

## TOTAL SHAREHOLDER RETURN (TSR): AS A PERFORMANCE MEASURE

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### ABSTRACT

*This paper analysis the Total Shareholder Return (TSR) as a performance measure of a company. Main objective of this paper is to study the TSR as a performance measure and also observe the growth of TSR in given period. When TSR is growing, it means corporate performance is good. If TSR is not growing or destroying the performance is not good. TSR Can be computed with the help of market capitalization and dividend. For this purpose data of 450 company is used which cover the period of five year 2001 to 2005.*

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### INTRODUCTION

#### PRELUDE

Stren Stewart, total shareholder return (TSR), as published in the U.K.'s Harper Business, is based on the rate of return manifest in changes in share prices after making appropriate adjustments for changes in equity capital. It is just the simple periodic rate of return in share price with necessary adjustment for cash flows to and from the shareholder.

When estimating shareholder rates of return, it is necessary to make adequate adjustments for changes in equity capital. Examples of such changes are bonus and rights issues, placements of equity, share repurchase, and dividends. Stewart, in defense of TSR, has criticized these adjustments. He focuses on the dividend reinvestment assumption. This assumption is invoked in the Harper Business articles that report annual total shareholder return rankings.

As an example of an equity adjustment, consider the case of a dividend. The difference between the closing share price and the opening share price, standardized by opening share price, measures the capital gain. This measure, however, does not take into account the dividend received during the period in question. The dividend yield is defined as the ratio of the dividend received to opening book value. In a single period, the true rate of return consists of the capital gain and the dividend yield, that is to say, the total share-holder return. In a multi-period world, the TSR is calculated on the time and size of the cash flows experienced by the share-holder. They are the opening price, the dividends received, and the closing price. In one of our other articles, we show that the reinvestment of intermediate cash flows is not an implicit assumption for the internal rate of return.

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Thus it follows that the assumption is not necessary for the estimation of TSR. The vital point is that the effect of the dividends must be acknowledged in the estimation of shareholder return.

TSR, as its name implies, is a measure of the actual return achieved by shareholders. If it is to serve as a measure of wealth created for shareholder, however, TSR must take into account the risk-adjusted opportunity costs faced by the shareholder. The incorporation of a risk-adjusted opportunity cost converts the TSR into an abnormal return. Arguably, this abnormal return is the true wealth created for shareholders.

Although Total Shareholder Return is normally calculated from the change in price of a single share, it is possible with the data we provide to use aggregate market values. Suppose a Corporation has neither issued nor redeemed capital nor paid a dividend during the last three years. Thus an observed change to book value can be attributed to retained earnings. Total Shareholder Return over the period P0 to P1  $TSR_{p0\ to\ p1}$  is conventionally calculated as the rate of return over the three years, namely,

$$TSR_{p0\ to\ p1} = \frac{MV_{p1} - MV_{p0}}{MV_{p0}}$$

It can be seen immediately that the Total Shareholder Return is identical to the Adjusted Market Value

### ABNORMAL RETURN

The Abnormal Return (AR) in an event study is defined as the observed return  $TSR_{p0\ to\ p1}$  less the expected return  $E(R_{p0\ to\ p1})$ , that is to say,

$$AR_{p0\ to\ p1} = TSR_{p0\ to\ p1} - E(R_{p0\ to\ p1}).$$

We shall use

$$E(R_{p0\ to\ p1}) = \beta R_m$$

P1 = Current Year

P0 = Previous Year

### ABNORMAL RETURN (AR)

Measure of shareholder wealth creation---abnormal return (AR)—is predicated on three economic principles. We take the view of a shareholder who is faced with a wide choice of shares in which to invest. We specifically assume that the investor holds a fully diversified portfolio. We also maintain a semi-strong form efficient market. That is to say, prices fully reflect, on average, all publicly available information.

TSR can be computed with the help of market capitalization and dividend of a financial as below:

$$\text{TSR} = \frac{(\text{MPSt} + \text{DPSst}) - \text{MPSt0}}{\text{MPS t0}}$$

Where

MPSt = Market Price Per Share – Current Year

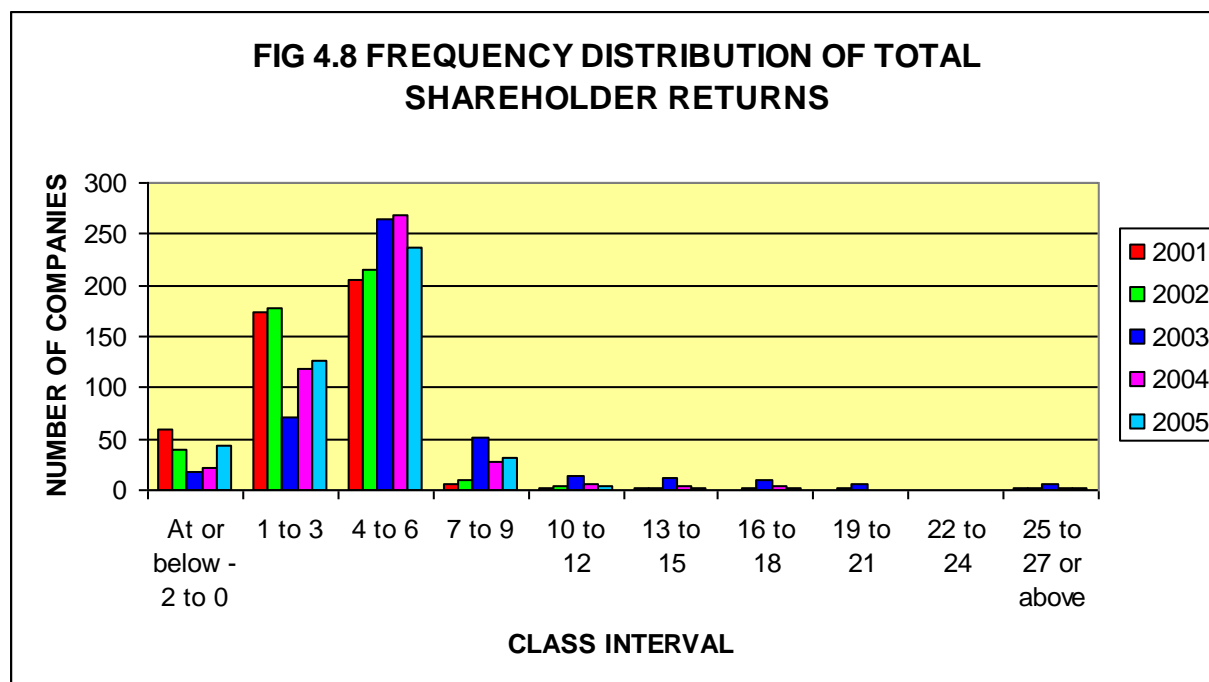
DPSst = Dividend Per Share – Current Year

MPSt0 = Market Price Share – Previous Year

### FREQUENCY DISTRIBUTION OF TOTAL SHAREHOLDER RETURNS FOR ALL COMPANIES

The frequency distribution of Total Shareholder Returns for all companies for the study period is presented below. It ranges between a minimum of –2 to a maximum of 27 or above. Maximum number of companies fall in the class interval 4 to 6 for all the years (205, 215, 265, 269 and 237 companies in the years 2001, 2002, 2003, 2004 and 2005 respectively). However, the concentration of Total Shareholder Returns for most of the companies ranges between –2 to 9. Very few companies have Total Shareholder Returns ranging above 12 for all the years. This implies that mostly companies have rewarded the shareholders with high returns. But, some of the companies have failed to enrich the shareholder wealth with high total shareholders returns.

<b>1.1.1.1 FREQUENCY TABULATION OF TOTAL SHAREHOLDER RETURNS OF ALL COMPANIES</b>										
<b>YEAR S</b>	<b>At or below – 2 to 0</b>	<b>1 to 3</b>	<b>4 to 6</b>	<b>7 to 9</b>	<b>10 to 12</b>	<b>13 to 15</b>	<b>16 to 18</b>	<b>19 to 21</b>	<b>22 to 24</b>	<b>25 to 27 or Above</b>
2001	60	4	205	6	2	2	0	0	0	1
2002	40	7	215	10	4	1	1	1	0	1
2003	18	72	265	51	13	12	9	5	0	5
2004	22	9	269	28	5	3	3	0	0	1
2005	43	7	237	32	4	2	2	0	0	2



Here we define three principal to enrich the total shareholder returns:

The first principle relates to the definition of value. We shall define wealth as the cash available at a particular point in time for consumption or investment. We maintain that the market price of a share is a sufficiently close proxy for cash. That is to say, shares are liquid at the current share price, and transaction costs are essentially negligible. Any under or over-pricing of a particular share in a diversified portfolio will be offset by other shares in the portfolio.

The second principle argues that wealth creation measures should take systematic risk into account. A well-recognized rule of finance is that higher financial risk commands an increased expected return. Theoretical support for this thesis is found in the Capital Asset Pricing Model and the Arbitrage Pricing Theory. In these models, beta is the measure of financial risk. This is the risk that cannot be eliminated by portfolio diversification.

The third principle acknowledges that changes in share prices are correlated with changes in the market index, on market portfolio. The Market Model, an alternative statement of the CAPM, illustrates the point. The regression of proportionate change in the share price versus proportionate change in the market index is used to estimate the beta of the share. The systematic relationship illustrates the manner in which share price changes cover with changes in the market index. Changes in the market index are beyond the control of the shareholders and also the managers of the firm. In the estimation of the firm's performance, it seems sensible to control for these vagaries.

The product of beta and the proportional change in the market index represents the ex-post opportunity cost faced by the shareholder. Assuming unbiased expectations, it is the best

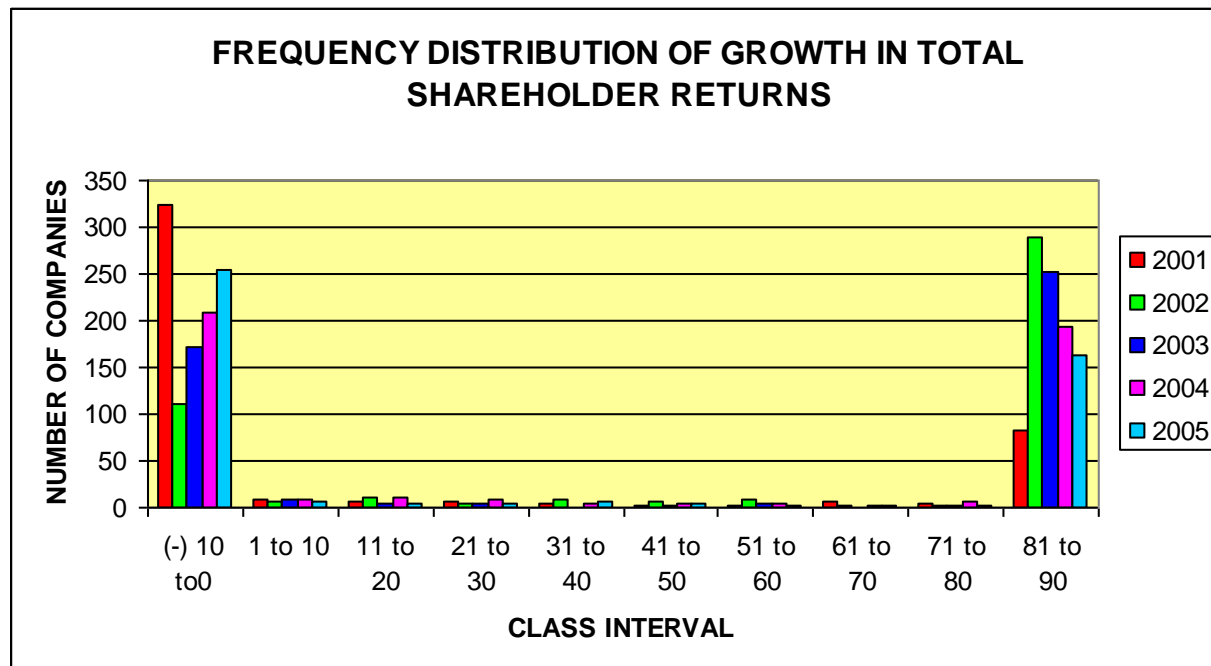
measure of the ex-ante opportunity cost. It represents the rate of return that would be achieved from a fully diversified portfolio with the same systematic risk.

The difference between the observed total shareholder return and the opportunity cost is a true measure of the wealth created for the shareholders of the company. It is the abnormal return (AR) statistic frequently adopted in the event studies examining share price reaction to specific sets of information. Tests of the semi-strong form of market efficiency generally use the event study methodology. Further details can be found in the chapter dealing with the efficient markets hypothesis in most finance texts

### **FREQUENCY DISTRIBUTION OF GROWTH IN TOTAL SHAREHOLDER RETURNS FOR ALL COMPANIES**

The frequency distribution of growth in Total Shareholder Returns for all companies for the study period is shown in the table. It ranges between -10 and 90. Maximum number of companies fall in the class interval -10 to 0 for all the years except in the year 2002 and 2003 (323, 208 and 254 companies in the years 2001, 2004 and 2005 respectively). In year 2002 and 2003, maximum number of companies fall in the class interval 81 to 90 (290, 252 companies). However, concentration of growth in Total Shareholder Returns for more than 90 percent of the companies during the study period ranges between -10 to 0 and 81 to 90. For few companies, the growth in Total Shareholder Returns ranges between 1 to 80. This implies that only few companies have rewarded the shareholders with high returns. Most of the companies have failed to enrich the shareholder wealth with high returns.

<b>YEARS</b>	<b>(-) 10 to 0</b>	<b>1 to 10</b>	<b>11 to 20</b>	<b>21 to 30</b>	<b>31 to 40</b>	<b>41 to 50</b>	<b>51 to 60</b>	<b>61 to 70</b>	<b>71 to 80</b>	<b>81 to 90</b>
2001	323	9	7	6	5	2	3	7	5	83
2002	111	7	10	4	8	6	9	2	3	290
2003	171	8	4	5	1	2	4	1	2	252
2004	208	8	10	8	4	4	5	2	7	193
2005	254	6	4	5	6	4	3	2	3	162



## CONCLUSION

Dividend and expansion in market capitalization are two principal way in which share can be enriched ,TSR takes into account the sum of these two factors.The increase in market capitalization is added the dividend paid out by the company during financial year . TSR measure the performance with the help of market capitalization and dividend .

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