Impact of Share Buybacks on Earnings Per Share: Some Empirical Evidences

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Share Buybacks are the reversal of issue of equity or a program initiated by the board of directors to authorize the management to acquire up to a specified number of shares of the company. Share buybacks are substantially used to manage the earnings of the firms. Buybacks produce an accounting effect, where the earnings remain unaffected but the number of shares outstanding is reduced leading to a rise in the EPS. EPS is a measure of profitability for the shareholder. Empirical evidences assert the fact that EPS is an earnings benchmark and executives use buyback for improving reported earnings. This paper is dedicated to investigate the impact of share buybacks undertaken on the earnings per share of the companies and to analyze the earnings dilution or enhancement effect of EPS influenced by share buybacks on a sample of ten companies listed at the National Stock Exchange of India Limited. The findings assert that Indian companies are using buybacks for managing their EPS for financial reporting but they are also focusing on operating profit magnification. The mean EPS value post buyback is on higher side which indicates a rise in the EPS in the Indian companies after the announcement of share buybacks. It is evident that managing the reported earnings through the employment of share buyback is undertaken by the companies in India.

Keywords: *EPS, Share buybacks, Reported earnings, National Stock Exchange of India Ltd.*

INTRODUCTION

Corporate restructuring is armed with tools to provide new directions to the business like mergers and acquisitions, business alliances, spin-offs, sell-offs, leveraged buy-outs, share buybacks. Share Buybacks are the reversal of issue of equity or a program initiated by the board of directors to authorize the management to acquire up to a specified number of shares of the company. Share buyback is when the company can utilize its reserves to buyback equity either for extinguishing them that leads to reduction in share capital and accretive to earnings and book value per share, or to be kept as treasury stock for re-issue in future strengthening promoters' stake. However, the vitality of such financial decision lies in its manifestations of transformations brought into financial statements in the years ahead. Share buybacks are substantially used to manage the earnings of the firms. Buybacks produce an accounting effect, where the earnings remain unaffected but the number of shares outstanding is reduced leading to a rise in the EPS.

EPS is a key statistic, highly used to measure financial performance and stock valuation. Share buybacks are frequently induced by a desire to increase EPS. When CFOs asked "why they repurchase stock", the most often cited reason was "improving EPS in numbers"(Badrinath, Varaiya and Ferling (2001),Brav et al.(2005)). Buybacks are effective in preventing the dilution of earnings. A substantial body of empirical literature connotes that investors reward the firms that document consistent earnings growth and meet or beat analysts' forecast. Simultaneously, there exists dichotomous view among scholars about EPS, who believe, buyback produce only mechanical effect while the real motive of shareholders value creation takes a back seat. The underlying fact is discussed by various academicians and laureates who claim the different opinions regarding shareholder value creation through improving EPS with the employment of buyback.

EPS is a measure of profitability for the shareholder. The long-term shareholders are interested in knowing the earnings accrued to them by the firms and having a sustainable rise in EPS. Retrospection into the area unfolds mixed and ambiguous results with respect to usefulness and value of repurchase programs and the subject area remain under-researched.

Stakeholders attach value to reported financial performance especially EPS. Numerous academicians have taken this issue and considerable number of researchers suggest that EPS being sensitive for shareholder is managed with the use of buybacks (Badrinath, and Varaiya(2001) Hribar, Jenkins and Johnson(2006), Bens, Nagar, Skinner and Wong(2003), Dhanani and Roberts(2009))

REVIEW OF LITERATURE

There are anecdotal as well as empirical evidences that highlight that executives use buyback for historic EPS growth rate or for benchmark-beating purposes. When stock prices are also sensitive to reported EPS, companies have incentives to manage reported EPS. Bens, Nagar, Skinner and Wong(2003) examined and found that executives buyback decisions are influenced by their incentives to manage their diluted EPS, when earning fall short of the desired level to maintain the past growth rate of diluted EPS. They assert that EPS is an important earnings benchmark and executives are sensitive towards its financial reporting. The application of tobit regression resulted in positive and statistically significant coefficients on measure of managerial incentives to repurchase when earnings fall below required level. Their findings reveal that EPS dilution is a key consideration is managerial equity financing and payout decisions. Thus, accounting rules have economic consequences.

Hribar et al.(2006) found the evidence of large number of accretive stock buybacks of firms' quarterly EPS forecasts among the corporations that would have missed analysts' forecasts without the repurchase. The investor discounts the information and is greatest for buybacks that help the firms' to meet or beat the EPS forecasts. They found clustering of accretive repurchases among firms with small negative ex-ante (pre-repurchase) earnings forecast errors. This is consistent with the use of stock repurchase as an earnings management device. Firms exhibit increased tendency to engage in stock repurchases, when EPS would fall short of analysts' forecast. They exhibit and give one potential explanation of the reason why managers use repurchases as EPS benchmarking to avoid large share price penalty or “earning torpedo”. Their findings indicate that market does not properly push up the stock of the firm that meet or beat analysts' EPS forecast.

At the same time, there are evidences, where investors overlook the hidden agenda of buybacks. Voss(2012) illustrated the mechanical effect of EPS and concluded that investors ignore the actual motive of EPS-induced repurchase and the investors are encouraging firms to continue such practice.

Most of the survey based research provides support for EPS motivated buybacks. Brav et al.(2005) conducted a survey from the CFOs of the U.S corporations and 76.1 % of the respondents cited increasing EPS is an important factor affecting their shareholder buyback decisions. Again two different yet notable angles were expressed by executives; One school of thought purports that buyback reduces number of outstanding shares which automatically increases the EPS, the other set of executives opine EPS enhancement induced buyback is done only when funds could not earn the desired cost of capital. Hence, the EPS induced buyback is intentionally done by some executives.

Dhanani and Roberts(2009) reported similar results that the financial managers of non-investment

companies demonstrated that EPS level are of importance to investors. Almost 76% respondents agreed that repurchase programs are used in this capacity as earnings are distributed across a small number of shares.

Badrinath, Varaiya and Ferling(2001) conducted a study over a sample of firms and results implied that repurchase firms are effectively bridging the gap between their EPS growth rates and with their peers who do not buyback. They clearly accorded that the firms which got the most rev-up for their EPS growth are those which are under-performing,under-leveraged and less-profitable.

Weisbenner (2000) connected the form of executive compensation as potential explanation for the growth in share repurchases. He examined that the total options and executives stock options are contributing to dilution of EPS. He found the results that size of stock option program is a strong predictor of the company's share repurchase activity and is more apt for higher stock returns focusing over preventing dilution of earnings.

There are scholars who opine that EPS increases should be attributed to enhancement in operating performance. Companies are resulting from use of buybacks intending to artificially magnify the EPS and report consistently superior results .Instead of focusing on reported results, companies should make effort to create value for the firm.

Dobbs and Rehm(2005) outlined that there is a fine difference in increasing the underlying value and increasing the reported earnings with the employment if buyback. The reason is that the return on operating income does not magnify and the P/E ratio drops ultimately, when the excess cash is paid in the form of buyback. Nevertheless, buyback is advantageous to saving tax penalty on excess cash. While allowing to reach the EPS targets without looking at the long-term health of the companies, board runs the risk of promoting only short-term effects of buyback. Thus, executives shall chalk out a significant point of difference between fundamental value enhancement with the improvement in performance and purely accounting effect of buyback on EPS ,Then only, they can use buybacks efficiently.

Oded and Michel(2008) showed that shareholders are well off under all the policies but the EPS is largely maximized through share buybacks. But the decision to use surplus cash for share buyback has no effect on the overall wealth of the shareholders existing at the time zero.They stated that in imperfect markets buybacks are beneficial in maximizing overall wealth when firms believe one or the another reasons-undervaluation or generation of excess cash given optimum mix of assets. Repurchases are good news because the excess cash is returned to shareholders and there is change in mix of risky assets to total assets yielding a higher return on investments by the company in future. They believe achieving higher EPS requires firms to maintain at least the same level of margins as in the previous years.

In India, Mishra(2004), Gupta(2006), Raval(2012) conducted a few studies with regard to impact of buyback over Indian companies. Almost all of them found the evidence that majority of the companies witnessed marked increase in EPS. Our motive is to check Indian companies on EPS parameter and find out the underlying reasons for the same.

OBJECTIVES

This paper is dedicated to unfold the following objectives:

1. To investigate the impact of share buyback announcement on the earnings per share of the companies.
2. To analyze the earnings dilution or enhancement effect of EPS influenced by share buybacks.

HYPOTHESIS DEVELOPMENT

In order to highlight the contentious issue of companies undertaking buybacks with the objective of reporting superior performance to stakeholders, the present chapter attempts to examine whether the listed companies employ buybacks for the purpose of managing reported earnings and whether there is improvement in EPS of the companies subsequent to buyback or not. Accordingly, the null hypothesis that is to be tested is as follows:

Ho: There is no impact of share buyback announcement on earnings per share of the companies.

Data and Sample Selection

Data used for the measurement of impact of buybacks over EPS is secondary data collected from the annual reports of the listed companies. The dataset comprises randomly selected ten companies listed on the National Stock Exchange. Both tender and open market share buybacks were included in the sample. This was purposely done to make sample a better representative of the population. The diluted EPS before extraordinary items was taken. Diluted EPS was chosen instead of basic EPS as because investors place more weight on diluted EPS as ameasure of performance (Core et al.,2002). Two companies which changed their accounting year were replaced to arrive at the final sample.

The period of study remains from 1st April, 2010 to 31st March, 2014 covering a four year span representing a sufficiently wide time-duration with normal business conditions. The earnings per share of the companies are examined from companies' annual reports.

In arriving at the final sample following criteria was satisfied:

- 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 EPS and buybacks to know the statistical significance is Paired t-test. Paired t-test is the statistical 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. Here, companies form the elements and they are related to one another by declaration of earnings per share each year and simultaneous announcement of buyback. The t-test will measure whether the mean EPS of various companies before going for buyback is significantly different from mean EPS of various companies after the buyback. The values of sample mean have been tested at 5 % level of significance. 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 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 over the absolute values of EPS was applied. It satisfied the normality condition and the transformed variable of EPS is used for t-test. All the analysis has been performed with due diligence in IBM SPSS 16.0 and MS-EXCEL.

Empirical Results:

Table 1 shows the EPS in the year before the buyback announcement and EPS in the year after the buyback announcement for all the sample companies. Year of buyback is different for different companies. It can be observed that the series generally follows a trend of upward shift in EPS and the number of companies with positive EPS exceeds the number of companies with negative EPS. This trend may be because management is cautious in reporting financial performance as it is watched carefully by investors, financial managers and other stakeholders. Apart from this, the equity shrunk from execution of the buyback which could have helped the firm in pushing up the EPS.

The next step is to check the normality of the data. Under the conditions data does not follow normal distribution; data-smoothing techniques are employed to make the data suitable for statistical test. We have employed Shapiro-Wilk test for test of normality for small samples with less than 50 observations. All the analysis is performed in the IBM SPSS 16.0.The results for Shapiro-Wilk test are given below:

Table 1: Diluted EPS of the Sample Companies

Sr. No.	Sample Companies	Diluted EPS before buyback (Rs.)	Diluted EPS after buyback (Rs.)
1	PANACEA BIOTECH LTD.	11.22	21.35
2	HINDUSTAN COMPOSITES LTD.	14.82	32.64
3	HINDUSTAN UNILEVER LTD.	10.08	10.56
4	PVR LTD.	6.01	10.46
5	J.K LAXSHMI CEMENT LTD.	4.83	8.89
6	KRBL LTD.	2.93	6.22
7	THE GREAT EASTERN SHIPPING COMPANY LTD.	9.58	13.48
8	MASTEK LTD.	11.42	10.84
9	GEODESIC LTD.	18.96	25.67
10	JAGRAN PRAKASHAN LTD.	6.64	7.05

Source: Computed

Table 2: Results of the Shapiro-Wilk test before transformation

Tests of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
EPS_BEFORE_BUYBACK	0.96408	10	0.831202
EPS_AFTER_BUYBACK	0.843516	10	0.048614
a. Lilliefors Significance Correction			

Source: Computed

The results connote the non-normality of data for EPS before buyback and lies at borderline for EPS after buyback. Hence, it was suitable to undertake log transformation of data for further statistical test. The log transformation is executed over the series which makes the data smooth for statistical purpose. The significance value for Shapiro-Wilk's test comes to 0.83 and 0.04 forEPs before the buyback and EPS after the buyback. Table 3 clearly demonstrates the result and the value of test statistic for Shapiro Wilk test.

Table 4 represents the sample statistic resulting from performing t-test over the given dataset. The mean value of the log transformed values of EPS after buyback is greater than EPS after buyback indicating a general increase in EPS among sample companies. The standard deviation value returned is 0.86 and 0.49 respectively for EPS before and EPS after the buyback. The series does not follow normal distribution in true sense, but it approximating to normal distribution.

Table 5 presents the result of the t-test performed on the log transformed values of EPS before buyback and EPS after buyback. The test returns the t-statistic as 4.14, the significance value as 0.003. The significance value exhibits that the difference in paired observations is statistically significant at 5 % level of significance which implies that the EPS after the buyback is statistically significant than EPS before the buyback. Hence, the null hypothesis cannot be accepted. Thus, It is evident that the earnings management effect of buyback is found in Indian companies for the sample companies. It is observed that most of the companies explicitly mentioned their objective of enhancing EPS have been successful in utilizing buyback for such purpose. The mean EPS value post buyback is on higher side. However, it would be wrong to state companies only mechanically increased their EPS. Most of the companies for which EPS magnified had increased their operating profit. Together, I can say Indian companies are using buybacks for managing their EPS for financial reporting but they are also focusing on operating profit magnification.

Table 3: Results of the Shapiro-Wilk test after transformation

Tests of Normality			
Shapiro-Wilk			
	Statistic	df	Sig.
LOG_EPS_BEFORE_BUYBACK	0.967104	10	0.862774
LOG_EPS_AFTER_BUYBACK	0.930048	10	0.448365
a. Lilliefors Significance Correction			

Source: Computed

Table 4: Results of the Paired Sample t-test

Paired Sample Statistics			
	Mean	N	Std. Deviation
LOG_EPS_AFTER_BUYBACK	2.544671968	10	0.551715
LOG_EPS_BEFORE_BUYBACK	2.139798968	10	0.557305

Source: Computed

Impact of Share Buybacks on
Earnings Per Share: Some Empirical Evidences

Table 5: Results of Paired Sample t-test of Earnings per Share

Paired Samples Test	t	Sig. (2-tailed)
LOG_EPS_AFTER_BUYBACK - LOG_EPS_BEFORE_BUYBACK	4.14	0.003

Source: Computed

CONCLUSION

The paper is dedicated to explore the impact of buyback over EPS in Indian companies. In order to infer the effect on EPS consequence to buyback a sample of ten companies was randomly chosen from National Stock Exchange representing different sectors. The analysis covers the companies declaring buyback from 1st April, 2010 to 31st March,2014. In order to unfold the effect of buyback over EPS, Paired t-test was chosen. The data was found to be non-normal which was transformed by applying log transformation over the series. Shapiro-Wilk test has been applied to test normality.

The output pertaining to buyback over EPS has demonstrated a noticeable increase in EPS post-buyback. The difference stands statistically significant at 5 % level of significance.Hence, the null hypothesis that there is no impact of buyback over EPS could not be accepted.Accordingly it can be concluded that EPS in Indian Companies is influenced by buyback and buybacks are used by executives to manage reported earnings.It is evident that earnings management effect of buyback is found in Indian companies for the period under investigation. Further, it is observed that most of the companies explicitly mentioned in their buyback documents about their objective of enhancing EPS and have been successful in utilizing buyback for such purpose. Our study is in consonance with Earnings management hypothesis supporting the evidence of Bens et al.(2003),Gupta(2006).

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