CHAPTER VIII

COMPARATIVE EFFECT OF DIVIDENDS AND RETAINED EARNINGS ON THE MARKET PRICE OF SHARES

"A steady share price appreciation is one of the basic objectives of corporate planners. It provides increased worth to the shareholders and cheaper capital with enhanced bargaining power to the company".[1] Do investors consider dividends or retained earnings as a more important factor in the evaluation and determination of share prices ? There is no unanimity of opinion on this point. Rather there is a considerable controvery over the relative importance of the two, in the matter of appraisal of common stock values.

This chapter is divided into two parts. Part I deals briefly with the theoretical framework as available in literature relating to the comparative impact of dividend distribution and retained earnings on the market value of shares. In Part II, the empirical analysis of all the concerns under study is done to adjudge the relative importance of dividends vis-a-vis retained earnings.

PART I

The present value of a share, in financial literature, is considered to be the sum-total of the

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1 P.Raj, "Impact of Earnings, Retained Earning and Dividends on Share Prices", Indian Management, Vol.25, No.4 (Oct. 1976), pp.34-39.

discounted present value of all the future receipts taking the form of dividend payments and capital gains. Both future dividend payments and capital gains are dependent on the expected future earnings of the concern. The discount rate brought into use to find out their present value is a resultant of both the prevailing general market rate of interest and the risk (both business and financial) attached to the share. The appropriation of earnings between dividends and retention affects both the expected future earnings of the concern and the discount rate to be applied - and hence the present value of the share. That is why, investors give different weights to earnings that are distributed in the form of dividends and to earnings that are retained for reinvestment.

To explain the behaviour of share prices, two different theories have been offered in the literature known as the dividend theory and retained earnings theory.

Dividend Theory

The advocates of this theory recognise dividends as being more fundamental in regard to the determination of share price as compared to retained earnings. They contend that an increased amount of retained earnings has much less weight in valuation of shares than the dividend paid today. "The required rate of return which represents a weighted average of future period required rate rises with the proportion

of earnings retained[2]. According to them, given two similar companies (earnings and risk being the same), the price of the shares of that company would be higher which has a higher payout ratio[3].

Most of the empirical findings show that share prices have been influenced more markedly by the dividend rate than by the retained earnings. The earliest assertion of this "dividend theory" was made by Graham & Dodd[4] in 1934, when they claimed that the average impact of a dollar of dividends on share prices is four times the impact of a dollar of retained earnings. Among the few outstanding statistical studies favouring this theory are those of David Durand[5], Walter[6], Jordan[7], Friend & Puckett[8] and Porterfield[9].

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2   Myron J.Gordon,"Dividends, Earnings and Stock Prices",
    Review of Economics and Statistics, Vol.41, No.2,
    (May 1959), pp. 99-105.

3   S.Kumar & Manmohan,"Determinants of Share Prices in India",
    Indian Economic Journal, Vol.23,No.1 (July/Sept 1975),pp.23-27.

4   Benjamin Graham and David D.Dodd, Security Analysis,
    NY : Mcgraw Hill Book Co., 1951.

5   David Durand,"Bank Stock Prices and the Bank Capital Problem"
    New York : National Bureau of Economic Research, 1957.

6   James E.Walter, "Dividend Policies and Common Stock Prices",
    Journal of Finance, Vol.11,No.1 (March 1956), pp.29-41.

7   Myron J.Gordon, "Dividends, Earnings & Stock Prices",Review
    of Economics & Statistics, Vol.41,No.2 (May 1959),pp.99-105.

8   Irwin Friend & Marshal Puckett, "Dividends and Stock
    Prices", American Economic Review,Vol.54, No.4 (Sept 1964),
    pp. 656-82.

9   James T.S. Porterfield,"Dividend, Dilution and Dilusion",
    Harvard Business Review, Vol.37,No.6 (Nov/Dec 1959),
    pp.156-61.

All came to the same conclusion, namely, that proportional effect of dividends on share prices is greater than the corresponding proportional effect of retained earnings.

Retained Earnings Theory

Another group (though small) asserts the validity of the proposition that higher share prices are a consequence of higher retained earnings - especially in the long run. The effect of retained earnings on share prices is a result of the profitability of corporate investment opportunities. If the rate of profit on new investments is more then the minimum rate required by the shareholders, it certainly has a positive effect on the price of shares of the company. O. Harkavy[10] made the same assertion, namely, that if, from investor's point of view, the present value of future profitability of retained earnings is more than the rate of return investors require, retained earnings would lead to a rise in the price of shares. The crucial factor is the profitable utilization of the investor's funds.

Other argument given in favour of retained earnings theory is the preferential treatment to capital gains as compared to dividend income under the income-tax laws. Higgins[11] concluded his observations thus, "Regarding

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10 O.Harkavy, "The Relation Between Retained Earnings and Common Stock Prices for Large Listed Corporations", Journal of Finance, Vol.8, No.4 (Sep 1953), pp.283-97.

11 Robert C.Higgins, "Growth, Dividend Policy and Capital Cost in the Electricity Utility Industry", Journal of Finance, Vol. 39, No.4 (Sept. 1974), p. 1190.

dividend policy, evidence also suggests that share prices are not a positive function of dividends as often suggested. In fact, if there is any correlation at all, it seems to be in the opposite direction, with dividend exerting a depressing effect on share prices".

On the basis of statistics most of the studies made so far support the dividend theory. Retained earnings having a value in the theoretical framework as to its effect on the market price of shares, loses its weight when put to empirical tests. Share prices tend to be influenced more by dividends than retention.

PART II

In the context of the above discussion as to the comparative effect of dividends and retained earnings on the market price of a share, an empirical study has been undertaken with the help of partial correlation and regression analysis.

Partial Correlation

The following terminology has been used :

Partial coefficient of correlation between market price and retention (dividend held constant) $r_{MR.D}$

Partial coefficient of correlation between market price and dividend (retention held constant) $r_{MD.R}$

Partial coefficient of regression between market price and retention (dividend held constant) $b_{MR.D}$

Partial coefficient of regression between market price and dividend (retention held constant) $b_{MD.R}$

Coefficient of determination $R^2_{M.RD}$

Table 8.1

Partial Correlation and Regression Coefficients

$r_{MR.D}$	$r_{MD.R}$	$b_{MR.D}$	$b_{MD.R}$	$R^2_{M.RD}$
+.551	+.733	+7.553	+14.099	.594

The above Table exhibits the value of partial coefficients and coefficient of determination. It might be noted that the value of partial correlation between M and R, and between M and D were positive. This shows that both retention and dividends had a positive impact on the market price. But the value of partial coefficient of correlation in case of M and D was higher as compared to that of M and R. Both were significant at 10% level of significance. The partial regression coefficients prove the same point, namely, that both dividends and retained earnings have a positive impact but the impact of dividends is higher. Value of coefficient of determination came to .594, indicating that about 59.4% variations in market price were explained by dividends and retained earnings; the rest can, of course, be attributed to other factors.

Regression Equation

To test empirically the comparative impact of these two factors, dividends and retained earnings, on the market price of shares, the following regression equation most commonly applied to cross-section data is used :

$$P = a + b_1 D + b_2 R + U$$

Where P = average market price during the year

D = dividend declared per share

R = Retained earnings per share

The residual U in the equation reflects the fact that dividends and retained earnings are not sufficient by themselves to explain the variation in market price. b_1 and b_2 coefficients measure the extent of price adjustment to change in dividend and retention respectively.

If $b_1 > b_2$, it indicates investor's preference for dividends, meaning thereby that the company is paying less than the optimum, and the raising of dividend rate would have a positive effect on the market price of the shares. If $b_1 < b_2$, it suggests that the market puts a higher premium on retained earnings as compared to dividends and higher retention would be associated with higher stock prices.

If $b_1 = b_2$, it means whether the earnings are paid out or retained. On the average, they would have the same effect on stock prices.

The following table gives the estimates of b_1 and b_2 for all the ten concerns (under study) individually and by grouping them together for the period 1969 to 1978. T-value is shown below each estimate in parenthesis. Value of R^2 - the coefficient of determination showing how much of the total variations has been explained by the regression plane is also shown with each equation.

Table 8.2

Simple Relationship Between Average Price and
Dividends and Retained Earnings

Name of the concern	Regression Coefficients			R^2
	a	b_1	b_2	
All	8.0463 (1.4934)	8.4784 (2.8536)	2.7289 (1.8480)	.5939
Glaxo	19.3955 (3.0456)	3.8188* (1.1947)	-.0479* (-.0201)	.2221
Richardson	26.4281 (2.4657)	.4310* (.1004)	1.1366* (.6384)	.1063
Alembic	72.9781 (1.9873)	4.6041* (1.3830)	.3837* (.2726)	.2362
Boots	9.5169* (1.1234)	6.0894 (1.5163)	4.2735 (2.6423)	.5076
German Remedies	1.3724* (.0368)	12.2624* (.4127)	.8532* (.1564)	.0311
Pfiser	10.7481 (1.6788)	8.4694 (3.1672)	1.9273* (1.1353)	.6143
Ranbaxy	-2.6347* (-.5225)	5.3160* (1.0407)	3.4856 (1.4715)	.4651
Searle	4.7768* (1.1380)	9.2354 (5.0697)	-1.2123* (-.7700)	.7899
Unichem	45.5406* (.9915)	4.7645 (1.7254)	2.1011* (.7193)	.4785
Warner Hindustan	10.0861* (.8291)	6.9352 (1.5120)	2.9913 (1.7747)	.5939

Within parentheses t-value is given;
*denotes not significant at 10% level.

The constant term (intercept term) is positive in all cases except one (Ranbaxy) and is statistically significant in 4 out of 10 cases.

Results of all the concerns taken as a whole reveal the values of b_1 and b_2 coefficients as 8.4787 and 2.7289 respectively - b_1 more than thrice b_2. Both are significant at 10% level. It indicates that on an average a unit change in dividend per share, other things being constant, resulted in approximately 8.5 units change in the market price per share as compared to the retained earnings where one unit change caused 2.7 units change in the market price. Value of R^2 was .5939 which suggests that about 60% of the variation in the market price of these concerns taken as a whole were accounted for by these two variables.

The coefficients within the individual concerns show the same tendency (b_1 exceeding b_2) except in the case of Richardson where b_2 was higher. In two cases, namely, Glaxo and Searle, the effect of retention on the market price was even negative (b_2 being -.0479 and -1.2123 respectively). But that does not tempt us to draw any conclusion because most of the values in these cases were not significant.

In 5 out of 10 companies namely, Boots, Pfizer, Searle, Unichem and Warner Hindustan, b_1 was significant at 10% level. b_2 was significant only in 3 cases, namely, Boots, Ranbaxy and Warner Hindustan. Boots and Warner Hindustan were the only two concerns where both b_1 and b_2 were

significant. Coefficient of determination in case of
Boots was .5076. But in the case of Warner Hindustan, it
was .5939. This means that 50.76% and 59.39% of the factors
affecting the market price of shares are explained by these
two variables.

In respect of some individual concerns, doubts may
be raised as to the validity (applicability) of the results
drawn from the equation of concerns taken as a whole.
Out of 10 cases in all, b_1 was insignificant in 5 cases
while b_2 was insignificant in 7 cases. Value of R^2 in 4
cases was less than even 25% indicating thereby that these
two variables are not enough to explain the variations in
the market price of shares. Boots and Warner Hindustan
are the only two concerns where values of both b_1 and b_2
were significant.

Richardson is the only concern where the value of
b_2 exceeded b_1 (though both values were insignificant at 10%
level).

Though most of the values of b_1 and b_2 were not
significant, yet in 9 out of 10 cases b_1 was more than b_2.

A general conclusion may be drawn about the
behaviour of the market price, namely, dividends tended to
influence the market price of shares more effectively than
the retained earnings.

To sum up, a sharp controvery exists as to the
weight that should be assigned to dividends and retained
earnings while evaluating the value of a share. Two theories

known as the 'dividend theory' and the 'retained earnings theory' have been developed to show the relative effect of dividends and retained earnings on the market value of shares. The statistical study made with the help of partial correlation and regression analysis shows that dividends had a higher impact on the value of shares as compared to that of retained earnings, although both had a positive effect.