) showed the essential role of peer firms in influencing the earning management decisions of peer corporations. The role of peer pressure is statistically and economically significant. The peer effect happens due to herding within the group of peers. Compensation concern is another reason for following peer groups. Peer pressure is the impact of a group on individual members of that group's behaviour, so that the individuals are more likely to do what everyone else does (Shu & Trong, 2018).

Peer Pressure and Dividend Policy

Popadak (2012) studied how corporations make dividend payments in response to their peer firms. He found that the role of peer firms

in shaping the size and timing of corporate dividends in the US is essential. He identified a 15 percent increase in corporate dividend payments due to a change in peer firms' dividends. In particular, dividend changes by peer companies reduce the time to change dividends by 132 days. Peer effects change dividend yield at the industry level. The researcher suggested that assessed peer effects are produced due to elements of behavioural biases and strategic behaviours.

Grennan (2019) showed peer effects on dividend policy. If the peer changes dividend, firms increase their dividend disbursements by 15 percent. Firms accelerate the average time to change dividends roughly by 1.5 quarters due to their peers. On the contrary, share repurchase did not show any peer effects. The study also illustrated investors' anticipation of the outcome of peer effects by analysing announcement returns. Peer interdependencies can explain 12 percent of total corporate dividend payments. Andersen and Davidsen (2018) also found evidence of peer influence on dividend policy. They studied the structure of change in dividend payment on a four-quarter basis and discovered the presence of peer firms' impact on dividend payout policy.

In China, Wang et al. (2021) analysed the impact of peer effects on dividend decisions and peer pressure due to financial constraints. They found that peers significantly affect the cash dividend payment decisions (to pay or not to pay). The assessed marginal peer effects are 0.53 percent. Nevertheless, decisions regarding catering dividend payments are not significantly affected by peers. They also observed that any financial constraint on dividends would considerably reduce the impact of peer pressure. Peer pressure on dividends is substantial amongst firms with severe financial restrictions. Yan and Zhu (2020) reported that a firm's total dividend paid at the industry level positively relates to peer firms' average dividend. Their study also revealed that peer effects are stronger in the competitive industry. State ownership reduces the impact of industry peers on dividend decisions.

In the USA, a study conducted by Adhikari and Agarwal (2018) found evidence of peer pressure on firms' dividend payout policy, i.e., share repurchase and dividends. If firms confront greater competition in the product market, peer pressure will be more prominent in their dividend payout policy. Furthermore, peer influence on firms' dividend

payout policy is more substantial if they operate in an improved information environment. Peers of similar age and size significantly influence newer and smaller firms' dividend payout policies. More stable impacts of peers have been observed on dividends than stock repurchases. Their findings also confirmed the theory of imitation based on rivalry, in that firms imitate their competitors or peers to sustain competitive parity.

Lee (2020) investigated industry peer effects on dividend policy in Taiwan. She found evidence that the dividend payout policies of firms are positively influenced by peer firms' dividend policy of their respective industry. Smaller and younger firms follow and mimic successful larger and older peers. Moreover, peers that can be valued easily are observed most often. The peer effect is substantial in the industry where product competition is low and information uncertainty is high.

Hypothesis Development

In today's competitive world, firms keep an eye on their peers. They scrutinise each other's products, business policies and decisions. Dividend policy is no different from that. Different theories justify mimicking peers' actions. Prior studies found the impact of peer pressure on various aspects of business. Therefore, this study aims to assess the effects of peer pressure on firms' dividend policy. Scharfstein and Stein (1990) stated through the reputation-based model of peer effects that in the presence of many managers with different styles, under certain conditions, managers ignore their private information and imitate their peer's behaviour, Bikhchandani et al. (1992) presented an observational or social learning model, which relates peer effects with the rational processing of information. Managers may tend to mimic the dividend policy of their peers to avoid costly and time-consuming procedures of processing information. Banerjee (1992) discussed that previous decision-makers might have valuable information that rationalises observing their behaviour by their successors. According to the model, managers consider their peers' dividend policies to contain helpful information. By mimicking them, managers want to take advantage of the information of their peers. Another phenomenon introduced by DeMarzo et al. (2003) is persuasion bias. When an individual fail to adjust the information received from peers, his decision will likely be persuasive or concordant with his

peers' decision. Lieberman and Asaba (2006) argued that one firm is likely to imitate its peers if the peers are perceived to have superior information. Furthermore, imitation of financial policy is initiated from efforts made to limit rivalry. Empirical findings (Popadak, 2012; Adhikari & Agarwal, 2018; Grennan, 2019) also supported the peer effects on dividend policy. Therefore, the hypothesis of the study is as follows:

H_1= A firm's dividend policy is positively affected by its peers' dividend policy.

METHODOLOGY

Data Source and Sample Size

This study was conducted on companies listed in the Dhaka Stock Exchange (DSE) under the 'Food & Allied' and 'Fuel & Power' sectors for the 2014–2015 to 2019–2020 financial years. Out of 22 sectors of DSE, 'Food & Allied' and 'Fuel & Power' sectors were collected randomly. Forty-four companies were listed under these two sectors: 21 in 'Food & Allied' and 23 in 'Power & Fuel'. Due to data unavailability, seven companies were omitted from this study. Eight companies were listed after 2014–2015 and did not comply with the requirements of the study. Finally, 29 firms were selected for this study. Relevant data were collected from financial statements and the DSE library.

Table 1

Sample

Sector	Number of Listed Companies	Number of Selected Companies	Number of Years Covered	Observation
Food & Allied	21	13	5	65
Power & Fuel	23	16	5	80
Total	44	29	10	145

The researchers winsorised the dataset at the 5 percent level to limit the impact of extreme values or outliers on the results of this research.

Measurement of Variables

Dependent Variable

This study used two independent variables to assess peer pressure on dividend policy. Initially, the dividend payout ratio (DPR) was used. Then, the dividend yield was used for dividend policy to test the findings' robustness. DPR indicates the proportion of earnings distributed as dividends. A higher dividend payout means the company is paying out its profits and retaining less. DPR has been calculated as the total dividend paid / net earnings after tax. Earnings attributable to common shareholders have been considered. DPR is widely used as a proxy of dividend policy by researchers, including Kaźmierska-Jóźwiak (2015), Hossain (2016) and Labhane and Mahakud (2016). Dividend yield expresses dividend as a percentage of share price calculated as dividend per share divided by the share price. A higher dividend yield means the stock returns more money to the shareholders. In this study, dividend yield was a proxy of dividend policy, which was also used by Labhane and Mahakud (2016).

Independent Variable

Key Variable of Interest: Peer Pressure

Lee (2020), Yan and Zhu (2020) and Grennan (2019) included peer pressure in their study of dividend policy. Peer pressure has been defined as summations of DPR by companies of an industry minus individual firms' DPR. For example, peer DPR for company 'x' of 'z' industry in year 't' was measured as total DPR of industry 'z' in year 't' minus DPR of company 'x' in year T (DPR_{zt} - DPR_{xt}). Industry DPR in a particular year has been derived by combining the DPR of all individual firms in that year. The researchers calculated peer dividend yield through this approach while testing for robustness.

Control Variable

Leverage: The total debt ratio was applied to measure leverage and calculated as total liabilities divided by total assets. Higher leverage means the firm has many risks. Consequently, creditors will demand higher returns on the funds provided to the firms. In that situation, firms may offer lower dividends or omit dividends to reduce the overall cost of capital. On the contrary, providing higher dividends reduces

information asymmetry, convincing creditors to accept lower returns. Accordingly, management may offer higher dividends to reduce the cost of debt and the overall cost of capital. Researchers have found both positive and negative relations between leverage and dividend payout. Following Rifat et al. (2020), leverage was calculated as total liabilities as a percentage of total assets.

Liquidity: The current ratio measured liquidity, as previously done by Labhane and Mahakud (2016) and Razak et al. (2022). Liquidity refers to the ability of a firm to fulfil its current liabilities that mature within a year. Liquidity is a very crucial factor for dividend policy. Cash dividend is a form of cash outflow to shareholders of the company. Firms with more cash or equivalent assets can pay higher dividends.

Dividend of Previous Year: Hossain (2016) and Ali et al. (2021) used last year's dividend (Dividend $_{t-1}$) as a proxy for the previous year's dividend. Several studies have found that historical dividends affect current dividend payout decisions positively. In this study, Dividend$_{t-1}$ was employed as a proxy of previous dividends.

Profitability: Profitable firms can retain earnings to finance growth opportunities or distribute them to shareholders as dividends. The pecking order theory proposed that firms prefer retained funds to debt and new equity issuance to meet financing needs because of its lower cost. This study measured Return on Equity (ROE) as profitability and expected a negative relationship with dividend payout (Kaźmierska-Jóźwiak, 2015).

Assets Growth: Assets growth indicates growth opportunity. The asset growth rate is a crucial determinant of dividend policy and is calculated as (Total Asset$_t$-Total Asset$_{t-1}$)/ Asset$_{t-1}$. Assets growth requires cash outflow; almost all firms use significant cash to increase the production capacity and maintain existing capacity. According to the pecking order theory, retained earnings are the first choice to finance investment opportunities or assets. Therefore, firms tend to increase the amount of retained earnings by keeping a significant portion of profits, resulting in dividend reduction.

Tangibility: Tangible assets include property, plants, equipment, furniture, buildings and machinery. If the proportion of tangible assets increases, the company can use debt financing to develop its business

and continue paying dividends. Tangible assets are considered security for debt providers. Consequently, creditors do not need to impose strict restrictions on dividend policy through debt covenants. The company can pay a higher dividend. In this way, the tangibility of assets facilitates dividend payments. Grennan (2019) and Popadak (2012) considered tangibility in their studies.

Market Value to Book Value: It is a valuation metric that compares a firm's market value to its book value. This ratio is calculated by dividing the firm's market value by the firm's book value of equity. It indicates investors' perception of the value of a stock. Several studies have found a significant relationship between market-to-book ratio and dividend policy. Issa (2015) used this ratio in his research.

Table 2

Variables

Independent Variables	Full Name of Independent Variables	Measurement	Expectation
Peer_DPR	Peer Pressure	Industry DPR (Sum of DPR of all firms) – DPR of Firm	+
Peer_DY	Peer Pressure	Industry DY (Sum of DY of all firms) – DY of Firm	+
Leverage	Leverage	Total Liabilities/ Total Assets	-
Liquidity	Liquidity Ratio (Current Ratio)	Current Assets / Current Liabilities	+
Div_{t-1}	Previous Dividend	Last year's dividend payout ratio	+
ROE	Profitability (ROE)	Net Income / Total Equity	-
Growth	Asset growth	$(TA_1 – TA_0)/TA_0$	-
Tangibility	Tangibility	Total Fixed Assets / Total Assets	+
MB_Ratio	Market-to-book Ratio	Year-end market price per share / Book value per share	+

Specification of the Regression Model

This study developed a model to assess the impact of peer pressure on dividend policy. It was designed following Hossain (2016).

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + - - - + \beta_n X_{nit} + \varepsilon_{it}$$

Here, represents the dependent variable dividend policy, denotes constant, represents the coefficient of variable 'X_n', 'X_n' represents variables and 'i' represents individual firm. Finally, 't' represents time and denotes error terms. Incorporating the key variables of interest, peer pressure and other control variables lead us to the specific model of this study.

$$DPR_{itj} = \beta_0 + \beta_1 Peer\_DPR\_{itj} + \beta_2 MB\_Ratio_{it} + \beta_3 Growth_{it} + \beta_4 Tabgibility_{it} + \beta_5 ROE_{it} + \beta_6 DIV(t-1)_{it} + \beta_7 CA_{it} + \beta_8 Leverage_{it} \quad (1)$$

For testing robustness, DPR will be replaced by dividend yield (DY) and peer DPR will be replaced by peer DY. Control variables shall remain unchanged.

DATA ANALYSIS AND RESULT

Descriptive Statistics

Table 3

Summary Statistics

	Mean	Median	Std. Dev.	Max	Min	N
DPR	0.45	0.44	0.65	7.17	0	145
Dividend Yield	0.03	0.02	0.03	0.21	0	145
Leverage	0.49	0.51	0.24	1	0.03	145
$DPR_{(T-1)}$	0.34	0.35	0.31	1.14	0	145
Asset Growth	0.09	0.07	0.26	2.43	-0.44	145
Tangibility	0.48	0.51	0.24	0.9	0.01	145
MB Ratio	30.84	11.65	60.67	354.2	0.75	145
ROE	-0.18	0.11	3.83	1.11	-45.91	145
Liquidity	2.19	1.44	2.25	13.05	0.31	145
Peer DPR	5.64	6.16	2.39	10.71	1.91	145
Peer DY	0.38	0.43	0.27	0.95	0.06	145

Overall, firms in this study offered 45 percent of their earnings as cash dividends with 65 percent dispersion from mean value. Mean and median values were close; therefore, normal distribution could be assumed. Dividend yield was 3 percent with a standard deviation of 3 percent. Total liabilities to total assets were 49 percent, indicating that 49 percent assets were financed by debt funds. On average, the firms were growing at 9 percent per year. 48 percent of the total assets of the firms were tangible assets. The market value of the firm was 38 times higher than the book value of the firm. The overall current ratio was 2.19, signifying sufficient liquidity of firms in this study. The firms were able to pay off current obligations. The ROE value was negative for the sample firms. The calculated peer DPR was 5.64, while the average peer dividend yield was 0.38.

Multicollinearity

The dataset was tested for multicollinearity to check whether independent variables were correlated with each other. The Pearson correlation matrix and Variance Inflation Factor (VIF) were used.

Pearson Correlation Matrix

This matrix showed a pairwise correlation between the independent variables of this study. The correlation coefficient value ranged from -1 to +1. If the correlation coefficient was more than 0.80, then two variables would be strongly correlated and there would be a multicollinearity problem. The Pearson correlation matrix showed that correlation of the variables did not cross the benchmark level of 0.8. Therefore, multicollinearity would not be a problem for this study. The result of the Pearson correlation matrix is reported in Appendix 1.

Variance Inflation Factor

A score over 10 indicates a multicollinearity problem amongst independent variables (Gujarati & Porter, 2010). Table 4 shows the result of the VIF test. Based on the VIF test findings, no issue of multicollinearity was found in this case.

Heteroscedasticity Test

If standard errors of variables are not constant over time, there would be a heteroscedasticity problem. The result of Breusch-Pagan test suggested that the dataset was heteroscedastic.

Table 4

Variance Inflation Factors

Variable	VIF	1/VIF
Leverage Ratio	2.51	0.4
Liquidity Ratio	2.25	0.44
Market to Book Value	1.68	0.6
ROE	1.68	0.6
Tangible Asset Ratio	1.57	0.64
peer DPR	1.31	0.76
$Dividend_{(T-1)}$	1.25	0.8
Asset Growth Rate	1.16	0.86
Mean VIF	1.68	.

Table 5

Breusch-Pagan Test

Dependent Variable	*p*-value	Decision	Heteroscedasticity
Dividend Payout Ratio (DPR)	0.04	Ho rejected	Yes

Autocorrelation Test

The Woolridge test was used to assess the autocorrelation problem in the dataset for all three models of this study. The test was conducted three times for three models of this study, as each model had a distinct dependent variable and a distinct key variable of interest. The findings of the test suggested the presence of the first order autocorrelation. A summary of the Woolridge test results is as below:

Table 6

Wooldridge Test

Dependent Variable	Probability>F	Decision	Autocorrelation
Dividend Payout Ratio (DPR)	0.04	H_o rejected	Yes

Hausman Test

The p-value of the Hausman test was 0.00, which was less than 0.05. It suggested that the null hypothesis was rejected. The null hypothesis

stated that the difference in coefficient was not systematic and that the random effect model was preferred. As the null hypothesis was rejected, the alternate hypothesis was accepted, whereby the difference in coefficient was systematic. Therefore, the fixed effect (FE) model was preferred. Here is the summary of the Hausman test:

Table 7

Hausman Test

Dependent Variable	Chi-square test value	*p*-value	Decision	Preferred Model
Dividend Payout Ratio	45.82	0.00	H_o Rejected	Fixed Effect

Result of the Regression Analysis

Based on the findings of the Hausman test, the fixed effect (FE) method was used in this study. The study applied firm and industry fixed effects. Following Yang et al. (2017), only peer pressure was initially included in the regression test. Later, the control variables were incorporated.

Table 8

Regression Output

	(1) DPR	(2) DPR
Peer DPR	0.054***	0.056***
	(0.015)	(0.016)
ROE		-0.506
		(0.583)
MB Ratio		0.005
		(0.004)
Tangibility		0.54
		(0.592)
Asset Growth		0.032
		(0.247)
$DPR_{(t-1)}$		-0.58***
		(0.14)
Liquidity		-0.03
		(0.051)

(continued)

	(1) DPR	(2) DPR
Leverage		-0.891
		(0.565)
Overall r-squared	0.10	0.02
Prob > F	0.00	0.00

Notes: Standard errors are in parentheses. ***, ** and * denote statistical significance at 1 percent, 5 percent and 10 percent levels, respectively. The sample period was from 2014–2015 to 2019–2020 and the number of firms was 29. Dividend policy was represented by dividend payout ratio (DPR). Peer pressure was denoted by peer DPR. Firm and industry fixed effects were applied.

Analysis of the Regression Result

Peer pressure was the key variable of interest. At first, the researchers regressed the firm's DPR on peer DPR (column 1). The coefficient was 0.054, which was statistically significant at the 1 percent level. Then, the study incorporated the control variables into the regression (column 2). The coefficient of the peer DPR was now 0.056, which was statistically significant at the 1 percent level. The changes in the coefficient were negligible before and after incorporating the control variables. The models (with and without control variables) were significant at the 1 percent level. Based on the statistical findings, this study concluded that peer pressure could explain the dividend payout decisions of a firm. The overall level of DPR influenced the firm's dividend payout decisions. The finding was consistent with Popadak (2012), who found that 15 percent of changes in a firm's dividend payment were due to peer pressure.

Furthermore, the positive impact of peer dividend policy on firm dividend payment was consistent with the findings of Yan and Zhu (2020) in China, who discovered a positive relationship between a firm's dividend and peer dividend. Peer influence could be explained based on models developed by researchers. Scharfstein and Stein (1990) introduced the reputation-based model of peer influence on managers' decision-making. If many managers are present in the market and rational market participants reform their perception about the managerial styles, under certain conditions, being concerned for their reputation, managers ignore their private information and imitate their peers' behaviour. Based on the argument, managers have an incentive to follow the decisions made by their peers, which might be inefficient but rational, to make the dividend payout decisions. This situation is one reason behind the peer influence on dividend policy of Bangladeshi firms. Considering the information processing issues

of managers, Bikhchandani et al. (1992) presented an observational or social learning model. This model related peer effects with the rational processing of information. Managers process available information before making decisions. Nevertheless, it is costly and time-consuming.

Accordingly, managers may tend to mimic the dividend policy of their peers. This circumstance is another reason behind the dependency on peers to formulate dividend policy. Apart from these influences, Banerjee (1992) discussed a model to analyse how a decision-maker observes the decisions made by previous decision-makers. Other decision-makers might have valuable information that rationalises observing their behaviour. According to the model, managers consider their peers' dividend policies to contain useful information. By mimicking them, managers want to take advantage of the information of their peers. To some extreme extent, an information cascade may happen while managers ignore their information and make decisions solely based on others' decisions. Another phenomenon introduced by DeMarzo et al. (2003) is persuasion bias. When an individual fail to adjust the information received from peers, his decision will likely be persuasive or concordant with his peers' decision. Not all managers can adapt and accommodate the information received from peer groups. Consequently, dividend decisions are swayed towards the decisions of their peers.

The impact of peer pressure on dividend payment is not as significant as other studies have found. A study by Grennan (2019) revealed 16 percent changes in dividend disbursement and a 12 percent dependence of dividend payment on peer pressure. In contrast, this study discovered 5.6 percent changes in dividend payments due to peer pressure. The extent of impact was lower in the 'Food & Allied' and 'Power & Fuel' sectors in Bangladesh than those in the US firms. Amongst the control variables, previous dividend payout negatively correlated with current dividend payment decisions. An increase in DPR in one particular year was followed by a decrease in DPR in the next year. If the firms desired to maintain DPR at a certain level, they would likely control fluctuations in dividend payments. Nonetheless, this study did not observe evidence of dividend smoothing.

Testing Robustness of the Findings Using Alternative Measurement of Dividend Policy

By using an alternative measurement of dividend policy, this study attempted to ensure robustness. Malik et al. (2018) used an alternative

estimation of peer pressure in their study of CSR. Apart from DPR, dividend yield (DY) is another widely used proxy variable of dividend policy. This study employed dividend yield as another measurement of dividend policy and peer dividend yield as the proxy of peer pressure to check robustness. Similar to the primary regression analysis, the dividend yield has been regressed on peer dividend yield. Meanwhile, the control variables were included in the regression analysis.

Table 9

Testing Robustness by Using the Alternative Definition of Dividend Policy

	(1) Dividend Yield	(2) Dividend Yield
Peer DY	0.061***	0.058***
	(0.009)	(0.008)
ROE		0.044*
		(0.026)
MB Ratio		0
		(0)
Tangibility		0.061**
		(0.027)
Asset Growth		-0.02*
		(.011)
$DPR_{(t-1)}$		-0.023***
		(0.006)
Liquidity		-0.006**
		(0.002)
Leverage		-0.034
		(0.026)
Overall r-squared	0.391	0.068
Prob > F	0.00	0.00

Notes: Standard errors are in parentheses. ***, **, * denote statistical significance at 1 percent, 5 percent and 10 percent levels, respectively. The sample period is from 2014–2015 to 2019–2020 and number of firms is 29. Dividend policy is represented by dividend yield (DY). Peer pressure is represented by peer DY. Firm and industry fixed effects have been applied.

Regression output confirmed the findings of the initial analysis. Column 1 suggests that firms' dividend yield was adjusted to the changes in peer dividend yield. The coefficient was 0.061, which was statistically significant at the 1 percent level. Column 2 indicates a

statistically significant positive association between the dividend yield of a firm and peer dividend yield after incorporating the control variables. The coefficient was 0.058 and statistically significant at the 1 percent level. It indicates that peer effects on dividend policy were robust to the alternative definitions of dividend policy (Yang et al., 2017). This finding is consistent with Adhikari and Agrawal (2018), who found a positive relationship between peer pressure and dividend yield. Amongst the other control variables, previous dividend payment exhibited a negative association with current dividend. Nature of assets (tangibility) showed a positive association while liquidity had a negative association with dividend yield.

CONCLUSIONS AND IMPLICATIONS

This research endeavoured to examine the effect of peer pressure on a firm's dividend payment policy. Furthermore, it attempted to identify the determinants of dividend payment policy. The study was conducted on firms in the 'Food & Allied' and 'Power & Fuel' sectors of the Dhaka Stock Exchange (DSE) from 2014–2015 to 2019–2020. The fixed effect multiple regression analysis found a positive impact of peer pressure. The primary model of this study used dividend payout ratio (DPR) as the dependent variable and discovered a significant positive impact of peer pressure on dividend payout policy. A 1 percent change in the total DPR of the industry brings about a 5.6 percent change in a firm's DPR. The previous dividend exhibited a negative impact on the current DPR. As a result, an increase in DPR in one year is expected to be followed by a decrease in DPR in the following year and vice versa. This study used dividend yield (DY) as an alternative measure of the dividend policy to test the robustness of the findings from the primary analysis. The results of peer effects on dividend policy were evident in the robustness test.

The findings of this study are significant for investors, financial managers and policymakers. The investors can make decisions regarding investment in a particular firm based on the dividend payment culture of that firm's sector. Furthermore, they can analyse other significant determinants of dividend policy. Financial managers have to consider the dividend payment policy of competitors. Subsequently, they can cope with their competitors and maintain competitive positions. Policymakers can introduce provisions for paying dividends upon fulfilment of certain criteria on those key determinants. Future research can focus on examining dividend policy and determining whether peer pressure affects it by increasing

the size of the sample and the period to reduce errors and enhance precisions. Further studies can be conducted to explore the impact of peer pressure on capital structure, timing of security issues and corporate governance. Moreover, macroeconomic variables can be added to dividend policy research.

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