

EFFECT OF SHARE BUYBACK ON DIVIDEND PER SHARE (DPS): EMPIRICAL EVIDENCE FROM INDIA

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ABSTRACT

Share Buybacks are the alternative payout mechanism apart from dividend that has received attention from world over since 1960s. Due to its timing flexibility and non-consistent nature, it is an easy way to pay cash to the investors. Companies and Investors in India have a pro-attitude towards dividend payment on regular basis. In such a scenario, it is imperative to know whether this policy is influenced by the announcement of share buyback by the companies. This paper is focused upon whether corporate entities in India utilize share buyback for the purpose of making payment to the shareholders as a substitute of dividend. A sample of companies listed at the National Stock Exchange of India Ltd. and making an announcement of share buyback during the period 1st April 2010 and 31st March 2014 is selected and analyzed by applying Paired t-test. The findings suffice the fact that share buybacks are standalone actions and are not influencing the dividend policy of the companies. The t-statistic value of t-test is not statistically significant at 5 % level of significance. The evidence of substitution of dividend to buybacks as found in U.S. corporations was not found in Indian Stock market. It is therefore evident that share buybacks are utilized for disbursing temporal and non-sustainable cash-flows

KEYWORDS: Share Buybacks, National Stock Exchange of India Ltd., Substitution Effect, Dividend

INTRODUCTION

Dividends are the primary mechanism for disbursing earnings to the shareholders. Shareholders' expect the firms to distribute fair contribution of profits to them and executives need to arrive at a decision with regard to the proportion of earnings to be kept for investment and financing decisions and the proportion of earnings to be kept for distribution. Every decision is viewed as a step towards shareholder value maximization. The wealth creation aspects of dividends and share buybacks are evaluated so that companies do not compromise long-run objectives for short-run objectives. Researchers find clear evidence that announcement of either method conveys positive information about the value of the company. But only a small group of academicians focus on both dividends and buybacks. Myriad of factors are listed including taxes, transaction costs, extent of mispricing, takeover defensive ability, permanence in cash flows and so forth that affect the choice between share buybacks and dividends.

Lintner (1956) postulated that companies follow reasonably consistent patterns of behavior in dividend decisions with partial adaptation allowed which helps to minimize adverse stockholder reaction. Firms are reluctant to cut the dividend as it would have negative consequences. Share buybacks are another means to disburse cash to shareholders along with retaining the flexibility of timing issue. They involve no commitment of year after year and hence risk is less. There is no obligation to exercise buybacks (in case of open market) and therefore given these market conditions, these are sensible, well-thought way to pay out. Because dividend increases are implicitly permanent, the dilemma remains that share

buybacks may or may not be influenced by the dividends. Hence, our purpose is to find out whether the dividend policy followed by Indian companies is influenced by the announcement of buybacks or it remains intact.

Traditionally, Dividend was the primary source of distribution of earnings to shareholders. Companies followed a consistent policy of dividend payment. With the growing complexities of corporate finance and strengthening corporate governance, buybacks emerged as a flexible, time-variant mechanism to make payout decisions. Scholars have studied the relationship between dividends and buyback and came out with evidences which have little consensus. One school of thought supports the substitution effect of dividends and buybacks while the other refutes its fluid substitution.

Lintner(1956) interviewed managers from 28 companies and conducted an illuminating study on dividends being the primary and most active decision variable in corporate payout decisions. He established concrete facts with regard to financial policies of corporations. He argued about the preferred form of policy that executives sought to follow a well-defined long term consistent pattern of dividend policy and avoid making changes that have to be called off within a short span of time. He postulated that policy of progressive, "partial adaptation" is adopted which helps to minimize adverse stock holders reaction. A more or less standardized rate of adjustment to a fixed-target payout ratio on current earnings is adhered to with little deviation over extended periods of time unless reasons seem to be prudent and convincing to officers and directors and are of character which provided strong motivations to management. This foundation theory of financial policy gauged different facets of dividend decisions and has significance even today. Our purpose is to check whether these facts are established in Indian corporate context or any other unique pattern of behavior emerges in India.

Another milestone contribution in financial literature is given by Modigliani and Miller(1961) who postulated an altogether different angle of payout policy, that in perfect capital markets, payout policy cannot create value for shareholders greater than the value generated by investment policy. Accordingly, investment decisions should never be determined by dividend decisions and dividend decisions over the years should not be affected by investment decisions. MM's focus was about the total payout and not about the form of payout(dividend-share buyback mix) because share buybacks were rare during those times in 1960s. MM established that in the absence of taxes, transaction costs and other frictions, value of the firm cannot be created over and above the value generated by distributing 100 % free cash flow. Thus, the question of form of distribution is irrelevant.

But in the real world, Indian stock market is an imperfect capital market and there are presence of taxes and transaction costs incurred on various forms of payouts. Therefore, managers do face the choice of decision on the firm's mix of total payout which is a relevant question that creates value for the corporations.

In other perspective, Jensen(1986) opined that agency costs are bound to affect the payout policy of the firms. He recognized that the executives have incentives to retain more cash to divert them to personal use or to overinvest them in marginal investment projects with negative NPV. Investors pressurize the executives for accelerating the payouts which would reduce the amount of internal cash at their disposal by increasing dividends or repurchasing stock which leaves the managers with control over the use of future free cash flows, but they can promise to payout by announcing a "permanent" rise in dividend. However, such promises are weak because dividends can be reduced in future. Capital markets punish the dividend cut announcements with large stock price reductions.

But with the passage of time, introduction and exponential growth of buybacks has created a way of disgorging the transitory increase in free-cash flow. Firms have vulnerable cash flow year by year which they effectively use to

disburse instead of committing a permanent increase in dividend.

Jagannathan, Stephens and Weisbach (2000) gave a novel dimension to this payout policy decisions. They hypothesized that dividends represent an ongoing commitment and are used to disburse permanent cash flows and repurchases would be a sensible way for firms to payout cash flows that have a high likelihood of not being sustainable and vary considerably with business cycle. They posit that firms still generally increase dividend every year, suggesting that there is still dividend puzzle. The temporary cash flows are made up of higher proportion of non-operating income. They concluded that cash flow stability and cash flow variation are the two determinants of payout policy. Repurchases increased during boom and decreased during recession. Their study highlighted the nature of income linkage to choice of payout. Will these results hold true in India also is yet another major question.

Guay and Harford(2000) also reported that permanence of contemporaneous cash flow shocks is related to the type of payout method chosen. Thus, the distribution method chosen by managers signal the information about the permanence of cash flow shock. They argued that repurchases and dividend send fundamentally two different signals to market. The information content of payout method also helps to build a consensus that cash flow shocks after sustainable dividend increase have larger permanent component than those by repurchase or routine/small dividend increases or no payout at all.

Lee and Rui (2007) incorporated a dynamic and multifaceted VAR model and also found similar results and provided strong evidence to show that repurchases do not contain additional information about future earnings but dividend do. Their study complements the existing findings of Guay and Harford(2000) and Jagannathan, Stephens and Weisbach(2000) that share repurchases are strongly associated with temporary components of earnings and dividend are relatively more strongly associated with permanent earnings.

Dittmar and Dittmar(2002) documented the result which is consistent with Guay and Harford(2000) and investigated on aggregate pattern of stock repurchases and payout policy. This study is one of the few in corporate finance to incorporate how macro-economy impacts firm decisions. Dividend and repurchases both could be used to disburse different permanent earnings. They reported that changes in macro-economy are the primary driver of aggregate changes in dividend. Dittmar and Dittmar(2002) considered both of them as substitutes only and only for permanent earnings income.

Fenn and Liang(1998) considered repurchases as an extremely credible means of distributing free cash flow. They reported a positive relationship between open-market buyback and net operating income(a proxy for free cash flow) and negative relationship between buyback and market to book ratio(a proxy for investment opportunities) for both dividend and non-dividend paying firms. They found that net operating income is positively associated with dividend increases and negatively associated with capital expenditures. Thus, buybacks are closely tied to cash flows while dividends increases are more closely tied to earnings. They concluded that firms increase their dividends to signal future increase in earnings and this increase is not primarily motivated by agency cost of free cash flow. Overall, their results suggest that firms do not treat repurchases and dividend as close substitutes of each other.

Few scholars studied the time-series behavior of dividend of large number of firms and found a change in characteristics of firms. Fama and French (2001) reported a study that the proportion of dividend payment has declined considerably partly due to rise in swelling group of small firms that have never paid dividend. There has been a substantial change in firm characteristics and firms now have lower propensity to pay in general. Share buyback was not regarded as a

reason for shift in the characteristics. They reported that perceived benefits of dividend has declined through time. The explosions of newly-listed firm have lower earnings but strong investment opportunities.

While some others took a close observation of the how financial policy behavior has evolved from Lintner's era to present. Brav, Graham, Harvey and Michaely (2005) examined and found that dividend is a priority at par with investment decision. But increase in dividend is considered only after investment and liquidity needs are met. They posit that the historic level of dividend is retained and is critical in dividend decisions. Such decisions are still made conservatively and reducing dividend has negative consequences. CFOs consider change or growth in DPS. Thus, managers do not view the evolving relation between dividend and repurchases as one-for-one substitution. Managers realize and attach value to flexibility of repurchases and dislike rigidity of dividends.

They reported that managers are hesitant to shift the dollars away from repurchases towards dividend because a replacement in this direction is irreversible except under extraordinary conditions. They found repurchase policy better explained by Modigliani and Miller(1961) that is managers take these decisions after operating and investment decisions are made.

There exists another school of thought which opines share buybacks are the perfect replacement of dividends and have many relative merits which makes them preferable means of distribution in lieu of dividends. Grullon and Michaely(2002), Skinner(2008) are the laureates supporting this thought with empirical evidences. Grullon and Michaely(2002) reported substitution effect of dividend with repurchases. Their analysis showed firms have gradually substituted repurchases for dividend and over the period the average dividend payout ratio has declined and average repurchase ratio has increased. They observed that many young firms which have higher propensity to pay cash have decided to initiate payout in the form of repurchases rather than dividend(Fama and French,2001). They reported that dividend forecast errors are negatively correlated with share buybacks activity. Complementing the previous results, they reported that market reaction to dividend decreases was significantly less negative for repurchasing firms than non-repurchasing firms. One of the reasons attributed to market reaction is tax differential.

Similarly, Skinner(2008) provides evidence for strong support of substitution. He stated that repurchases are increasingly used in place of dividend even for firms that continue to pay dividend and young firms who have never paid dividend are preferring to pay through repurchases, as dividend entails costs and there is no immediate benefit. Instead of cash flows, Skinner(2008) documented that relation between earnings and repurchases have become strong and that with dividend has become weak. He divided the firms on the basis of their repurchases and dividend choices and concluded that dividends are now largely the domain of firms that pay dividend and make repurchases. Excess earnings are paid in the form of repurchases as they absorb variation in earnings.

Extensive research work has been done in the area of impact of dividend on repurchases and vice-versa. Noble laureates laid the foundation that dividends are sticky, smoothed year-to-year, tied to permanent earnings and a cut in dividend creates negative impact in its aftermath. While, repurchases are flexible, adjustable to time and tied to transitory cash flows. Empirical evidences show dichotomous views about their interchangeability in payout policy. It will be interesting to know in Indian context, how far dividend influence repurchases and the corporate behavior of firms.

OBJECTIVES

The present paper is intended to accommodate the following objectives:

- To investigate the impact of buybacks undertaken on dividend per share.
- To analyze the substitution effect of DPS influenced by share buybacks.

HYPOTHESIS DEVELOPMENT

In order to shed some light on the continual debate on the substitution effect of dividend to repurchases, the current paper attempts to examine whether the dividend increases of the listed companies were replaced by the repurchase announcement and subsequent decline or no changes in the annual dividend. Accordingly, the null hypothesis that is to be tested is as follows:

H₀: There is no impact of share buyback announcement on dividend per share.

In case of accepting the above null hypothesis, it means that there is no significant impact of buybacks undertaken by the companies over the dividend per share declared by them and companies are cash-rich enough to increase their DPS with simultaneous buyback.

Alternatively, in case of rejecting the null hypothesis, it means that buybacks undertaken by companies have statistically significant impact –positive or negative on the dividend per share declared by them and thus the evidence of Grullon and Michaely(2002) stands true.

DATA AND SAMPLE SELECTION

Secondary data is used for the examination of impact of share buybackson DPS. The data set consist of 28 companies listed on National Stock Exchange belonging to various sectors. Out of the sample,20 companies had gone for open-market buybacks and rest 8 had gone for tender offer buybacks. To make the sample better representative of the population both the methods were chosen. The companies are randomly selected based on the availability of data. But in arriving at the final sample, few key points were considered. Companies that declared interim dividend only were intentionally dropped to gain uniformity in data. 17 Companies that had gone for buyback but were not listed at NSE were filtered out. Companies that have gone for buyback more than once were not double counted. Further, there were few companies which did not declare dividend either in one or the other or both years were purposively chalked out.

The period of study ranges from 1st April 2010 to 31st March 2014 covering a four year span representing a sufficiently wide time-duration with normal business conditions. The dividend per share of companies in the year prior to buyback and at the end the year of buyback have been obtained from the website of National Stock Exchange of India limited.

The final sample selection satisfies the following selection criteria:

- The sample companies are listed on National Stock Exchange at the time of announcement of intention of buyback.
- Companies announcement their buyback during the period 1st April 2010 to 31st March 2014.
- Date of announcement of buyback is taken from SEBI website.

METHODOLOGY

The research methodology used for the examination of DPS and buybacks to know the statistical significance is

Paired t-test. Paired t-test is a procedure used for comparing sample means to see if there is sufficient evidence to infer that the means of sample pair of observations differ from each other. Paired t-test is the parametric test which is used to test the difference between the means of the pair of observations before the happening of an event or experiment and after the happening of event or experiment. Two samples are said to be dependent when the elements in one sample are related to those in the other in any significant manner. Here, companies form the elements and they are related to one another by declaration of dividend and simultaneous announcement of buyback. The t-test will measure whether the mean DPS of various companies before going for buyback is significantly different from mean DPS of various companies after the buyback. The values of sample mean have been tested at 5 % level of significance. The data are in pairs, but one is really interested only in the difference in the DPS of each pair, not the DPS themselves. So, we take the difference between the scores for each pair, and those paired differences make up our new set of data to work with. If the two DPS before and after are the same, the average of the paired differences should be 0. If the post DPS is better, the average of the paired differences should be positive. The t-test based on paired observations is defined by the following formula:

$$t = \frac{(\bar{d}\sqrt{n})}{s}$$

Where,

t = test statistic

\bar{d} = mean of the differences

n = sample size

S = the standard deviation of the differences

Paired t-test can be applied when the conditions that data has been following normal distribution is met. This is important as in case of deviation from the normal distribution, the statistical test applied would not provide robust result.

Both graphical and statistical tests for normality were conducted. Histogram and normality plots were used to identify deviations. Besides this, the normality test of a given variable could be checked by Kolmogorov-Smirnov test and Shapiro-Wilk test. Shapiro Wilk test is highly used in case of small sample sizes i.e; 50 units. Shapiro-Wilk test presumes the null hypothesis that the variable is following normal distribution. By applying this test, data was found to be non-normal.

Thus, for data to be suitable for statistical test, log transformation was applied. It satisfied the normality condition and the transformed variable of DPS is used for t-test.

EMPIRICAL RESULTS

Table 1 documents the DPS before the buyback for all the sample firms and DPS after the buyback for all the sample firms. A closer look at the firms demonstrates that firms that have gone for buyback comprises of a higher number of firms which made a rise in their DPS despite of undertaking buyback. It seems that with the execution of buyback, the number of shares outstanding has gone down as a consequence of which the profits to be distributed among shareholders has been distributed to lesser number of investors due to which DPS of each shareholder has increased. Moreover, in general companies have been following a prudent and stable dividend policy to adhere to the investor sentiments and avoid any market discrepancies.

Table 1: Dividend per Share before and after Share Buybacks

Sr. No.	Sample Companies	Pre-Buyback DPS (Rs.)	Post-Buyback DPS (Rs.)
1	Panacea Biotech Ltd.	0.25	0.75
2	Hindustan Composites Ltd.	2.50	2.00
3	Balrampur Chini Mills Ltd.	3.00	0.75
4	Zee Entertainment Enterprise Ltd.	2.00	1.50
5	Pvr Ltd.	1.00	2.00
6	Praj Industries Ltd.	1.26	1.62
7	Ansal Housing & Construction Ltd.	0.80	1.00
8	J.K Laxshmi Cement Ltd.	1.25	2.00
9	Reliance Industries Ltd.	8.00	8.50
10	United Phosphorus Ltd.	0.50	2.50
11	Tips Industries Ltd.	2.00	2.10
12	Fdc Ltd.	2.00	2.25
13	Krbl Ltd.	0.30	0.80
14	Panama Petrochem Ltd.	2.00	4.00
15	Infinite Computer Solutions(India)Ltd.	3.00	2.00
16	Jbf Industries Ltd.	6.00	2.00
17	Garware Wall Ropes Ltd.	2.50	2.70
18	The Great Eastern Shipping Company Ltd.	4.50	5.00
19	Jindal Steel And Power Ltd.	1.60	1.50
20	Mastek Ltd.	3.00	2.75
21	Geodesic Ltd.	1.00	1.40
22	Binani Cement Ltd.	3.50	2.50
23	Navin Flourine International Ltd.	7.50	8.50
24	Fdc Ltd.	1.75	2.00
25	The Sandesh Ltd.	3.50	4.00
26	Bayer Cropscience Ltd.	5.00	5.50
27	Nhpc Ltd.	0.60	0.30
28	Jagran Prakashan Ltd.	2.00	3.00

Source: Compiled

Looking at the normality of the data is the very first step for any statistical test. Table 2 accommodates the result of the normality test for values of the Pre DPS and Post DPS variables for all sample companies. Shapiiro-Wilk test results connote non-normality of Original Pre buyback and Post buyback values as they stand at 0.0024 and 0.0001 respectively. The log transformations have been performed on variables as they have been failing the normality test in original form. Under the conditions where data is not following the normal distribution, data-smoothing techniques are employed to make the data suitable for statistical test. Data-smoothing have been executed by applying log transformation.

Table 2: Test of Normality on Original Values of DPS

Tests of Normality			
Variables	Shapiro-Wilk Statistic	Df	Significance
PRE_DPS	0.8697	28	0.0024
POST_DPS	0.7950	28	0.0001

Source: Computed

The values of Shapiro-Wilk test along with the significance value for both the variables after required transformation have been shown in Table 3. The significance value of Shapiro-Wilk test turns out to be 0.43 and 0.34 for pre-buyback DPS and post-buyback DPS respectively. Thus, the data is well smoothed to carry out t-test.

Table 3: Test of Normality after Transformation of DPS

Tests of Normality			
Variables	Shapiro-Wilk Statistic	df	Significance
LOG_PRE_DPS	0.9640	28	0.4310
LOG_POST_DPS	0.9598	28	0.3452

Source: Computed

Table 4 demonstrates the result of the log transformation values of DPS and the difference in the paired observations of log transformed values of Post DPS and Pre DPS. The values have been rounded off to three decimal places. These log transformed values can be further used as paired observations for all the sample companies that have gone for buyback. The pre-buyback log transformed values are subtracted from post-buyback log transformed values.

Table 4: Log Transformed Values of pre Buyback and Post Buyback DPS and their Difference

Sr. No.	Sample Companies	Log Transformed Pre-Buyback DPS	Log Transformed Post-Buyback DPS	Difference
1	Panacea Biotech Ltd.	-1.386	-0.288	1.099
2	Hindustan Composites Ltd.	0.916	0.693	-0.223
3	Balrampur Chini Mills Ltd.	1.099	-0.288	-1.386
4	Zee Entertainment Enterprise Ltd.	0.693	0.405	-0.288
5	Pvr Ltd.	0.000	0.693	0.693
6	Praj Industries Ltd.	0.231	0.482	0.251
7	Ansal Housing & Construction Ltd.	-0.223	0.000	0.223
8	J.K Laxshmi Cement Ltd.	0.223	0.693	0.470
9	Reliance Industries Ltd.	2.079	2.140	0.061
10	United Phosphorus Ltd.	-0.693	0.916	1.609
11	Tips Industries Ltd.	0.693	0.742	0.049
12	Fdc Ltd.	0.693	0.811	0.118
13	Krbl Ltd.	-1.204	-0.223	0.981
14	Panama Petrochem Ltd.	0.693	1.386	0.693
15	Infinite Computer Solutions(India)Ltd.	1.099	0.693	-0.405
16	Jbf Industries Ltd.	1.792	0.693	-1.099
17	Garware Wall Ropes Ltd.	0.916	0.993	0.077
18	The Great Eastern Shipping Company Ltd.	1.504	1.609	0.105
19	Jindal Steel And Power Ltd.	0.470	0.405	-0.065
20	Mastek Ltd.	1.099	1.012	-0.087
21	Geodesic Ltd.	0.000	0.336	0.336
22	Binani Cement Ltd.	1.253	0.916	-0.336
23	Navin Flourine International Ltd.	2.015	2.140	0.125
24	Fdc Ltd.	0.560	0.693	0.134
25	The Sandesh Ltd.	1.253	1.386	0.134
26	Bayer Cropscience Ltd.	1.609	1.705	0.095
27	Nhpc Ltd.	-0.511	-1.204	-0.693
28	Jagran Prakashan Ltd.	0.693	1.099	0.405

Source: Computed

Table 5 documents the outputs of descriptive statistics performed on the log transformed values of Pre DPS and Post DPS. The mean values of the log transformed values of the pre-buyback DPS is less than the mean values of the log transformed values of the post-buyback. Although it does not follow strictly the normal distribution but it is approximating to normal distribution.

Table 5: Descriptive Statistics of Pre and Post DPS

Descriptive Statistics			
Variables	Mean	N	Std. Deviation
LOG_POST_DPS	0.7372	28	0.7356
LOG_PRE_DPS	0.6273	28	0.8833

Source: Computed

Table 6 presents the result of the t-test performed on the log transformed values of Pre DPS and Post DPS. The test returns the t statistic as 0.949 and the significance value as 0.351. The significance value connotes that it is statistically insignificant at 5 % level of significance which implies that dividend per share is not influenced by the buyback announcement. Thus, the substitution effect of DPS vis-a-vis buybacks is not found statistically. Stated differently, the output of the analysis refutes the substitution of DPS with buybacks in Indian companies for the sample firms. This empirical evidence may be because the companies that have gone for buyback are resorting to a more flexible and tax efficient way to return surplus cash to the shareholders rather than registering a sticky method of dividends. Instead of committing to a permanent payout mechanism, companies realize to pay vulnerable cash flows through buybacks that enables them to enhance shareholders' value and simultaneously keep them away from year-to-year reliance over such payout. Thus, corporations do not disturb their historic level and signal is given to the market that contemporaneous cash flows are paid through buyback.

Table 6: Paired T-Test Outputs

Paired Sample T-Test			
Paired Variables	Mean	T-Value	Probability
LOG_POST_DPS-LOG_PRE_DPS	0.1099	0.949	0.351

Source: Computed

CONCLUSIONS

This paper is devoted to unfold the impact of buybacks on the Dividend Per Share (DPS) in Indian stock market. In order to analyze the impact of DPS consequence to buyback, twenty-eight companies that have gone for buyback have been randomly chosen from the National Stock Exchange of India Limited representing different sectors and analysis has been executed by taking a year before the buyback and the year of buyback. In order to uncover the effect of buyback, percentage analysis and paired t-test were applied. Since, data was non-normal, data smoothing has been done by log transformations of the original form.

The output pertaining to t-test have been demonstrated. The t-statistic value of t-test is not statistically significant at 5 % level of significance. *Hence, the null hypothesis that there is no impact of buybacks on the DPS could not be rejected.* Accordingly, it can be concluded that dividends in the year following the buyback are not influenced by the buyback payouts. The evidence of substitution of dividend to buybacks as found in U.S corporations was not found in Indian Stock market. The results support the empirical work done by Lintner (1956), Jensen(1986), Jagannathan, Stephens and Weisbach (2000), Brav et al.(2005). There is inclination of companies resorting to buyback to return surplus volatile cash to the shareholders through a non-sticky mechanism of payout. Companies do not compromise their long-term dividend policy by buybacks. Additionally, they use buybacks to disburse excess cash which are non-sustainable to the shareholders.

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