

# Dividend Policy Determinants of a Private Commercial Bank in Bangladesh: which is the strongest, Profitability, Growth, or Size?

Sumaiya Zaman\*

*The paper studies dividend policy of all 30 Dhaka Stock Exchange listed private commercial banks in Bangladesh over a period of seven years: January 2006 - December 2012. Bank profitability, growth, and size are measured as potential determinants of dividend policy during the same period of time. Statistical tools, such as multiple regression and correlation, are used to determine factors that have statistically significant impacts on the dividend policy of banks. Multicollinearity has been tested between or among the variables using correlation to see if the model applied is free of such issues. The paper shows that while profitability appears to be a better determinant of bank dividend policy than a bank's growth and size, yet it may not be concluded that profitability alone is a strong indicator of bank dividend policy over time in the capital market of Bangladesh.*

**Field of Research:** Corporate finance

## 1. Introduction

The existence of a nation in the global economic map is dependent on the financial strength of the nation. A nation's financial strength depends on the condition and structure of its financial sector. A significant part of the financial sector of Bangladesh comprises of its banks. A look into the banking sector of Bangladesh reveals that the sector mainly comprises of two broad divisions: the central bank and the commercial sector. The central bank is the principal regulatory body. It is known as the Bangladesh Bank. The commercial sector is made up of thirty private, ten foreign, five specialized, and four state-owned banks.

Bangladesh began its journey as a new-born nation with a handful of banks in 1971. The then Government took over the banks and nationalized them through the Bangladesh Bank Nationalization Order, 1972, to sustain the war-wrecked economy. Over the period of time, many changes took place in state principles to meet the demands of the new born economy. One such change in state principles was the introduction of "Social Welfare" in place of "Socialism" in 1975. The implementation of this new set of state principles led to denationalization of some nationalized banks, as a result of which, a generous number of private commercial banks made their appearance in the new economy.

Private commercial banks have shown an increase in their number since their emergence. Many researches indicate that banking sector growth is an indication of the economic health of a country (World Bank, 1996; Almeyda, 1996). It is also believed that economies with a robust banking sector have better abilities to withstand negative shocks and contribute to the stability of the financial system (Athanasoglou, Brissimis, and Delis,

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\*Sumaiya Zaman is Assistant Professor in the School of Business at the University of Liberal Arts Bangladesh, House 56, Road 4/A, Dhanmondi, Dhaka 1209, Bangladesh. Email: [sumaiya.zaman@ulab.edu.bd](mailto:sumaiya.zaman@ulab.edu.bd)

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2005). The contribution of private commercial banks and their importance in the health of an economy provide grounds for the paper to conduct extensive research on their performance. The paper, therefore, targets to look into and understand performance of the private commercial banks of Bangladesh by studying, if a big, growing, and profitable bank means an increase in its dividend, which results in shareholder wealth escalation, which in turn, contributes to economic growth. The objectives of the paper, therefore, are:

- i. Estimating annual return on assets of all 30 private commercial banks of Bangladesh listed in the Dhaka Stock Exchange over the period of January 2006 to December 2012.
- ii. Computing annual interest income change in the banks for the same time period
- iii. Determining annual total asset change for the banks during the same period of time
- iv. Identifying dividend policy of the banks during the chosen time period.
- v. Finding out if return on assets, interest income change, or total asset change can determine dividend policy of private commercial banks of Bangladesh and defining the extent to which these factors can explain dividend policy.

Past studies on the dividend determinants of private commercial banks of Bangladesh seem to have conducted research on a small sample of the existing banks. This paper, however, takes into account all of the 30 Dhaka Stock Exchange listed private commercial banks operating during the period of study. Thus, it portrays a bigger picture than previous studies.

The paper first reviews existing literature and past researches on company dividend determinants. It, then, describes the methodology applied to conduct the study on the chosen dividend determinants of the private commercial banks of Bangladesh. Results of the analysis are presented thereafter.

## 2. Literature Review

### 2.1 Company Profitability and Dividend

Past academic research indicates that higher profitability does not always mean higher dividend. Companies with high profit, sometimes distribute low dividend to retain more, that results in higher growth (Besley and Brigham, 2008). A research conducted on 54 Saudi-listed companies during the period of 1990 till 2006 presents that firms with lower profit have a tendency to skip dividend or pay low dividend. Profitability is, therefore, a significant factor for dividend payment (Ajmi and Hussain, 2011). This is supported by the result of a research in China during 1994 to 2006 which says profitability is an important determinant of dividend policy of a firm (Hang, Shen, and Sun, 2011).

### 2.2 Company Growth and Dividend

Research indicates that company growth can have an influence on its dividend policy too. A research on firms listed on PT Jakarta Stock Exchange during the period of 1995 to 2005 presents that firms which enter in growth phase tend not to pay a lot of dividend, compared to firms at matured step. Final samples utilized in this study are equal to 1052 year observation (Murhadi 2008). Companies begin to give dividends after reaching a certain growth stage says a research on 180 listed companies of the Karachi Stock Exchange. At their earlier stage, companies focus on retained earnings (Mehar 2003). In

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Japan, growing firms choose further dividend increases compared to mature firms, and that such dividend increases by the growing firms are appreciated by the market more than those by the mature firms (Ishikawa 2011). A study shows there is varying influence of company growth rate on future dividend policy of dividend payers and non-payers. High growth and low insider holdings make prior payers more likely to pay but prior nonpayers less likely to pay (Twu 2010).

### 2.3 Company Size and Dividend

There are varying research results on the impact of firm size on its dividend. A research based on 945 firm year observations of 63 nonfinancial firms in Greece that paid dividends annually from 1993 to 2007, presents that company size along with other factors increase the probability to pay dividends (Patra, Poshakwale, and Ow-Yong, 2012). Another research on 50 listed firms in Nigeria from 2006 till 2010 says company size has an important impact on company dividend payout. (Uwuigbe, Jafaru, and Ajayi, 2012). Company size along with other factors noticeably influence payout decision, presents a study based on 1035 Taiwanese firms during 2000 to 2005. (Wu, Kao, and Fung, 2008). Another paper shows a significant worldwide decline in the propensity to pay dividends, mostly due to the payout policy of smaller and less profitable firms with comparatively more investment opportunity. Larger firms with higher profitability and firms with low growth opportunity have a greater propensity to give dividend. The study is based on more than 17,000 companies from 33 different countries. Proportion of dividend payers shows substantial variation across industries as well. However, proportion of firms paying dividends has declined over time, even after firms' characteristics have been controlled for (Fatemi and Bildik, 2012). A paper on Indian corporate firms in an emerging market (India) during 1991 to 2001 reveals that firms that pay dividend are likely to be larger and more profitable than non-paying firms (Reddy and Rath, 2005). Similarly in Japan, dividend seems to be positively related to company size along with other factors (Aggarwal and Dow, 2012). A study on US corporate firms during 1980-2008 presents that the evolution of firm characteristics, such as average firm size, age, and volatility of earnings over time, best elucidates payout policy (Krieger, Lee, and Mauck, 2012). However, another study reveals that proportion of U.S. firms paying dividends drops sharply during the 1980s and 1990s irrespective of firm characteristics (Fama and French, 2001).

### 2.4 Company Profitability, Growth, Size, and Dividend

A paper presented by Interuniversity Research Master and Doctorate Program in Spain shows that business profit is not the sole determinant of payout policy. There are other institutional, economic, and financial factors, such as company growth rate, that play roles in determining dividend policy. (Esteban and Foronda, 2001). Another study based on Jordan shows that dividend policy in a developing country, such as Jordan, is influenced by factors similar to those in developed countries. These factors include firm size and firm growth rate (Al-Najjar 2009). Another study based on Malaysia suggests that profitable firms are more likely to pay dividends than less profitable firms. However, it finds firm size not to be statistically significant, but providing some explanation for the dividend policy choice. The research is based on 136 companies listed on the Bursa Malaysia Index from 1990 to 1996 (Ahmed and Shaikh, 2008). An examination on 48 corporate firms listed on the Tunisian Stock Exchange during the period of 1996 to 2002, reveals that firm size negatively impacts dividend. However, firms give larger dividend when they are growing fast (Naceur, Goaid, and Belanes, 2006). A study on 36 companies listed on the Karachi Stock Exchange during the period 1996 to 2008, finds that previous dividend per share,

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earnings per share, profitability, cash flow, sales growth, and firm size are the most critical factors determining dividend policy in the engineering sector of Pakistan (Imran 2011). Another study in the UK, however, shows an overall declining propensity among firms to pay dividends over the period of 1998 to 2002 after controlling for firm size and profitability (Ferris, Sen, and Yui, 2006).

Company profitability can be computed through various indicators. A commonly used indicator is return on assets or ROA. Return on assets of a firm is determined by dividing a firm's net income by its total assets (Besley and Brigham, 2008). Company growth can be measured through a number of variables. A common measure is the company sales growth or revenue growth. Company revenue or sales can give an idea on the magnitude of business a company is generating. Company size can be estimated through a variety of measures. One such widely used measure is the firm's total assets. Total assets are the combined value of all the assets possessed by a firm at a given point of time.

There are mainly two types of dividend policy: cash and stock (Besley and Brigham, 2008). In Bangladesh, private commercial banks have mostly been distributing stock dividend for the last several years.

The paper attempts to examine the extent to which company profitability, growth, and size can influence company dividend in Bangladesh. Prior studies conducted on other parts of the world exhibit varying influences of firm profitability, growth, and size on firm dividend. The paper endeavors to examine whether the theory proven in other nations applies to the capital market of Bangladesh, more specifically, to the Dhaka Stock Exchange listed private commercial banks in Bangladesh.

### **3. Data and Methodology**

The paper investigates the impact of company profitability, growth, and size on dividend policy of the Dhaka Stock Exchange (DSE) listed private commercial banks in Bangladesh). There are 30 DSE listed private commercial banks in Bangladesh. All 30 banks are selected for the study. The banks on which the research is conducted are: Arab Bangladesh Bank Limited, Al-Arafah Islami Bank Limited, Bank Asia Limited, BRAC Bank Limited, The City Bank Limited, Dhaka Bank Limited, Dutch Bangla Bank Limited, Eastern Bank Limited, Export Import Bank of Bangladesh Limited, First Security Islami Bank Limited, ICB Islamic Bank Limited, International Finance Investment and Commerce Bank Limited, Islami Bank Bangladesh Limited, Jamuna Bank Limited, Mercantile Bank Limited, Mutual Trust Bank Limited, National Bank Limited, National Credit and Commerce Bank Limited, One Bank Limited, The Premier Bank Limited, Prime Bank Limited, Pubali Bank Limited, Rupali Bank Limited, Shahjalal Islami Bank Limited, Social Islami Bank Limited, Southeast Bank Limited, Standard Bank Limited, Trust Bank Limited, United Commercial Bank Limited, and Uttara Bank Limited. Audited annual reports of the private commercial banks of Bangladesh have been consulted to accumulate relevant information. Required data have been extracted from the Dhaka Stock Exchange as well. Relevant literature has also been studied.

#### **3.1 Bank Profitability**

Bank profitability is measured by annual return on assets. To calculate annual returns on assets, net incomes and total assets of each bank for each year have been identified over

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the period of study. Annual return on assets for each bank has, then, been computed by the following procedure:

$$\text{Annual return on assets "ROA"} = \frac{\text{Annual net income as shown in the annual report of the bank}}{\text{Annual total assets as shown in the annual report of the bank}}$$

### 3.2 Bank Growth Rate

Interest income of each bank for each year has been detected to compute bank growth rate. The following procedure has been used then to determine bank growth rate:

$$\text{Annual bank growth rate at year "t"} = \frac{\text{Interest income at the end of year "t"} - \text{Interest income at the end of year "t-1"}}{\text{Interest income at the end of year "t-1"}}$$

### 3.3 Bank Size

Bank size can be understood by looking into bank annual total assets. Annual change in bank size for each bank has been calculated by the following procedure:

$$\text{Annual change in bank size at year "t"} = \frac{\text{Total assets at the end of year "t"} - \text{Total assets at the end of year "t-1"}}{\text{Total assets at the end of year "t-1"}}$$

### 3.4 Dividend Policy

Dividend policy of the private commercial banks is identified for the period of 2006 to 2012. It is observed that dividend for a certain year is declared, recorded, and distributed in the subsequent year. For example: dividend for 2010 is declared, recorded, and distributed in 2011. Most of the banks have declared stock dividend over the period of study. There are 41 cases out of 210 observations, where banks declared cash dividend along with stock dividend. Cases where both cash and stock dividend have been announced, the rates of each dividend are added up to come up with a single value. For example: the Arab Bangladesh Bank Limited declared cash dividend of 5% and stock dividend of 20% for the year ended 2011. These two rates are added up to come to a single value of 25% for ease of analysis.

Statistical tools like the Karl Pearson's coefficient of correlation ( $r$ ), the coefficient of determination ( $r^2$ ), and multiple regression analysis, have been utilized to analyze the impact of profitability, growth, and size on dividend policy of the Dhaka Stock Exchange listed private commercial banks of Bangladesh. Multicollinearity between and among the variables have been tested which a few of the previous studies seem to have not addressed.

## 4. Empirical Findings

Correlation matrix has been constructed for the year 2012 to see if a significant level of correlation exists between the dividend determinants of the study. The result shows no significant level of correlation.

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**Table 1: Correlation among Profitability, Growth, and Size in 2012**

	Profitability	Growth	Size
Profitability	1		
Growth	0.4354	1	
Size	0.3983	0.5813	1

The paper analyzes the degree of association or the strength of the relationship between dividend determinants and dividend policy of the 30 DSE listed private commercial banks of Bangladesh. Table 2 and Table 3 exhibit the results of correlation and linear regression analyses, respectively, between dividend determinants and dividend of the 30 DSE listed private commercial banks in Bangladesh during the period of January 2006 to December 2012.

**Table 2: Correlation Matrix between Dividend Determinants under Study and Dividend of 30 DSE Listed Private Commercial Banks of Bangladesh over the Period of 2006-2012**

	Determinant -06	Determinant -07	Determinant -08	Determinant -09	Determinant -10	Determinant -11	Determinant -12
Dividend -06	0.36						
Dividend -07		0.46					
Dividend -08			0.47				
Dividend -09				0.59			
Dividend -10					0.73		
Dividend -11						0.58	
Dividend -12							0.44

Positive correlation is seen between dividend determinants under study and dividend throughout the period of study. The association between the variables is observed to be weak in 2006. It increases in strength with time till 2010 where it becomes close to 1. From then on, the strength seems to weaken again. The result shows that the relationship between the concerned variables remains positive with time but is not always statistically significant.

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**Table 3: Regression Equations between Profitability, Growth, Size and Dividend of 30 DSE Listed Private Commercial Banks of Bangladesh over the Period of 2006-2012**

Year	Estimated Regression Equation
2006	Dividend = + 0.18 + 5.54 Profitability + 0.51 Growth - 0.69 Size
2007	Dividend = + 0.94 + 4.97 Profitability + 1.87 Growth - 4.16 Size
2008	Dividend = + 0.23 + 8.66 Profitability - 0.06 Growth - 0.22 Size
2009	Dividend = + 0.31 + 3.72 Profitability - 0.17 Growth - 0.14 Size
2010	Dividend = + 0.15 + 7.09 Profitability + 0.46 Growth - 0.27 Size
2011	Dividend = + 0.28 + 3.37 Profitability - 0.04 Growth - 0.22 Size
2012	Dividend = + 0.12 + 1.86 Profitability - 0.04 Growth + 0.09 Size

Table 3 reports the estimated regression equations. Estimated regression coefficients are statistically insignificant (close to 0) at 5% level of significance from years 2006 to 2012. From the equations, it is seen that profitability has a more significant impact on dividend than growth and size over the period of study. Growth is seen to have both negative and positive impact on dividend over the years, whereas, size has a negative impact on dividend in all years which turns positive in 2012.

**Table 4: R-Square and F-Test Values of Regression Analysis between Profitability, Growth, Size and Dividend of 30 DSE Listed Private Commercial Banks of Bangladesh over the Period of 2006-2012**

Year	R-Sq	F
2006	13.17%	1.31
2007	21.11%	2.32
2008	21.96%	2.43
2009	34.49%	4.56
2010	53.04%	9.79
2011	34.06%	4.48
2012	19.28%	2.07

From the R-sq results, cues are that an insignificant amount of variation in dividends can be explained, or accounted for, by the variation in the profitability, growth, and size in 2006. With time, it becomes comparatively significant to the extent that in 2010, approx. 53% of variation in dividend can be explained, or accounted for, variation in profitability, growth, and size. However, the R-sq value shows a decline since then. Small value of F in 2006 gives cue that regression equation might not help to understand the relationship between profitability, growth, size and dividend. The value keeps increasing till 2010 when it becomes significant enough to indicate that the regression equation might hold between the dividend determinants under study and dividend itself. However, it shows a fall from 2010 onwards.

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From the results, it is seen that bank profitability, growth, and size are not significant in explaining bank dividend policy in 2006. However, their role in explaining dividend strengthens with time till 2010. From then on, the variables tend to weaken in their abilities to explain dividend policy of the private commercial banks of Bangladesh. Prior studies show that company profitability, growth, and size play their part in having an impact on the company dividend, be it positive or negative. This paper finds that the theory proven in past studies does not necessarily apply to the private commercial banks in Bangladesh. Thus, a big profitable growing private commercial bank might not be the herald for possible higher future dividend in the private commercial banking sector of Bangladesh.

## 5. Conclusion

The paper has determined annual profitability, growth rate, and size as dividend determinants of all 30 private commercial banks listed in the Dhaka Stock Exchange during a period of seven years: January 2006 to December 2012. The strength of relationship between dividend determinants and dividend of the banks is examined. A weak positive relationship is observed between the variables in 2006, which strengthens with time till 2010. However, it loses strength from then on. Out of the three determinants, profitability seems to be the strongest in its impact on dividend. However, the strength is not statistically significant throughout the period of study. This does not necessarily go in line with the theory of past researches conducted in different parts of the world. The paper uses correlation and regression models to test the relationship between the chosen dividend determinants and dividend itself, which leaves scope for future studies applying other models to examine if dividends can be explained by firm profitability, growth, and size. Further study could also be conducted to pin-point determinants other than bank profitability, growth, and size, which have significant impact on dividend policy, so that banks can improve their market performance, that will contribute to the building of a better capital market in Bangladesh, which is ultimately a strong foundation for a healthy growing economy.

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