DIVIDEND DECISIONS OF CHEMICAL INDUSTRY IN INDIA

Sujith Toms (Ph.D Scholar, CMS College of Science and Commerce, Coimbatore)

Dr. N. Ravichandran (Director, CMS College of Science and Commerce, Coimbatore)

ABSTRACT

This paper seeks to analyse the dividend payout trends and discover the factors affecting dividend policy in chosen companies from the Indian Chemical Industry. While analyzing the dividend policy of the selected organizations, the Dividend Payout Ratio has been used as the indicator of the dividend policy adopted by the organizations under study. The current study measures the influence of various factors such as current ratio, Profitability, operating cash flow per share, Corporate Tax, Debt to Equity Ratio, Firm Size, Growth, Tangibility and Earning Volatility on the Dividend Payout Ratio. Regression analysis indicated that cash flow, current ratio, size, growth and tax have positive significant influence with dividend payout ratio while profitability, debt to equity ratio, earning volatility and tangibility have negative significant influence.

KEYWORDS: Dividend Payout Ratio, current ratio, Profitability, operating cash flow, Corporate Tax, Debt to Equity ratio, Firm Size, Growth, Tangibility, Earning Volatility.

INTRODUCTION

Every business organisation is faced with three major decisions: financing decision, investment decision and dividend decision. Financing decision is concerned with the acquisition of the required fund for the effective operations of a business organisation. An Investment decision is concerned with the effective utilisation of scarce fund in various types of assets. Dividends decision relate to the distribution of profits earned by the organization among the owners. Among these three major decisions, the Dividend decision is an essential one for the firms as it may have an effect on its capital structure and stock price. Dividend policy, however, stays a controversial problem in corporate finance because the question as to why firms pay dividend still stays a puzzle.

Dividend policy and dividend selection are essential and vital areas of management. Dividends are income which is disbursed to the shareholders which act as a strong message about the future prospects of the organisation. The proportion of income paid or dividends declared is called the payout ratio. An excessive dividend payout will lead to much less cash internally for expansion and growth. A low payout therefore ought to result in the higher boom as retained earnings are considerable internal sources of financing the growth expansion of the firm. Such dividend policies have an effect on the market price of the firm. Therefore dividend decision is one of the major decision areas not only for the business organisation but also for the various stakeholders. Dividend decision, one of the important aspects of a company's financial policy, is not an independent decision. Rather, it is a decision that is taken after considering the various related aspects and factors. There are various factors influencing a firm's dividend policy.

VARIABLES

The main objective of the present study is to analyze the determinants of dividend policy of the selected companies of Chemical industry in India. While analyzing the dividend policy of the selected companies, the Dividend Payout Ratio has been used as the indicator of the dividend policy adopted by the companies under study.

Several variables affecting the dividend policy of the companies such as Profitability, Operating Cash flow per share, current ratio, Debt to Equity Ratio, Firm Size, Growth, Earning Volatility, Tangibility and Corporate Tax, have been selected for the purpose of the study.

Dividend Payout Ratio (DPR) = Yearly dividend/ Net Income after tax

Profitability (PROF) = Earnings before Interest and Taxes/ Total Assets

Operating Cash flow per share (CFPS) = Operating Cash flow/ Number of shares outstanding.

Current Ratio (CR) = Current Assets/ Current Liabilities

Debt to Equity Ratio (D/E) = Total Liability/ Shareholders Equity

Firm Size (SIZ) = Natural log of Total Asset

Growth (GRO) = (Gross Fixed Asset in Current Year -- Gross Fixed Asset in Previous Year) / Gross Fixed Asset in Current Year

Earning Volatility (EV) = (Profit before Taxes in Current Year-- Profit before Taxes in Previous Year)/ Profit before Taxes in Current Year

Tangibility (TAN) = Fixed Assets/ Total Asset

Corporate Tax (TAX) = Corporate Tax/ Net Profit before Tax

LITERATURE REVIEW

Garg, Nagpal and Verma (1996) in their study about the factors affecting the dividend payment in the textile industry during 1980 to 1990 comprising a sample of 44 organisations found that dividend payment was determined by liquidity, profitability, size and capital structure.

Sanjeev Mittal(2006) in his study entitled A study of payer and non-payer firms in India observed dividend behaviour of Indian companies during 2001-2005.The study found that payer firms to have large size, fewer investment opportunities and high cost of retained earnings and the opposite in case of non-payers.

Baker Kent H. and Dutta Gandhi (2007) in their study entitled "The Perception of Dividend by Canadian Managers: New Evidence" found that size, profitability, greater cash flows, ownership structure and growth opportunities are the major variables that affect the dividend payment.

Anil and Kapoor (2008) in their paper entitled "The determinants of dividend payout ratio of the Indian Information Technology sector" found that liquidity and beta (year-to-year variability in earnings) were the major determinants of the dividend payout ratio. They discovered that cash flows, corporate tax, sales growth and market-to-book value ratio were insignificant variables of Indian Information Technology industry.

Raballe and Hedensted (2008)) in their study Dividend Determinants in Denmark found that the Danish dividend-paying organisations have the following characteristics: High return on owner's equity, Accumulated dividend, Low market book value ratio, Large firm size and Dividend distribution in the previous year.

Anupam Parua and Arindam Gupta (2009)in their paper entitled "Dividend histories and determinants in selected Indian companies: "a study during 1993-'94 to 2004-'05 they concluded that while determining dividends current-profit, past-profit and anticipated future income has a positive relationship and cash position and money flow has a significant negative relationship with the dividend rate.

Kapoor Sujata, Mishra Anil (2010) in their paper entitled "Dividend Policy Determinants of Indian Services Sector: A Factorial Analysis" carried out a study on dividend policy determinants of Indian services sector for the length 2000-2008. This literature suggests that dividend payout is positively related to profits, cash flows whilst Capital expenditure, retained earnings, sales growth, share prices, beta, interest paid and debt-equity ratio have an inverse relationship.

Ch. Muhammad Adil, Nousheen Zafar (2011) in their paper entitled "Empirical Analysis of Determinants of Dividend Payout: Profitability and Liquidity "during the period 2005-2009 observed that there is a strong relationship between dividend payout with EPS (Earnings per Share) ROE (Return on equity) CFOP (Cash flow operating) and the results for these variables are significant and the size has insignificant relation with dividend policy.

Monica Singhania and Akshay Gupta (2011) in their paper Determinants of foreign direct investment in India comprising Nifty 50 Index companies from 1999-2000 to 2009-2010 were taken for their study. The finding of the study reveals that the firm's size (market capitalization), the firm's growth and investment opportunity are significant factors affecting the company dividend policy in India, whereas the firm's debt structure, profitability and experience are found to be insignificant factors.

Dharmendra S. Mistry (2011), in his paper Performance appraisal of the Indian two-wheeler industry, carried out a study on dividend policy decision of Indian two-wheelers industry from 2001-02 to 2008-2009. The study finds that profitability and liquidity are significant factors affecting the dividend payout ratio in the Indian two-wheeler industry, while operating activities, turnover and capital market things have an inverse relationship.

OBJECTIVES OF THE STUDY

To study the in dividend payout trend in the chemical industry of Indian Industry.

To evaluate the major factors that influences the dividend policy of selected companies.

RESEARCH METHODOLOGY

The data used in the present study were collected from the secondary source i.e.; Centre for Monitoring Indian Economy (CMIE) – PROWES, CAPITALLINE, MONEYCONTROL.COM, NSE and BSE websites, Published Annual Reports of various companies selected for the study etc.

Dividend payment pattern of all companies that are listed for trading on one of the two major exchanges namely National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) during the period 2008-2018 are employed for the analysis.

The degree of relationship between the selected variables and dividend will be assessed through the correlation coefficients taking into account their magnitude by Pearson's simple correlation coefficient, rankings of their magnitude by Spearman's rank correlation coefficient and the nature of their associated changes by Kendall's correlation coefficient. Multiple regression techniques will be applied in measuring the joint influence of the selected variables on the dividend policy of the selected companies. In order to examine whether the computed values of correlation coefficients are statistically significant or not t-test will be used. Similarly, the F test will be applied at the time of testing the statistical significance of multiple correlation coefficients.

STATEMENT OF THE PROBLEM

Till the works of Lintner (1956) and Miller and Modigliani (1961), dividend policy has remained one of the most controversial problems in company finance. Over the years, a sequence of academic research has been carried out on firms' dividend policy. This has led to countless competing theoretical explanations for dividend policy. However, in accordance to Black the concept has remained a puzzle in that "the harder we look at the concept of dividend policy the more it seems like an ending puzzle, with pieces that just do not fit together". Some of the questions that continue to be unanswered include: What are the elements that determine dividend policy? Is dividend policy decided dependently or independently? Etc. Prior academic works of literature have tried to grant solutions to these questions however mystery still covers the dividend policy decision of firms. While designing the dividend policy of a company several factors are taken into consideration. In other words, the dividend policy of a company stems from a number of factors. Some of them are quantifiable, while others fail to possess such quality. The present study seeks to analyse the dividend payout trends and identify the factors affecting dividend policy in the chemical industry in India.

PERIOD OF THE STUDY

The study covers a period of 10 years from 01/04/2008 to 31/03/2018.

ANALYSIS AND INTERPRETATION

TABLE 1: ANALYSIS OF DIVIDEND TRENDS IN THE SELECTED COMPANIES

NAME OF COMPANY	MEAN	SD	CV
Aarti Industries Ltd	22.37	10.65	0.476
BASF India Ltd	13.98	12.58	0.9
Gujarat Fluorochemicals Ltd	16.41	14.75	0.899
Linde India Ltd	46.43	65.45	1.41
Navin Fluorine International Ltd	25.99	5.316	0.204
Pidilite Industries Ltd	28.55	11.45	0.401
Solar Industries India Ltd	27.69	6.874	0.248
TATA CHEMICALS Ltd	47.02	11.71	0.249
UPL Ltd	52.36	14.8	0.283
Vinati Organics Ltd	12.26	5.806	0.474
Average of Chemical Industry	**29.305**	**15.939**	**0.554**
Average of Indian industry	**27.32**	**19.31**	**0.67**

The above table indicates that three companies out of the ten selected companies belonging to Chemical Industry, viz., Linde India Ltd, Tata Chemicals Ltd and UPL Ltd followed a more liberal dividend policy as compared to the general trend of the industry. This table also exhibits that Chemical Industry adopted a more liberal dividend policy as compared to the general trend revealed in the Indian industries.

Table 1 also indicates that seven companies out of the ten selected companies belonging to Chemical Industry, viz., Aarti Industries LTD, Navin Fluorine International Ltd, Pidilite Industries Ltd, Solar Industries India Ltd, Tata Chemicals Ltd, UPL Ltd and Vinati Organics Ltd were more consistent in paying dividend as compared to the general trend reflected in the Chemical industry. Table 1 further depicts that the Chemical Industry was more consistent in paying dividend as compared to the general trend revealed in the Indian corporate sector.

Table 2: Average consistency status of dividend payments in the Chemical Industry

Mean / **CV**	**Low (≤ 0.15)**	**Moderate (> 0.15 but ≤ 0.25)**	**High (> 0.25)**
High (> 0.60)	BASF India Ltd	Linde india Ltd	
Moderate (> 0.40 but ≤ 0.60)	Vinati Organics Ltd	Gujarat Fluorochemicals Ltd Aarti Industries LTD	Pidilite Industries Ltd
Low (≤ 0.40)			UPL ltd Tata Chemicals Ltd Solar Industries Ltd Navin Fluorine International Ltd

Table 2 portrays the average consistency status of dividend payments in the Chemical Industry based on Dividend Payout Ratio (DPR). This table discloses that BASF India Ltd was the only company in the Chemical Industry which placed in the most undesirable category 'low average- low consistency' class. Linde India ltd followed a moderate dividend policy but they lacked consistency in their dividend policy. Vinati Organics Ltd belongs to the category 'low average- moderate consistency' class. Aarti Industries Ltd and Gujarat Fluorochemicals Ltd were neither conservative nor aggressive in paying dividends as they belong to the category 'moderate average-moderate consistency'. Pidilite Industries Ltd was placed in a better position by following a liberal dividend policy with moderate consistency. As per the table,it is proved that UPL Ltd, Tata Chemicals Ltd, Solar industries Ltd and Navin Fluorine International Ltd consistently followed a liberal dividend policy.

Table 3: Correlation Analysis

Name of Company	Correlation coefficient	PRO	CF	CR	DE	SIZ	GRO	EV	TAN	TAX
Aarti	**Pearson**	.142	-.410	.239	.115	-.744*	.051	.156	-.642*	.774**
	Kendall	-.163	-.467	.289	-.159	-.378	-.333	-.067	-.523*	.645*
	Spearman	-.197	-.564	.479	-.171	-.527	-.479	-.030	-.579	.743*
BASF	**Pearson**	.744*	-.299	.886**	-.837**	-.830**	.557	-.008	-.781**	.666*
	Kendall	.675**	-.423	.690**	-.861**	-.782**	.460	-.046	-.395	.442
	Spearman	.812**	-.561	.828**	-.954**	-.902**	.534	.018	-.634*	.640*
Gujarath flou	**Pearson**	-.558	.045	.090	-.227	.055	.081	-.945**	.246	.056
	Kendall	-.315	-.045	-.156	.022	-.244	.046	-.584*	.159	-.092
	Spearman	-.401	-.188	-.212	.018	-.418	.110	-.772**	.189	-.117
Linde India	**Pearson**	-.386	.391	-.065	.280	.342	.174	-.950**	.369	.078
	Kendall	-.489	.584*	-.227	.364	.405	.068	-.270	.629*	-.360
	Spearman	-.575	.729*	-.305	.476	.535	.137	-.201	.863**	-.602
Navin	**Pearson**	-.233	-.493	-.149	.475	.326	.390	-.508	-.277	-.401
	Kendall	-.449	-.405	-.156	.405	.022	.205	-.200	-.225	-.270
	Spearman	-.474	-.541	-.127	.553	.127	.323	-.236	-.292	-.401
pidilite	**Pearson**	.134	.014	.018	.016	-.192	.213	.239	.616	-.068
	Kendall	-.068	-.200	.156	.054	-.067	.360	-.135	.629*	-.205
	Spearman	-.073	-.212	.139	.082	-.261	.590	-.170	.804**	-.262
Solar	**Pearson**	-.286	-.368	-.171	.297	-.582	.355	.332	-.536	.100
	Kendall	-.163	-.214	-.156	.135	-.467	.289	.225	-.432	.205
	Spearman	-.258	-.238	-.139	.103	-.624	.285	.432	-.537	.195
Tata Chemicals	**Pearson**	-.797**	-.049	-.744*	.497	-.409	-.255	-.502	.473	.562
	Kendall	-.644**	.167	.022	.333	-.200	-.156	-.422	-.022	.333
	Spearman	-.709*	.183	.006	.467	-.200	-.236	-.612	-.006	.418
vinati	**Pearson**	-.178	.228	.344	-.301	.664*	.397	-	.608	.457

								.829**		
	Kendall	-.068	-.071	.360	-.045	.289	-.270	-.556*	.159	.296
	Spearman	-.195	-.167	.571	-.164	.406	-.231	-.709*	.256	.372
	Pearson	.249	-.204	-.325	.503	-.239	.556	.500	.065	.200
	Kendall	-.030	-.200	-.527	.588	-.200	.515	.212	.188	.564
Upl	**Spearman**	-.030	-.200	-.527	.588	-.200	.515	.212	.188	.564

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows the correlation coefficients between DPR and other variables while determining the dividend policy in the chemical Industry. The Table indicates a negative relationship between profitability and DPR in the chemical industry. Out of thirty correlation coefficients between DPR and PROF, six had been determined to be positive and three were discovered to be statistically significant and last twenty-four correlation coefficients have been negative and of which three were discovered to be statistically significant. Many researchers consider profitability as the primary indicator of a firm's capability to pay dividends. They discovered that the profitability of a company has a positive connection to the dividend payout ratio. But in the case of the chemical industry the net result failed to agree with the theoretical argument.

Table 3 shows the relationship between cash flow and DPR in the chemical industry, out of thirty correlation coefficients between CF and DPR, eight had been determined to be positive and of which two were discovered to be statistically significant. The remaining twenty-two correlation coefficients have been negative and of which none were discovered to be statistically significant. So the study of the correlation between CF and DPR reveals no significant relationship. But it is observed that 100 per cent of the total significant correlation coefficients were found to be positive. Thus it can be concluded that cash flow is also a factor while designing the company's dividend policy. Theoretically, it was argued that greater the cash position and overall liquidity of a firm, greater is the ability to pay dividend. Past studies found a positive relationship between cash flow and dividend payout ratios. In the case of chemical industry, the outcome of the study slightly agrees with the theoretical argument.

Table 3 shows the relationship between current ratio and DPR in the chemical industry, out of thirty correlation coefficients between CR and DPR, fifteen had been determined to be positive and of which three were discovered to be statistically significant. The remaining fifteen correlation coefficients have been negative and of which one was discovered to be statistically significant. So the study of correlation between CR and DPR reveals no significant relationship. But it is observed that 75 per cent of the total significant correlation coefficients were found to be positive. Thus it can be concluded that the current ratio is also a factor while designing the company's dividend policy. Theoretically it was argued that, greater the cash position and overall liquidity of a firm, greater is the ability to pay dividend. Past studies found a positive relationship between the current ratio and dividend payout ratios. In the case of chemical industry, the outcome of the study slightly agrees with the theoretical argument.

Table 3 indicates the relationship between the debt-to-equity ratio and DPR in the chemical industry. The table shows the relationship between DE and DPR in the cement industry, out of thirty correlation coefficients, twenty one had been determined to be positive and of which none were discovered to be statistically significant. The remaining nine coefficients have been negative and of which three were discovered to be statistically significant. So the study of correlation between DE and DPR reveals no significant relationship. But it is observed that 100 per cent of the total significant correlation coefficients were found to be negative. Thus it can be concluded that debt-to-equity is also a factor while designing the company's dividend policy. Many previous studies reveal that a firm with a large amount of external debt will follow a more conservative dividend policy. In the case of chemical industry the net result agrees with the theoretical argument.

Table 3 indicates a negative relationship between size and DPR in the chemical industry. Out of thirty correlation coefficients between SIZ and DPR, ten had been determined to be positive and of which one discovered to be statistically significant. The remaining twenty correlation coefficients have been negative and of which five

were discovered to be statistically significant. The hypothesised relationship between firm size and DPR is positive. In the case of chemical industry the net result failed to agree with the theoretical argument.

Table 3 indicates a positive relationship between growth and DPR in the chemical industry. Out of thirty correlation coefficients between DPR and CF, twenty three had been determined to be positive and none were found to be statistically significant, seven correlation coefficients have been negative and none were found to be statistically significant. The higher growth companies have lots of investment potential and are likely to follow a conservative dividend policy. The hypothesised relationship between firm size and DPR is negative. In the case of chemical industry the net result failed to agree with the theoretical argument.

Table 3 indicates a negative relationship between earning volatility and DPR in the chemical industry. Out of thirty correlation coefficients between DPR and EV, nine had been determined to be positive and none were found to be statistically significant. The balance twenty-one correlation coefficients have been negative and seven correlation coefficients were found to be statistically significant. The higher growth companies have lots of investment potential and are likely to follow a conservative dividend policy. The hypothesised relationship between earning volatility and DPR is negative. In the case of chemical industry the net result has the same opinion with the theoretical argument.

Table 3 shows the relationship between tangibility and DPR in the chemical industry, out of thirty correlation coefficients between TAN and DPR, sixteen had been determined to be positive and of which four were discovered to be statistically significant. The remaining fourteen correlation coefficients have been negative and of which five were discovered to be statistically significant. So the study of correlation between TAN and DPR reveals no significant relationship.

Table 3 indicates a positive relationship between corporate tax and DPR in the chemical industry. Out of thirty correlation coefficients between DPR and TAX, twenty had been determined to be positive and of which five were discovered to be statistically significant. The balance ten correlation coefficients have been negative and of which none were discovered to be statistically significant. Many researchers in their study of determinants of dividend payout ratio found that corporate tax and dividend payout ratio are positively related. In the case of chemical industry the net result agrees with the theoretical argument.

MODEL SPECIFICATION

Multiple regression method has been used to analyse the impact of the chosen independent variables namely Profitability (PROF), Operating Cash flow per share (CFPS), Current Ratio (CR), Debt to Equity Ratio (D.E), Firm Size (SIZ), Growth (GRO), Earning Volatility (EV), Tangibility (TAN), and Corporate Tax (TAX) on the dependent variable namely Dividend Payout Ratio(DPR).

The estimated regression model is as follows;

$DPR = b_0 + b_1 + b_2 + b_3 + b_4 + b_5 + b_6 + b_7 + b_8 + b_9 + \text{Residual}.$

Where DPR is Dividend Payout Ratio, b_0 is Constant, b_1 is regression coefficient of Profitability (PROF), b2 is regression coefficient of Operating Cash flow per share (CFPS), b3 is regression coefficient of Current Ratio (CR), b4 is regression coefficient of Debt to Equity Ratio (D.E), b5 is regression coefficient of Firm Size (SIZ), b6 is regression coefficient of Growth (GRO), b7 is regression coefficient of Earning Volatility (EV), b8 is regression coefficient of Tangibility (TAN), and b9 is regression coefficient of Corporate Tax (TAX).

REGRESSION ANALYSIS OF CHEMICAL INDUSTRY

The influence of independent variables Profitability (PROF), Operating Cash flow per share (CFPS), Current Ratio (CR), Debt to Equity Ratio (D.E), Firm Size (SIZ), Growth (GRO), Earning Volatility (EV), Tangibility (TAN), and Corporate Tax (TAX) on the dependent variable Dividend Payout Ratio(DPR) were analysed using Multiple regression and the results are shown in the Tables.

Table 4: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.820[a]	.673	.638	16.66989	1.049

a. Predictors: (Constant), TAX, CASHFLOW, CURRENTRATIO, DEBTEQUITYRATIO, EARNINGVOLATILITY, GROWTH, TANGIBILITY, PROFITABILITY, SIZE

b. Dependent Variable: DPR

R is the correlation between the observed and predicted values of the dependent variable. The values of R would range from 0 to 1. Larger the value of R better is the relationship. The above table indicates that the value of R for Chemical Industry 82 % that refers there is a positive linear correlation between explanatory variables such as profitability, operating cash flow per share, current Ratio, debt to equity ratio, growth, size, tangibility, corporate tax and growth and the dependent variable i.e. dividend payout ratio.

R^2 is the multiple correlations or the coefficient of multiple determinations. It indicates how much of the total change in the dependent variable can be explained by the independent variable. R^2 can also be interpreted as the proportionate reduction in error in estimating the dependent variable when the independent variable is known. The values of R^2 vary from 0 to 1. Smaller values indicate that the model does not fit the data well. Adjusted R square is an adjustment for the large numbers of independent variables, it is possible that R^2 will become artificially high simply due to the fact some unbiased variable's chance variations "explain" small parts of the variance of the dependent variable.

Table 4 indicates the R^2 value as 0.673 and value of adjusted R- Square as 0.638 which indicates that there is 63.8% change in dividend payout due to the changes in the independent variable.

Std. Error of the Estimate, (S) this is also referred to as the root mean squared error. It is the standard deviation of the error term and the square root of the Mean Square for the Residuals in the ANOVA. Std. Error represents the average distance that the observed values fall from the regression line. Conveniently, it tells you how incorrect the regression model is on average using the units of the response variable. Smaller values are better due to the fact it shows that the observations are nearer to the fitted line. Table 4 indicates the value of S is 16.66987, which tells us that the average distance of the data points from the fitted line is about 16.67%.

The absence of autocorrelation suggests that the current values ought to not be related to previous values in a data series. The Durbin — Watson coefficient is employed to see for autocorrelation. If the Durbin — Watson coefficient is between 0.5 and 2.5 it might show the independence of observations. The Durbin-- Watson coefficient within the analysis results in the chemical industry was recorded as 1.049, which indicates the independence of observations.

Table 5: ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	48086.988	9	5342.999	19.227	.000[b]
Residual	23342.373	84	277.885		
Total	71429.362	93			

a. Dependent Variable: DPR

b. Predictors: (Constant), TAX, CASHFLOW, CURRENTRATIO, DEBT EQUITY RATIO, EARNINGVOLATILITY, GROWTH, TANGIBILITY, PROFITABILITY, SIZE

The variations in the dependent variable are defined by the analysis of variance results. The ANOVA Table shows the sum of squares, degrees of freedom and mean square for the two models, regression and residual. The value of regression displays information about the variation accounted for by using the regression model. The value of residual shows data about the variation that is not accounted for via the regression model. The value of the total is

the Sum of regression and residual. In different words, if the regression sum of squares is greater than the residual sum of squares, the regression model accounts for most of the variation in the dependent variable.

The sum of squares divided by the degrees of freedom gives mean square. The F statistic is the regression mean square divided by the residual mean square. If the P-Value /significance value of F is less than 0.05 it shows that the independent variables provide an explanation for the variation in the dependent variable.

The above table shows that the independent variables statistically significantly predict the dependent variable, F = 19.227. The value of F significance 0.000, p <0.05 also shows that the model is significant. It means that there is a significant impact of independent variables on the dividend payout ratio of the chemical industry.

Table 6: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-13.843	20.565		-.673	.503		
PROFITABILITY	-1.571	19.446	-.008	-.081	.936	.446	2.244
CASHFLOW	1.972	5.952	.033	.331	.741	.389	2.570
CURRENTRATIO	.749	3.312	.015	.226	.822	.867	1.153
DEBTEQUITYRATIO	-1.250	4.684	-.018	-.267	.790	.850	1.176
SIZE	13.347	7.251	.220	1.841	.069	.273	3.662
GROWTH	9.883	8.102	.089	1.220	.226	.737	1.356
EARNINGVOLATILITY	-6.423	.543	-.790	-11.835	.000	.873	1.145
TANGIBILITY	-17.198	11.101	-.109	-1.549	.125	.780	1.282
TAX	.719	.425	.110	1.692	.094	.917	1.090

From the above table, we can fit the regression equation to predict the Dividend Payout Ratio from independent variables as under.

$DPR = b_0 + b_1 PROF + b_2 CFPS + b_3 CR + b_4 D.E + b_5 SIZ + b_6 GRO + b_7 EV + b_8 TAN + b9 TAX$

DPR = -13.84 – 1.57 PROF + 1.97 CFPS + 0.75 CR – 1.25 D.E + 13.35 SIZ + 9.88 GRO – 6.42 EV – 17.20 TAN + 0.72 TAX

Unstandardized coefficients indicate how much the dependent variable varies with an Independent variable when all other independent variables are held constant.

In the above table, the Unstandardized Coefficient for profitability is equal to – 1.57. This means that for every additional increase in profitability, dividend payout ratio decreases by 1.57.

In the above table, the Unstandardized Coefficient for cashflow is equal to 1.97. This means that for every additional increase in cashflow, dividend payout ratio increases by 1.97.

In the above table, the Unstandardized Coefficient for current ratio is equal to 0.75. This means that for every additional increase in current ratio, dividend payout ratio increases by 0.75.

In the above table, the Unstandardized Coefficient for debt-equity ratio is equal to – 1.25. This means that for every additional increase in debt-equity ratio, dividend payout ratio decreases by 1.25.

In the above table, the Unstandardized Coefficient for size is equal to 13.35. This means that for every additional increase in size, the dividend payout ratio increases by 13.35.

In the above table, the Unstandardized Coefficient for growth is equal to 9.88. This means that for every additional increase in growth, dividend payout ratio increases by 9.88.

In the above table, the Unstandardized Coefficient for earning volatility is equal to – 6.42. This means that for every additional increase in earning volatility, dividend payout ratio decreases by 6.42.

In the above table, the Unstandardized Coefficient for tangibility is equal to – 17.20. This means that for every additional increase in tangibility, dividend payout ratio decreases by 17.20.

In the above table, the Unstandardized Coefficient for tax is equal to 0.72. This means that for every additional increase in tax, dividend payout ratio increases by 0.72.

The t-statistics helps to determine the relative importance of each variable in the model. 'T' values of the independent variables beneath — 2 or above 2 would effectively explain the variance of the dependent variable. The P-value indicates the probability that the estimated coefficient is wrong or unreliable. In the case of chemical industry, the 't' values and the P-values show that the variable earning volatility is a significant variables while profitability, operating cash flow per share, current Ratio, debt to equity ratio, size, growth, tangibility, and corporate tax were insignificant variables.

Multicollinearity measures whether any change in an independent variable influences any other independent variables. To examine the multicollinearity, tolerance or variance inflation thing (VIF), which is built with the aid of regressing each independent variable on all the others, was used. A tolerance of less than 0.20 suggests the existence of multicollinearity. A VIF value of above 4 suggests that multicollinearity trouble exist. The table 6 shows that all variance inflation factors (VIF) are less than 4 and tolerance coefficients are greater than 0.2. Therefore we can conclude that multicollinearity trouble does not exist in the chemical industry.

CONCLUSION

The study shows that UPL Ltd, TATA Chemicals Ltd and LINDE India Ltd had been the top three dividend-paying companies in Chemical industry. The study of correlation exhibits positive correlation between cash flow, current ratio, size, growth and tax with Dividend Payout Ratio, while Profitability, Debt to Equity Ratio, and Earning Volatility suggests negative correlation with Dividend Payout Ratio. Regression analysis indicated that cash flow, current ratio, size, growth and tax have positive significant influence with dividend payout ratio while profitability, debt-equity ratio, earning volatility and tangibility have negative significant influence. In the case of chemical industry, the 't' values and the P values show, the variable earning volatility is a significant variable while profitability, operating cash flow per share, current Ratio, debt to equity ratio, size, growth, tangibility, and corporate tax were insignificant variables. The above evaluation genuinely indicates that in the case of chemical industry only 63.8% in the determination of the dividend payout ratio explains regarding the selected independent variables. It is very important to remember that there had been other different elements which had now not been identified in this study. As was mentioned by many scholars, there are a wide variety of factors theoretically recognized however empirically not quantifiable.

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