Factors Affecting Dividend Decision of Indian Cement Industry

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Abstract

Dividend decision is one of the most important functions of finance managers. It depends on the trend of the turnover and control of the management over the expenditure. It also affects the decision of potential investors regarding investment in company's equity and overall market value of the company's share. In this paper, an attempt has been made to ascertain influence of the factors i.e. Total Assets, Liquidity, Inventory Turnover Ratio, Profitability and Retained Earnings on the dividend decision of Indian cement industry for a period of 2004-05 to 2008-09 based on the secondary data of 28 data of 28 out of 36 listed public companies in the industry. The study finds that significant increase in the selected factors influences the dividend decision to the great extent rather than the factors which have resulted marginal or moderate increase. It is also found that change in Total Assets and Profitability affects dividend decision positively; while change in Liquidity, Inventory Turnover Ratio and Retained Earnings affects dividend decision negatively.

Key words: dividend decision, size, liquidity, inventory turnover ratio, profitability, retained earnings.

Introduction

Firms set long-term target payout ratios, managers were concerned more about the change in the dividend than the absolute level. Dividends had tendency to follow earnings, but smoother path than earnings and dividends were sticky in nature. The present value of dividend to be received by the shareholders affects the market value of a share so as to make it at par with the amount of the. The study declares dividends as irrelevant in a world without taxes, transaction cost, or other market imperfections and investment decision of the firm is not affected by the dividends because investors adds that the homebrew their own dividends by selling a part from or borrowing against their portfolio (Lintner, 1956). Even substitution of cash flow for profit and division of cash flow into profit and depreciation revealed substantial support for Lintner's argument, particularly in the modified forms adopted for the study (Brittain, 1966) (Fama and Babik, 1968). The firms that issue dividends would incur floatation costs on new securities they have to issue to keep their investment policy intact (Miller and Modigliani, 1961). It has also been termed this as the dividend puzzle (Black, 1976). The major determinants of dividend payments are anticipated level of future earnings and pattern of past dividends (Gail et al., 1986). The dividends change follows shift in long-term sustainable earnings (Healy and Palepu, 1988). Information content of negative changes in dividends is greater than that of positive changes (Lang and Litzenberger, 1989). Even current and past year profits are important factors influencing dividend payments (Pruitt S W and Gitman L W, 1991). Companies are very hesitant to slash dividends, in spite of the purpose for such a cut. Even when the companies commence stock buyback program, they do not reduce the dividends to support the repurchase (Lazo, 1999). Dividend pay out ratio has a positive but insignificant relationship in the case of growth and negative but insignificant relationship in case of market to book value (D' Souza, 1999). Both dividend and capital structure policies of the firm act together to make available noteworthy predictive information about future free cash flows of the firm (Koch and Shenoy, 1999). Dividend determinants are industry specific and anticipated level of future earnings is the major determinant (Baker et al., 2001). Dividend policies are positively affected by size in Australia while their counterparts in Japan have them positively affected by the liquidity, while risk has a negative effect. The dominant favourable tax effect of dividends in Australia, and the positive size effect suggest that transactions cost is a key determinant of distributing payments to shareholders in Australia but not in Japan, possibly because of its relatively small sized firms (Ho, 2003). There is a positive relationship between the current earnings of a company and the cash dividend they pay, and a significant negative relationship between the debt to total assets and dividends (Hu and Liu, 2005). Dividend paying firms are significantly larger and more profitable, having greater cash flows, ownership structure and some growth opportunities (Kent and Dutta, 2007).

The Indian cement industry is one of the oldest industries. It is highly regulated because of presence of private sector organisations in the industry. It has been catering to India's infrastructure and housing requirements since its inception. With liberalisation and globalisation, an increase in government spending on infrastructure and housing, as well as rapid urbanisation and industrialisation activities by private players has resulted in increased demand for updated quality building material; including cement.

The purpose of this study is to analyse the financial data of 28 out of 36 listed public companies of Indian cement industry for the financial period 2004-05 to 2008-09 with a view to examining impact of determinants such as Total Assets, liquidity, Inventory Turnover Ratio, Ratio of Return on Capital Employed and Retained Earnings on the Rate of Equity Dividend. It is hypothesised for the study that Independent Variables are statistically insignificant in explaining Dividend Decision of the companies under the study.

The study proceeds as follows: section two provides overview about the relevant literature review. A study methodology follows in section three. Section four describes the result and analysis of the available data and final section presents the main conclusions.

Literature Review

Khurana's (1985) study on dividend decision covered 68companies – 12 each in chemicals and electrical goods, 14 in general engineering, and 15 each in sugar, and cotton textiles revealed that only half of the companies under examination were able to follow a stable dividend policy.

Study of Mahapatra and Sahu (1993) finds that cash flow is a major determinant of dividend followed by net earnings. Further, their analysis shows that past dividend – and not past earnings – is a significant factor in influencing the dividend decision of companies for a sample of 90 companies for the period 1977-78 to 1988-89.

Bhat and Pandey (1994) find that managers of 425 Indian companies for the period 1986-87 to 1990-91 perceive current earnings as the most significant factor influencing their dividend decision, followed by patterns of past dividends. They also find two other variable (i.e., increasing equity base and expected future earnings) to have a significant influence. However, they find 'industry' to have the least influence on dividend, which has been contrary to the expectations.

Garg et al. (1996) find in Indian textile industry (44 joint stock companies) although none of the models has proved the best fit, Linter's model of dividend behaviour has been proved the best fit than any other model analyzed. The most significant factor that influenced the dividend decision in the textile industry in India turned out to be sustained growth in earnings of the companies.

Mohanty (1999) finds that firms maintain a constant dividend per share and have fluctuating payout ratio depending on their profits.

Raghunathan and Dass (1999) finds that the top-100 and high networth companies have maintained a stable dividend payout policy of around 30% during the period 1990 to 1999 in India.

The finding of the study of Anand (2002) of the factors considered by the Chief Financial Officers in formulation of the Dividend Policy of 474 public sectors and 51 top public sectors of corporate India was that they do consider the investors' preference for dividends and shareholders profile while designing the dividend policy.

Singhania (2005) discovers that the sample companies, which declared dividend in any given year, declined over the period of study from 448 companies in 1992 to 376 companies in 2004. However, the average dividend payout ratio increased significantly along with showing a volatile trend ranging from about 25-68 percent during 1992-2004.

Sur (2005) conducted a study of Colgate Palmolive (India) Ltd. (CPIL) which shows that in pre- liberalisation period the company followed a more conservative dividend policy while in the post liberalization period it adopted a more stable as well as liberal one although both the average of and consistency in the dividend payment of the company on a per share basis stepped down remarkably. The study also reveals the better efficiency in managing earnings as well as formulating dividend policy on the part of the company during the post-liberalization era.

George and Kumudha (2006) find that current year's profit is more important than previous year's dividend while deciding the dividend policy.

Das's (2006) study revealed that ACC had been pursuing conservative dividend payment policy during 1985-86 to 2004-05 and Correlation coefficient results revealed negative association between liquidity and the payment of dividend per share. Coefficient of rank correlation of important accounting variables influencing dividend policy evidences high degree of positive association between them excepting a few. Coefficient of correlation between DPS, EPS and CE shows closeness of association.

Bodla et al. (2007) find that the dividend policy of public sector banks is more stable than private banks.

Mistry (2010) finds that the increase in profitability and operating activities does not always results into increase in the dividend pay-out ratio of pharma players in Gujarat. Decrease in taxation results into increase in dividend pay-out ratio while increase in annual sales growth, favourable capital market activities and higher liquidity affects the dividend pay-out ratio to rise.

Research Methodology

The main objective of this study is to ascertain the factors influencing the dividend decision of Indian cement industry for a period of five years i.e. 2004-05 to 2008-09. It includes twenty eight out of thirty six listed public cement companies on the basis of performance, position, sales and paid up capital. The study is mainly based on secondary data collected from annual reports of companies. This study uses a descriptive analysis to ascertain the factors influencing the dividend decision of the entities. The number of the selected entities should not be considered as a limitation of the study because the sample accounts for the major contribution in the sales of the pie of Indian cement industry. Though number of factors influence dividend decision of the business, the following dependent and independent variables which influenced dividend decision of Indian Cement Industry during the period of the study i.e. 2004-05 to 2008-09 have been selected:

Dependent Variable

Rate of Equity Dividend: Rate of Equity Dividend expresses share of owners in the profit earned by an entity. It depends on the trend of the turnover and control of the management over the expenditure. It also affects the decision of potential investors regarding investment in company's equity and overall market value of the company's share. It also reveals company's plans to raise the funds from the internal sources for future diversification and expansion. Hence, Rate of Equity Dividend declared by the companies under the study has been used as a dependent variable for the present study.

Independent Variables

1. **Size:** Size of the firm has been employed as one of the factors influencing dividend decision by the many researchers in their study. The reason for taking size of the firm is that the bigger the size of the firm is, the lower the costs are and thus the higher the returns are. The firms having big size have access to capital market and enjoy benefit of low cost of sales and hence they earn good return on capital employed. It is anticipated to have a positive relationship between size of the selected cement units under the study and rate of equity dividend. On the basis of review of empirical work, total assets have been used as the measure of size of the firm for purpose of analysis.
2. **Liquidity:** The management of the company is required to manage not only the fixed capital but working capital also. To get an idea about liquidity of various firms, current ratio of each firm is compared with one another. The firm having lower current ratio is considered to be having inadequate margin of safety and thus low return on capital employed. On the basis of review of empirical work, current ratio (Current Assets/ Current Liabilities) has been employed as independent variable influencing decision of equity dividend in this study.
3. **Inventory Turnover Ratio:** Like working capital management, management of inventory is equally significant for any enterprise. Heavy investment in inventory than its requirement results into unnecessary blockage of capital. Lower investment in inventory than its need results into low sales, low degree of profitability and thus low rate of equity dividend. Review of empirical work also reveals inventory turnover ratio (Cost of Goods Sold/ Average Stock) as one of the important variables that influences the dividend decision of the enterprise and hence it has been used as independent variable in this study.
4. **Profitability:** Shareholders are interested in knowing profitability of the entity which ascertains the amount of return on the funds invested by them. Before investing their money in the business, perspective shareholders are also interested in ascertaining the factors influencing the progress and prosperity of the business and its ability to give return on their investment and to ascertain whether their investment will be safe or not. Therefore, Return on capital employed has been used as an independent variable for this study.
5. **Retained Earnings:** Retained earnings is considered to be an internal source of raising funds without any burden on the shoulder of the company and therefore every company thinks of retaining good proportion of its earnings in the business itself. It affects distribution of profit among the owners. Therefore, Retained Earnings have been used an independent variable for the present study.

Specification of Model

Above mentioned independent variables have been taken together as factors influencing dividend decision and the model has been developed in order to analyse whether the Dividend decision (Rate of Equity Dividend – dependent variable) of Indian Cement Industry have been influenced by (independent variables) or not. The model has been estimated using data of 28 selected listed public companies of Indian cement industry for a period of 5 years from 2004-05 to 2008-09 based on Multiple Linear Regression consisting of five variables as shown below:

$$y = b_0 + b_1 x_1 + b_2 x_2 + \ldots + b_k x_k \text{ ---------- (1)}$$

Where, y - The Dependent Variable,
$x_1, x_2, ..., x_k$ - Independent Variables
$b_0, b_1, b_2, ..., b_k$ - The Regression Coefficients

$D = (b_o + b_1 SIZE + b_2 LIQ + b_3 ITR + b_4 P + b_5 RE)$ ---------- (2)

Where,
D - Rate of Equity Dividend
SIZE - Total Assets
LIQ - Liquidity (Current Ratio)
ITR - Inventory Turnover Ratio
P - Ratio of Return on Capital Employed
RE - Retained Earnings

To test the significance of independent variables (Size, Liquidity, Inventory Turnover Ratio, Ratio of Return on Capital Employed and Retained Earnings) in determining dependent variable (Rate of Equity Dividend), the following hypothesis has been framed and tested:

H_0 -Independent Variables are statistically significant in explaining Dividend Decision of the companies under the study.

H_1- Independent Variables are statistically insignificant in explaining Dividend Decision of the companies under the study.

Result and Analysis

Correlation Analysis

Table 1 Correlation Coefficient Matrix of Indian Cement Industry

	D	SIZE	LIQ	ITR	P	RE
D	1					
SIZE	0.798852	1				
LIQ	-0.30196	-0.28006	1			
ITR	-0.07684	-0.07406	-0.06665	1		
P	0.301787	0.26876	-0.46218	0.130483	1	
RE	0.628672	0.775234	-0.24353	-0.03784	0.344515	1

Table 1 shows the results of correlations analysis between dependent variables and independent variables. It is clear that Rate of Equity Dividend and independent variables i.e. LIQ (-0.30196) and ITR (-0.07684) have negative correlation; while the rest of the independent variables i.e. SIZE (0.798852), P (0.301787) and RE (0.628672) are positively correlated. As the value of correlation coefficient in respect of Rate of Equity Dividend and SIZE and RE is closer to 1, they are closely related as compared to the rest of the independent variables.

Table 2 Factors Affecting Dividend Decision of Indian Cement Industry during 2004-05 to 2008-09

Particulars	**Coefficient**	**Std. Error**	**T**	**P**
Constant	13.24035302	41.17661057	0.321550337	0.75082848
SIZE	0.023486596	0.006243677	3.761660829	0.001076689
LIQ	-6.66704994	17.24502673	-0.38660711	0.702761153
ITR	-0.467896096	1.752664552	-0.26696272	0.791984363
P	0.455408417	0.886132504	0.513928126	0.612425902
RE	-0.000706459	0.030691609	-0.023017984	0.981843431
$R^2 = 0.649793113$				
P = 13.24035302 + (0.023486596*SIZE) - (6.66704994*LIQ) - (-0.467896096*ITR) + (0.455408417*P) - (-0.000706459*RE)				
Group	**DF**	**SS**	**MS**	**F**
Regression	5	79333.72917	15866.74583	8.164001923
Residual	22	42757.02182	1943.500992	
Total	27	122090.751		

From multiple linear regression model, it is clear that the model has a coefficient of determination of 64.97% which explains 64.97% of variation in Rate of Equity Dividend of Indian cement industry during the study period as shown in Table 2. The model also states that the dependent variable i.e. Rate of Equity Dividend can be predicted from a linear combination of factors affecting dividend decision i.e. Total Assets (SIZE), Liquidity (LIQ), Inventory Turnover Ratio (ITR), Profitability (P) and RE (Retained Earnings). Coefficients of factors affecting dividend decision propose that each 1 percent change in SIZE, LIQ, ITR, P and RE leads to the lowest increase of 0.023486596 percent, the highest decrease of 6.66704994 percent, moderate decrease of 0.467896096 percent, the highest increase of 0.455408417 percent and the lowest decrease of 0.000706459 percent respectively in the Rate of Equity Dividend of the Indian Cement Industry. The calculated value of 'F' is 8.164001923, while the table value with five degree of freedom in numerator and twenty two degrees of freedom in denominator at five percent significant level is 2.6613. As tabulated value of 'F' is less than calculated value thereof, it can be concluded that the model fitted is best described the behaviour of dependent variable against suitable alternatives and there is significant relationship between dividend decision and independent variables. Therefore, null hypothesis is rejected and alternate hypothesis is accepted.

CONCLUSIONS

The study reveals that the study divulges that Indian cement industry has positive correlation coefficient between rate of equity dividend and SIZE, P and RE; while

negative correlation coefficient between rate of equity dividend and LIQ and ITR. It is revealed from the study that the average rate of equity dividend of the companies under the study has increased from 23.51% in 2004-05 to 54.17% in 2008-09 during the study period. The average SIZE and RE of the companies under the study have significantly improved from Rs. 924.8986 Crores to 2019.809 Crores and Rs. 32.795 Crores to 380.5529 Crores during the corresponding period. The average LIQ and ITR of the selected cement players have marginally increased from 1.072 to 1.2275 and 9.85 to 10.39 respectively during the corresponding period. The average P of the selected cement players has increased from 12.15% to 19.55% during the study period. It is found that the factors i.e. SIZE and RE, in which significant increase has been observed, have influenced the dividend decision of the cement companies under the study to a great extent and have been positively related. The factor i.e. P, which has moderately increased during the study period, has also positively influenced the dividend decision of the cement companies under the study; while the factors i.e. LIQ and ITR, which have marginally increased during the study period, have negatively influenced the dividend decision. Result of multiple linear regression model also confirms that the model fitted is best described the behaviour of dependent variable against suitable alternatives and there is significant relationship between dividend decision and independent variables. It is found that change in SIZE and P leads to increase in Rate of Equity Dividend i.e. affects dividend decision positively; while change in LIQ, ITR and RE leads to decrease in Rate of Equity Dividend i.e. affects dividend decision negatively.

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APPENDIX

Sr. No.	Name of the Company
1	ACC Ltd.
2	Ambuja
3	Andhra Cements Ltd.
4	Anjani Portland Cement Ltd.
5	Barak Valley Cements Ltd.
6	Bheema Cements Ltd.
7	Binani Cement Ltd.
8	Birla Corporation Ltd.
9	Burnpur Cement Ltd.
10	Century Textiles & Industries Ltd.
11	Chettinad Cement Corporation Ltd.
12	Deccan Cements Ltd.
13	Grasim Industries Ltd.
14	Gujarat Sidhee Cement Ltd.
15	J K Cements Ltd.
16	K C P Ltd.
17	Kakatiya Cement Sugar & Industries Ltd.
18	Madras Cements Ltd.
19	Panyam Cements & Minerals Industries Ltd.
20	Prism Cement Ltd.
21	Rain Commodties Ltd.
22	Sagar Cements Ltd.
23	Sanghi Industries Ltd.
24	Saurashtra Cement Ltd.
25	Shiva Cement Ltd.
26	Shree Cement Ltd.
27	Shree Digvijay Cement Co. Ltd.
28	UltraTech Cement Ltd.