Relationship between Dividend Payout and Economic Value Added: A Case of Square Pharmaceuticals Limited, Bangladesh

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ABSTRACT: The financial goal of a firm is to maximise the economic welfare of the owners. Owners' economic welfare could be maximised by maximising the shareholders wealth as reflected in the market value of shares. The value of shares is represented by their market price which is a reflection of the firm's financial decisions that include investment or long-term asset-mix decision, financing or capital-mix decision and dividend or profit allocation decision. Among the critical decisions, decision relating to dividend is the most crucial as the financial manager must decide whether the firm should distribute all profits or retain them or distribute a portion and retain the balance. However, the preachers of shareholders value theory have discouraged distribution of earnings in the form of dividend as it implies inefficiency on the part of the management towards shareholder's wealth maximisation. Taking this argument into account, this paper attempts to study the relationship between dividend payout and economic value added (EVA), an indicator to shareholders wealth creation, introduced by United States based consultants Stern Stewart and Company, New York, in 1990, using data of Square Pharmaceutical Limited (SPL), one of the largest pharmaceutical companies in Bangladesh, for the periods 2004-05 to 2010-11. Using simple regression equation method, the study comes to the conclusion that there is an inverse relationship between dividend payout and EVA and recommends SPL to continue the existing dividend policy of retaining a bulky portion of earnings rather than high payout ratio.

KEYWORDS: Dividend, retained earnings, economic value added, cost of capital employed, shareholders wealth.

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1   INTRODUCTION

1.1   RATIONALE OF THE STUDY

Maximising shareholders wealth has become a new corporate paradigm due to globalization, rapid and complex changes in the economic and business environment as well as intense competition in every field of economic activity. To maintain competitiveness, sustain and attain the objective of shareholders wealth maximisation, corporate managers have to make critical, strategic and time oriented business and financial decisions. Among them, decision relating to dividend (distribution of earnings among the shareholders in proportion to their ownership) is the most important as the company has to choose between distributing the profits to the shareholders as dividend and ploughing them back into the business as retained earnings. Therefore it is imperative for SPL to access the current dividend policy and its impact on shareholders wealth creation on the basis of the relationship between dividend payout and EVA in order to decide whether to continue the existing dividend policy or to incorporate a new one that is consistent with the goal of maximising the company's stock price which leads to maximisation of shareholders wealth and thereby ensures more rapid economic growth [1]. The study shows the relationship between dividend payout and shareholders wealth creation on an individual firm basis as the importance of dividend varies from one industry to another even from one firm to another within the same industry.

1.2   LITERATURE REVIEW

The study aims at adding a conclusion on the matter that whether dividend payment positively or negatively affects shareholders wealth maximisation that is represented in the market price of the company's common stock. This section focused on the thoughts regarding the impact of different dividend policy on shareholders value creation and wealth maximisation. The first thought is that the company should retain the earnings if it has profitable investment opportunities that will earn a return more than the cost of capital. In such a case the market price of shares will be maximised by ploughing back the earnings. This policy of retaining earnings, instead of paying dividend in cash, is supported by the empirical work of Friend and Puckett [2]; Diamond [3]; and Barker et al. [4]. Litzenberger and Ramaswamy [5] stated that firms could increase their share price by reducing dividends. The second thought is that if the company does not have any profitable investment opportunities, the shareholders will be better off if earnings are paid out to them so as to enable them to earn a higher return by using the funds elsewhere. In such a case, the market price of shares will be maximised by the distribution of the earnings as dividend. This policy of paying dividend, instead of retaining earnings, is supported by the study of Gordon and Shapiro [6], Gordon [7], [8], Lintner [9], Walter [10], Barker et al. [11], Partington [12]. They argued for the bird in the hand theory, suggesting that investors prefer dividends rather than capital gains because of their certainty. Al-Malkawi, Rafferty and Pillai [13] support this theory by arguing that "a dollar of dividends has, on average, four times the impact on stock prices as a dollar of retained earnings". Therefore the companies which adopt low dividend payout rate policy are not favoured by investors. Because shareholders can choose to sell the shares if they are not satisfied with the dividend policy, these companies may experience a drop in their share prices. In their study, Barker and Powell [14] surveyed 603 cheif financial officers of US firm listed in New York stock exchange and observed that 90% of the total respondents believed that dividend payout policy positively affects a firm's value and therefore shareholders wealth. The third and final thought is the philosophy of dividend irrelevance introduced by Miller and Modigliani [15] which stated that with the presence of perfect capital markets and rational investors, shareholders wealth is not affected by the dividend decision. They revealed that shareholders wealth is affected by the income generated by the investment decision a firm makes, not by how it distributes that income. Dividend irrelevance is supported by the empirical research conducted by leading financial economic researchers such as Black and Scholes [16], Miller and Scholes [17], [18], Hess [19], Miller [20], Siddiqi [21], Bernstein [22], and Casey and Dickens [23]. Their studies suggested that dividend policy makes no difference on either share prices or the cost of equity. So empirical study showed mixed evidence about the relationship between dividend payout and shareholders wealth creation. Therefore, an attempt has been made in this study to unfold the relationship between dividend payout and shareholders wealth creation by using simple regression technique and taking SPL as example. One recent innovation that depicts a clear picture of whether a business is creating or destroying shareholder wealth is EVA. EVA is considered to be the best known of the shareholder value metrics [24]. EVA is the difference between net operating profit after tax (NOPAT) and the required return of the financing of debt and equity. If EVA is positive, the firm has created value for the shareholders over the periods and if EVA is negative, it connotes the firm is destroying shareholders wealth. In a rational market, maximising EVA should maximise the company's share price and hence the shareholders wealth [25]. Therefore, this study takes EVA as the indicator to shareholders value creation and wealth maximisation and concludes on its relationship with dividend payout.

1.3 OBJECTIVES OF THE STUDY

The study has been conducted with the principal objective of determining the relationship between dividend payout and EVA i.e. whether there is an inverse or a positive impact of dividend payout on shareholders wealth creation expressed in terms of EVA. To accomplish this objective, the study covers the following specific objectives:

(i)   To calculate EVA for SPL for the periods 2004-05 to 2010-11.
(ii) To appraise whether SPL has created wealth to the shareholders during the study periods.

2   MATERIALS AND METHODS

The nature of the research design was exploratory. Case study method was used to measure the value addition by SPL to shareholders. The study used only secondary data that were collected from published annual reports of SPL, books, journals and Dhaka stock exchange (DSE) limited and used with due care as per the requirements of the study. To analyse the data, statistical tools that had been used were simple regression technique and student's 't' test at 5% level of significance. For this purpose, total dividend paid in a year (Y) was taken as a dependent variable and EVA (X) as an independent variable. Bangladesh government investment bond yield 6.5% was taken as the risk free rate of return in this study. Capital asset pricing model was used to calculate the cost of equity. The data used for the analysis were relating to SPL for the periods of 7 years (2004-05 to 2010-11). The hypotheses used were:

Null hypothesis (H_o): There is a positive relationship between dividend payout and EVA.

Alternative hypothesis (H_1): There is an inverse relationship between dividend payout and EVA.

The study used the following methodology to calculate EVA:

(i)   EVA = NOPAT – Cost of capital employed (COCE);
(ii)   NOPAT = Operating profit × (1 - t), where t = tax rate;
(iii) COCE = Capital employed × Weighted average cost of capital (WACC);
(iv)   Capital employed = Shareholders equity + Long-term loans;
(v)   WACC = = $k_1.K_d + k_2.K_e$ + ...
       Where, $K_{1,2}$ = Weights of individual sources in the capital structure, K_d = Cost of debt, K_e = Cost of equity;
(vi)   Cost of debt (K_d) = I × (1-t), where I = Interest rate, t = tax rate;
(vii) Cost of equity is the return expected by the investors to compensate them for the variability in return caused by fluctuating earnings and prices. Cost of equity (K_e):

$$= R_f + (R_m - R_f) \times \beta$$

$$= 6.5\% + (5.83\% - 6.5\%) \times 0.58$$

$$= 6.11\%$$

For calculation of R_m (Expected market rate of return) and β (beta), annexure may kindly be referred;

(viii) Interest rate, on an average, was taken as 12% per annum;
(ix)   Tax rate was taken as 27.5% as SPL is a publicly traded company.

3   RESULTS AND DISCUSSION

Table 1 reveals the calculation of EVA of SPL for the study periods. The result shows that SPL has added value to the shareholders consistently during 2004-05 to 2010-11. EVA growth rate as compared to base year 2004-05 are positive in the following years that indicate the good economic earning capacity of SPL, the precondition to maximise shareholders wealth. A company that has generated a positive EVA connotes efficient management of shareholders invested funds and the company is in the right track. Therefore, during the study periods SPL has added wealth to the shareholders by productive employment of their invested funds.

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Table 1. Table showing EVA Trends: 2004-05 to 2010-11

(Bangladeshi Taka in crores)

Particulars	Years						
	2004-05	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
Shareholders equity*	556.87	640.20	733.32	841.70	994.93	1155.43	1381.77
Long-term loans*	38.91	60.23	49.25	60.25	44.97	103.26	65.56
Capital employed	595.78	700.43	782.57	901.95	1039.90	1258.69	1447.33
K_e (%)	6.11	6.11	6.11	6.11	6.11	6.11	6.11
K_d (%)	8.70	8.70	8.70	8.70	8.70	8.70	8.70
WACC (%)	6.28	6.33	6.27	6.28	6.22	6.32	6.22
COCE	37.41	44.33	49.06	56.64	64.68	79.55	90.02
NOPAT*	96.98	114.56	132.36	123.92	171.71	194.99	218.98
EVA	59.57	70.23	83.30	67.28	107.03	115.44	128.96
EVA growth (%)	--	17.89	39.83	12.94	79.67	93.78	116.48

*Source: SPL annual reports: 2004-05 to 2010-11.

Table 2 and 3 provide necessary calculations to conclude on whether dividend payout has positive or negative relationship with EVA during the study periods using 't' distribution at 95% confidence level. Table 2 shows that SPL has followed the policy of retaining a significant portion of its earnings per share (EPS) in each year. On an average, SPL has retained 73.20% of its earnings per share during 2004-05 to 2010-11 i.e. for every Taka 100 earnings, the company has paid Taka 26.80 cash to the shareholders as dividend per share (DPS). This policy of retaining higher portion of earnings expressed that SPL had investment opportunities with positive net present value (NPV). The positive value addition shown in Table 1 is the reflection of that policy which express the increasing trend of value addition to shareholders and that is well backed-up by the result of 't' test shown in Table 3. Table 3 shows that the calculated 't' value is 5.28 while the table value at 5% level of significance with 6 (7-1) degrees of freedom is 1.94. Since the calculated value is more than the table value, alternative hypothesis is accepted i.e. there is an inverse relationship between dividend payout and EVA for SPL during the study periods. Hereby, it is concluded that the company namely SPL has added value to the shareholders during 2004-05 to 2010-11 by declaring and paying less dividend out of total earnings and using the retained funds for investing in profitable ventures.

Table 2. Table showing the relationship between dividend payout and EVA

(Bangladeshi Taka in crores)

Years	EVA (X)	Cash divided* (Y)	X^2	XY	EPS* (Taka)	Cash DPS* (Taka)	Retention Ratio (%)
2004-05	59.57	33.26	3548.58	1981.29	290.71	77.00	73.51
2005-06	70.23	37.26	4932.25	2616.76	234.67	75.00	68.04
2006-07	83.30	29.80	6938.89	2482.34	145.74	50.00	65.69
2007-08	67.28	35.76	4526.59	2405.93	154.53	40.00	74.11
2008-09	107.03	48.28	11455.42	5167.40	156.56	40.00	74.45
2009-10	115.44	52.81	13326.39	6096.38	138.36	35.00	74.70
2010-11	128.96	58.85	16630.68	7589.29	166.05	30.00	81.93
	631.81	296.02	61358.80	28339.39			

*Source: SPL annual reports: 2004-05 to 2010-11.

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X^2 - (\sum X)^2}$$

= 0.37

$$a = \frac{\sum Y}{n} - \frac{b.\sum X}{n}$$

$= 8.89$

$Y = a + bX$

$= 8.89 + 0.37X$

Table 3.   Table showing the standard error of estimate

Years	EVA (X)	Cash divided (Y)	$\hat{Y}$	$(Y - \hat{Y})^2$	$(X - \bar{X})^2$
2004-05	59.57	33.26	30.93	5.42	941.26
2005-06	70.23	37.26	34.87	5.71	400.80
2006-07	83.30	29.80	39.71	98.20	48.30
2007-08	67.28	35.76	33.78	3.92	527.62
2008-09	107.03	48.28	48.49	0.04	281.56
2009-10	115.44	52.81	51.60	1.46	634.53
2010-11	128.96	58.85	56.60	5.06	1498.46
	631.81	296.02		119.81	4332.53

$$\sigma = \sqrt{\frac{\Sigma\left(Y - \hat{Y}\right)^2}{n-2}}$$

$= 4.89$

Calculated 't' value:

$$t = \frac{\hat{b}}{\hat{\sigma} \cdot \sqrt{\frac{1}{\sum(X - \bar{X})^2}}}$$

$= 5.28$

4   CONCLUSION

The goal of financial management is to create and maximise wealth of the shareholders, as reflected by company's share price that can be attained by using one of the two variables- (i) paying dividend at a consistent rate and (ii) retaining earnings instead of paying dividend and investing in positive NPV projects. The literature on dividend policy however has produced mixed and inconclusive results as to which alternative use is consistent with the objective of value creation for shareholders. Therefore, this study attempts to add a conclusion on the matter that whether dividend payout affects shareholders wealth. For this purpose, the study used EVA as a measurement tool to shareholders value creation and wealth maximisation as it correlates better with stock price than any other measures: by 50%, compared with up to 30% for other metrics [26]. Hypothesis statements were framed and testing carried out using 't' distribution. The test revealed that, as far as the SPL concerned, EVA is negatively influenced by the dividend payout. For SPL, retained earnings act as an important source of financing in positive NPV projects that positively affects the value addition to the shareholders. SPL has taken all the necessary steps to ensure the effective use of funds, both invested and retained, by taking priority to increase the wealth of the shareholders. The study, therefore, highly recommends SPL to continue the current residual dividend policy of paying dividends out of earnings, only after investing in positive NPV projects, if any, rather than high payout ratio. The study also recommends SPL to (a) incorporate a remuneration system to managers in terms of a proportion to the total EVA and the positive growth in EVA that will motivate them in guiding company's systems, strategies, processes, techniques and cultures towards the maximisation of shareholders wealth and (b) disclose a statement on EVA with financial statements as an additional disclosure so that shareholders would be better informed which would contribute in attracting new investors and the reduction of additional debts.

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ANNEXURE

(i) R_m calculation

Years	Initial share price* (Taka)	Closing share price* (Taka)	Capital appreciation	Cash DPS** (Taka)	Total (Taka)
2004-05	2367.00	3768.75	1401.75	77.00	1478.75
2005-06	3744.75	2276.25	(1468.50)	75.00	(1393.50)
2006-07	2259.00	2447.50	188.50	50.00	236.5
2007-08	2425.25	4110.25	1685.00	40.00	1725.00
2008-09	4189.50	2935.50	(1254.00)	40.00	(1214.00)
2009-10	2921.75	3581.00	659.25	35.00	694.25
2010-11	3575.00	3272.00	(303.00)	30.00	(273.00)
	21482.25				1254.00

*Source: *DSE limited and **SPL annual reports: 2004-05 to 2010-11.*

$$R_m = \frac{1254.00}{21482.25}$$

$$= 0.0583$$

$$= 5.83\%$$

(ii) β calculation

Years	DSE Index* (Taka)	Share price of SPL* (Taka)	Market excess return (x)	Portfolio excess return (y)	x^2	y^2	xy
2003-04	973.88	2,272.00	--	--	--	--	--
2004-05	1919.25	3,768.75	97.07	65.87	9422.58	4338.85	6394.00
2005-06	1491.77	2,276.25	(22.27)	(39.60)	495.95	1568.16	881.89
2006-07	1760.87	2,447.50	18.03	7.52	325.08	56.55	135.58
2007-08	3016.48	4,110.25	71.30	67.93	5083.69	4614.48	4843.40
2008-09	2446.92	2,935.50	(18.88)	(28.58)	356.45	816.81	539.59
2009-10	5582.33	3581.00	128.13	21.98	16417.29	483.12	2816.29
2010-11	6352.10	3272.00	13.79	(8.63)	190.16	74.47	(119.00)
			287.17	86.49	32291.20	11952.44	15491.75

*Source: *DSE limited.*

$$\beta = \frac{n.\sum xy - \sum x \sum y}{n.\sum x^2 - (\sum x)^2}$$

$$= 0.58$$