Dividend Policy and Its Impact on Performance of Indian Information Technology Companies

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Abstract

Purpose: *This study is an attempt to evaluate the impact of dividend policy on profitability of Indian Information Technology companies which are listed on Bombay Stock Exchange. This paper is also an attempt to assess nature of association between Dividend Policy and Profitability of IT stock. An attempt has also been made to evaluate appropriate Regression Model.* **Design:** *In order to accomplish the study top ten companies belonging to IT sector were considered based on market capitalization. The study has been done in two parts; in the first part, trend analysis of company's profitability ratios was carried out. The second part of the study comprises of testing of hypotheses using correlation matrix and panel regression model.* **Findings:** *The selected companies do not follow consistent pattern of dividend payments. The study also reveals association between Price Earning Ratio (PER) and Dividend Payout Ratio (DPR) is low but positive at 95 % level of confidence. Similarly, at 95 % confidence level, association between Return on Asset (ROA)–Earnings per Share (EPS) and Return on Equity (ROE) – EPS is low but positive. However, there is a strong relation between ROE-ROA at 99 % level of confidence. Hausman Test reveals that random affect model is appropriate thereby indicating that performance of selected companies have significant impact on dividend policy of selected companies.* **Value:** *Dividend policy and pattern of its distribution has been an important issue of discussion in finance. The study would be helpful for users like managers who are interested in profit planning and investors. The paper will help the reader to develop further understanding on dividend policy which is still on the most complicated subject in corporate finance. This study is also significant because an attempt has been made to develop appropriate dividend policy models.*

Keywords: *Dividend, Firm Performance, Earnings per Share, Price Earnings Ratio, Return on Assets, Return on Equity.*

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1. INTRODUCTION

Dividend decisions are integral part of firm's strategic financial decisions. It is a compensation payable to shareholders for risk tolerance which is directly proportional to degree of risk taken **(Lipson et al, 1998)**. Dividend decision has been one of the most complicated and critical aspect of corporate finance. Even after several decades since evolution of dividends theories; dividend decision has been one of the important unresolved problems in finance **(Brealey and Myers, 2002)**. It involves how much of the firm's earnings after interest and taxes should be distributed among shareholders after their investment in firms and how much be retained for future growth of the company. Among most of factors affecting firm's value; dividend policy is one of them. Shareholders return in the form of dividend or capital appreciation is influenced by dividend policies of the firm like other financial decisions. Dividend policy is the primary goal is to maximise shareholders' wealth. Even though many studies have been conducted to establish that dividend is relevant factor in influencing on value of firms; opinions are still divided. Whether firm's dividend policy is relevant or not is still a subject matter of debate among financial economist. However, general opinion is that if dividend policy is relevant then there must be optimum dividend policy and if not relevant then any dividend policy is satisfactory.

Traditional Model, Walter's Model, Gordon's Model, Dividend Signalling Theory, Agency Theory and Birds in Hand are the some of the theories that suggest dividend is relevant while Residual Theory, Modigilani and Miller (M&M) Theory, Dividend Clientele Effects and Rational Expectations Model suggest that dividend is irrelevant factor in influencing shareholders' wealth. Dividend policies act as a control process for managerial opportunism. Dividend policy is basically used as a tool of wealth distribution and not as tool of wealth creation **(Priya et al, 2013)**. Dividend decision basically depends on factors like project cash flows, historical dividend practices, interest rate scenario, regulatory norms and inflation index etc. Among large number of factors influencing value of firm; dividend policy is one of them. Firm's cost of Capital is also affected by the dividend policy of the firm.

This study is an attempt to explore; how dividend policy of a firm would be influencing profitability of a firm listed on Bombay Stock Exchange (BSE). Top ten companies listed on BSE based on market capitalisation were selected to accomplish the study. The other objectives of the paper are as follows:

- Check how dividend policy of a firm and its profitability are associated.
- Analyze the impact of dividend policy on firm's Return on Equity (ROE).
- Evaluate impact of dividend policy on firm's Return on Assets (ROA).

In order to achieve the above objectives following hypothesis were framed and tested using correlation matrix and panel regression model.

- μ_{01}: There is no significant association between dividend policy and profitability of the firms.
- μ_{02}: There is no significant impact of DPR, PER and EPS on ROA across the panel.
- μ_{03}: There is no significant impact of DPR, PER and EPS on ROE across the panel.

Rest of the paper are organised as follows: related work on the subject were reviewed in section 2, research design has been discussed in section 3, data were analysed using appropriate statistical

tools in section 4 result and discussion in section 5 and concluding remarks has been presented in section 6.

2. RELATED WORK : REVIEW OF LITERATURE

Dividend distribution and its policy is always an important area of concern for every business organization, investors, researchers and funding agencies etc. Over the year's financial economist have propounded different theories of dividend. However, opinions are divided among them. Some are of the view that dividend is an important factor in influencing the value of firm while some are of the opinion that dividend is irrelevant factor.

Dividend Irrelevance Theory stress that dividend policy neither influence the value of firm's shares nor the cost of capital. This is because the value of firm's shares depends upon firm's earning capacity and riskiness of assets held by the firm. Dividend may affect the value of firm's share due to information effect relating to management expectations and clientele effect where the payout patterns attract the shareholders due to dividend preferences. Thus, value of firm's share is not dependent upon firm's dividend policy under perfect market conditions **(Miller & Modigliani, 1961)**. However, some are of the opinion that Miller and Modigliani ideal situation is a hypothetical situation and does not exists. Factors like transactions cost, taxes, inflation, bankruptcy etc. cannot be ignored. Therefore, dividend policy and firm's performance are interdependent. Shareholders prefer a higher dividend policy **(McCabe, 1979; Anderson, 1983 and Abor & Bokpin, 2010).** Dividend policy of a firm can affect the value of firm's share and will ultimately leads to shareholders' wealth maximization **(Baker et al, 2001)**. Quantum of wealth maximization is an important parameter of firm's performance **(Azhagaiah & Priya, 2008)**. Factors like quantum of dividend paid, historical and project profits and growth pattern of earnings etc. have been influencing the dividend policy of a firm **(Pruitt & Gutman, 1991)**. Unlike interest dividend is not fixed obligation for companies. Firms are normally averse to change in dividend policy. The company wants to maintain good image as an indicators of stable earnings **(Foong et al, 2007)**. Shareholders give relatively higher preference to current dividend rather than capital gain from a future investment which is uncertain. Thus, this theory indicates that firm value and dividend pay-out are related **(Amidu, 2007)**.

Shares of companies paying higher dividends, trade at a higher price in capital market. This indicates that shareholders give more preference to current yield rather than future capital appreciation which is uncertain. This is the basic crux of bird-in-the-hand theory. As dividend are considered to be relatively more certain than capital appreciation; firms should maintain higher dividend pay-out ratio and facilitate higher dividend yield. This policy would help in maximizing the stock price **(Lintner J, 1956; 1962)**.

Company's dividend policy release signals towards investors. Firm may pay dividends to investors simply to indicate the future prospects; despite distortion of investment decision to capital gain. Dividend announced by the company can act as a signal to investors about the firm's future earning potential in terms of stability of earnings and expected change in dividend policy **(Al-Malkawi, Rafferty & Pillai, 2010)**. This perception is based on the assumption that there is information gap among managers and investors. It is considered that managers have private information about current and future prospects of firm. The outsiders are not benefited with such

privileges. Thus, according to dividend signaling theory dividend policy of a firm can be used an indicator of firm's future prospects for investors.

According to Agency Cost Theory dividends minimizes the problem of over investment. This is because with the increase in payment of dividend; the frequency with which firms can access the equity markets to raise additional capital also increases. The theory also indicates that dividend policy is influenced by the agency cost arising from disagreement between ownership and control **(Easterbrook, 1984)**. It is not necessary that mangers may always adopt a dividend policy that would lead to wealth maximization for shareholders. Managers may also choose a dividend policy that may maximize their personal benefits. Some financial economist are of the opinion that higher dividend payout ratio can reduce the free cash flows left for the managers still they prefer to pay dividend to ensure wealth maximization for shareholders **(DeAngelo & DeAngelo, 2006; DeAngelo et al, 2007)**.

Dividend Retention Theory assets that dividend are luxury for both shareholders and firms. It is not afforded by both shareholders and companies due to high level of taxation and transaction cost. Thus, firms' can follow a policy of zero payout and retain 100 per cent of profits. This retained profit can be used for new investment avenues. This would benefit the shareholders in the long run **(Rubner, 1966)**. As shareholder give priority to current dividends; managers who require additional funds for capital budgeting decision must convince the shareholders that proposed projects would ultimately lead to their own wealth maximization in the long run. Mangers can also adopt a policy of zero retention and distribute 100 per cent of profit among shareholders to increase their job security and relatively better reputation in the eyes of shareholders **(Kishore, 2003)**. Return on Assets and Dividend Policy are positively correlated. Dividend payout ratio, leverage and return on equity are negatively related **(Khan et al, 2016)**.

Dividend decision is one of the important strategic financial decisions for any company. Several studies have also attempted to establish relationship with dividend policy with other variables such as corporate profitability, investment policy and EPS. Regression analysis conducted on twenty five quoted Nigerian companies revealed that divided policy has positive relationship profitability ratios and investment policy. Thus, effective dividend policy will enable companies to attract investors for the organisation **(Adediran and Alade, 2013)**. To control agency cost of free cash flow; firm's dividend payment policy and leverage policy are considered as substitute mechanism. If a firm adopts a policy of paying dividend to shareholders every year; its level of activity will accelerate to obtain more income and maintain a policy of excess retained earnings to achieve the set standard **(Agrawal and Jayaraman, 2004)**.

3. RESEARCH METHODOLOGY

This section deals with the research methodology adopted to accomplish the study. It is an empirical study where an attempt has been made to establish relationship between different profitability ratios and dividend ratios using statistical tools like correlation matrix and regression model.

3.1 Sample of the Study

This study is an attempt to examine impact of dividend policy on the performance variables of companies from IT Sector. The companies listed on BSE were considered for the study on the

basis of top ten market capitalization. Stocks belonging to IT Sectors considered for the study are shown in Table 1.

Table 1: Profile of Sample Compnies Under Study(BSE)

S. No.	Name	Year of Establish	Headquarter	Services	M-Cap (Rs. Crore)
1.	WIPRO	1945	Bangalore	Digital Strategy, Business Consulting and IT Services	145,225.31
2.	HCL	1976	Noida	IT, Business Consultancy, Outsourcing Services	147,981.87
3.	INFOSYS	1981	Bangalore	IT, Business Consultancy, Outsourcing Services	257,344.77
4.	TECH MAHINDRA	1986	Pune	IT, Business Consulting, Outsourcing Services	68,660.40
5.	TCS	1968	Mumbai	IT, Business Consulting, Outsourcing Services	652,082.92
6.	L&T	1938	Mumbai	Real Estate, Construction, Financial Services, IT Services	24,120.32
7.	ROLTA	1989	Mumbai	IT Services, IT consulting	1,078.36
8.	MINDTREE	1999	Bangalore	IT Services, IT consulting	16,022.98
9.	NIIT	2004	Noida	IT, Business Consulting, Outsourcing Services	6,099.56
10.	MPHASIS	2000	Bangalore	IT, Business Consulting, Outsourcing Services	17,446.56

Source: BSE.

2.3 Source of Date

The data published by the companies in their annual report were considered to accomplish the study. Market capitalization data were collected from official website of BSE. The study is confined to five years period from financial year 2012-13 to 2016-17.

3.3 Tools and Techniques for Data Analysis

This study is carried out in two phases. In the first phase simple trend analysis of samples companies has been carried out which is based on various dependent and independent variables. The second phase of the analysis comprises of testing of hypothesis. Correlation Matrix and Panel Regression Model (Fixed & Random Effect) has been used for testing of hypothesis. In order to ensure whether null hypothesis would be accepted or rejected; Haussmann Test was considered to study correlated random effect.

3.3.1 Independent Variable

Dividend Payout Ratio, Earnings per Share and Price Earnings Ratio are used as proxy variables for dividend policy.

- **Dividend per Share (DPS):** DPS is the ratio between total dividend paid by the company and total number of shares outstanding. Total dividend includes even interim dividends also.
  DPS = (Total dividends paid out over a period - any special dividends) / Shares Outstanding

- **Earnings per Share (EPS):** EPS is the quantum of Profit After Tax (PAT) and preference dividend that could be distributed among each shares held by equity shareholders. It helps in estimating the company's capacity to pay dividend to its equity shareholders. It is one the important parameter in estimating market price of the equity shares of the company.
  EPS = (PAT – Preference Dividends) / Number of Shares held by equity share holders

- **Dividend Payout Ratio (DPR):** DPR is the proportion of dividend (DPR) distributed among the equity shareholders. It measures a relationship between earning available for equity shareholders and dividend paid to them. This ratio also helps in determining percentage of profits that is being retained by the company for the purpose of reinvestment or debt repayment.
  Dividend Payout Ratio = DPR /EPS

- **Price Earnings Ratio (PER):** PER indicates the number of times the Earning per Share (EPS) is covered by its market price (MPS). This ratio is an important indication of risk and return profile of the particular company's share. It helps the investor in determining whether or not to buy the shares of a company at a particular price. A high growth firms is expected to have a higher PER while share which is risky will have low PER. Higher ratio is an indicator of investors' confidence in company's future. It is also believed that firms with low reinvestment needs will have relatively higher PER.
  PER = (MPS / EPS)

3.3.2 Dependent Variable

Return on Asset (ROA) and Return on Equity (ROE) are used to proxy for firm's performance.

- **Return on Assets (ROA):** ROA measures the relationship between net profits and total assets of the company. It is a measure of overall profitability and operational efficiency of the firm in using its total assets.
  ROA = PAT / Total Assets

- **Return on Equity (ROE):** ROE is the measures on the total equity funds of ordinary shareholders. It helps in indentifying that proportion of earning that is generated with ordinary holders' funds.
  ROE = PAT minus Preference Dividend/Shareholder's Equity

4. DATA ANALYSIS AND INTERPRETATION

In this section, data analysis has been carried out into two parts viz. trend analysis and testing of hypothesis. For the testing of hypothesis (a) Correlation Matrix and (b) Panel Regression Model has been used.

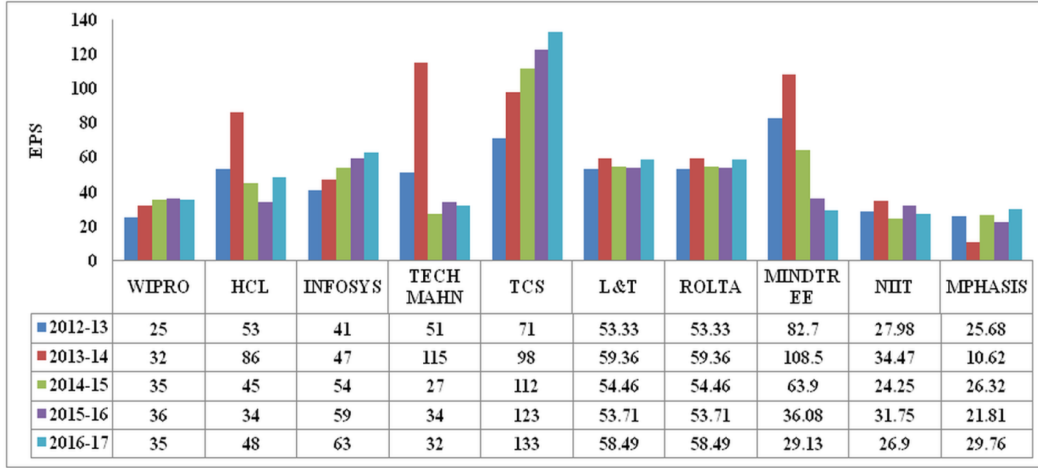### 4.1 Trend Analysis

In this section trend analysis of the data has been conducted for the sample companies.

4.1.1 Earnings Per Share (EPS)

EPS measure the amount that ordinary shareholders can get on holding single unit of equity shares.

Figure 1: EPS of Selected IT Firms

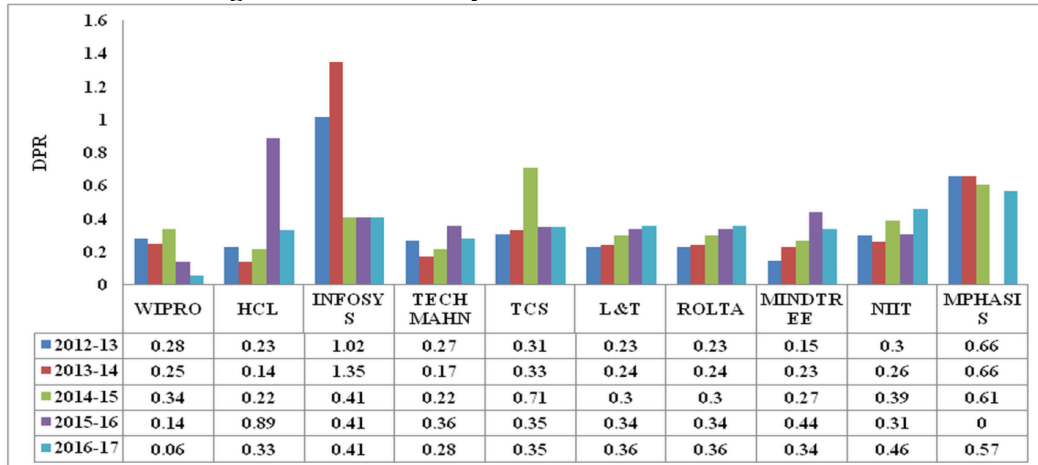|	WIPRO	HCL	INFOSYS	TECH MAHN	TCS	L&T	ROLTA	MINDTREE	NIIT	MPHASIS
2012-13	25	53	41	51	71	53.33	53.33	82.7	27.98	25.68
2013-14	32	86	47	115	98	59.36	59.36	108.5	34.47	10.62
2014-15	35	45	54	27	112	54.46	54.46	63.9	24.25	26.32
2015-16	36	34	59	34	123	53.71	53.71	36.08	31.75	21.81
2016-17	35	48	63	32	133	58.49	58.49	29.13	26.9	29.76

Source: Annual Reports of IT Companies

EPS of selected information technology companies from 2012-13 to 2016-17 is shown in Figure 1. Among all the IT companies of India TCS perform better as its EPS range between Rs. 70 to Rs. 130 during the study period while MPHASIS reported lowest EPS. Mindtree has reported consistent decline in EPS during the last three financial years considered for study.

1.1.1 *Dividend Payout Ratio(DPR)*

Infosys is the only company which has been distributing relatively higher dividend to its shareholders in the initial period of study. However, in the later period of study rate of dividend has declined drastically. With the exception of HCL and TCS other sample companies paid dividend at the constant rate as depicted in Figure 2.

Figure 2: Dividend Payout Ratio of Selected IT Firms

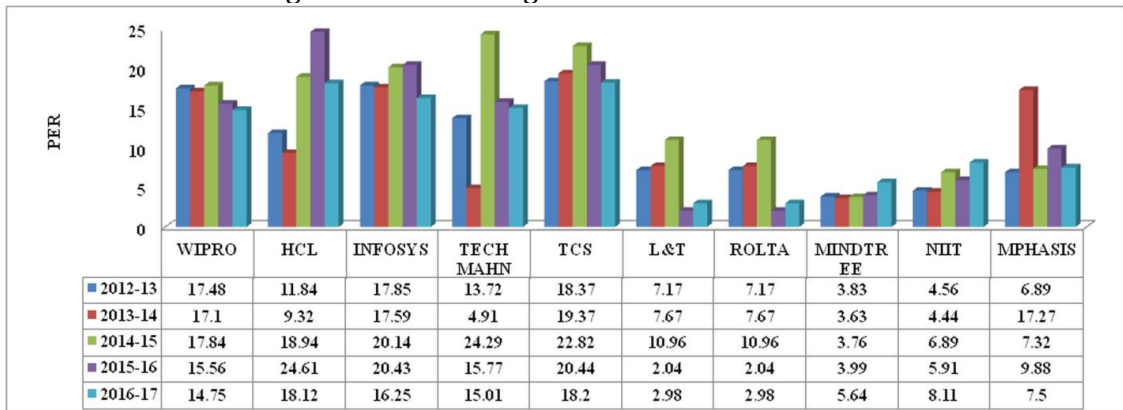|	WIPRO	HCL	INFOSYS	TECH MAHN	TCS	L&T	ROLTA	MINDTREE	NIIT	MPHASIS
2012-13	0.28	0.23	1.02	0.27	0.31	0.23	0.23	0.15	0.3	0.66
2013-14	0.25	0.14	1.35	0.17	0.33	0.24	0.24	0.23	0.26	0.66
2014-15	0.34	0.22	0.41	0.22	0.71	0.3	0.3	0.27	0.39	0.61
2015-16	0.14	0.89	0.41	0.36	0.35	0.34	0.34	0.44	0.31	0
2016-17	0.06	0.33	0.41	0.28	0.35	0.36	0.36	0.34	0.46	0.57

Source: Annual Reports of IT Companies

4.1.4 Price Earnings Ratio (PER)

PER indicates the price that shareholders are will to pay for each rupee of earning. Higher PER is an indicator of shareholders confidence in the company's share.
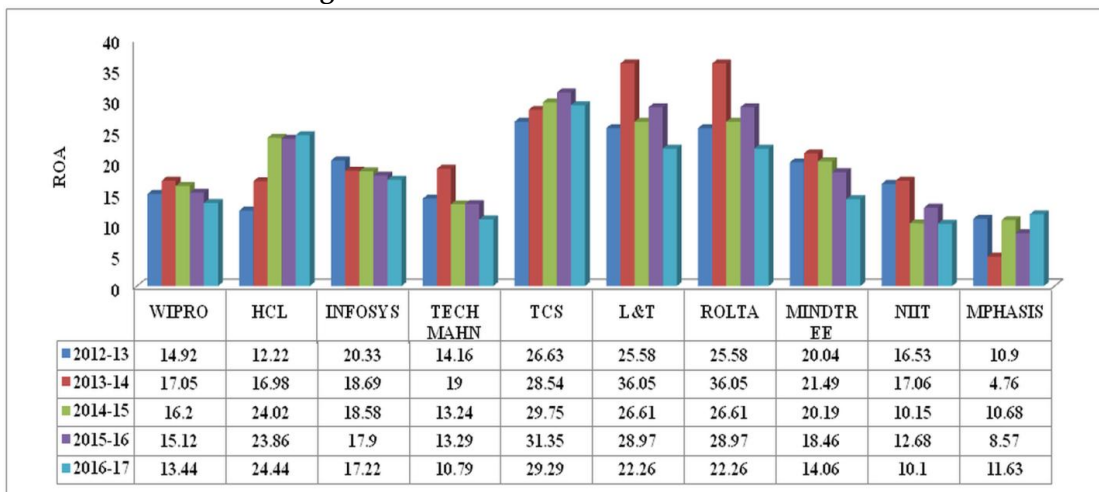
Figure 3: Price Earnings Ratio of Selected IT Firms

	WIPRO	HCL	INFOSYS	TECH MAHN	TCS	L&T	ROLTA	MINDTREE	NIIT	MPHASIS
2012-13	17.48	11.84	17.85	13.72	18.37	7.17	7.17	3.83	4.56	6.89
2013-14	17.1	9.32	17.59	4.91	19.37	7.67	7.67	3.63	4.44	17.27
2014-15	17.84	18.94	20.14	24.29	22.82	10.96	10.96	3.76	6.89	7.32
2015-16	15.56	24.61	20.43	15.77	20.44	2.04	2.04	3.99	5.91	9.88
2016-17	14.75	18.12	16.25	15.01	18.2	2.98	2.98	5.64	8.11	7.5

Source: Annual Reports of IT Companies

HCL, TCS, Infosys and Wipro's share reported higher Price Earnings Ratio (PER). It has been observed that except Mindtree's share PER has been fluctuating during the period of study is shown in Figure 3.

4.1.5 Return on Assets (ROA)

ROA is a measure of company's profitability in relation to its total tangible assets held by the company.

Figure 4: Return on Assets of Selected IT Firms

	WIPRO	HCL	INFOSYS	TECH MAHN	TCS	L&T	ROLTA	MINDTREE	NIIT	MPHASIS
2012-13	14.92	12.22	20.33	14.16	26.63	25.58	25.58	20.04	16.53	10.9
2013-14	17.05	16.98	18.69	19	28.54	36.05	36.05	21.49	17.06	4.76
2014-15	16.2	24.02	18.58	13.24	29.75	26.61	26.61	20.19	10.15	10.68
2015-16	15.12	23.86	17.9	13.29	31.35	28.97	28.97	18.46	12.68	8.57
2016-17	13.44	24.44	17.22	10.79	29.29	22.26	22.26	14.06	10.1	11.63

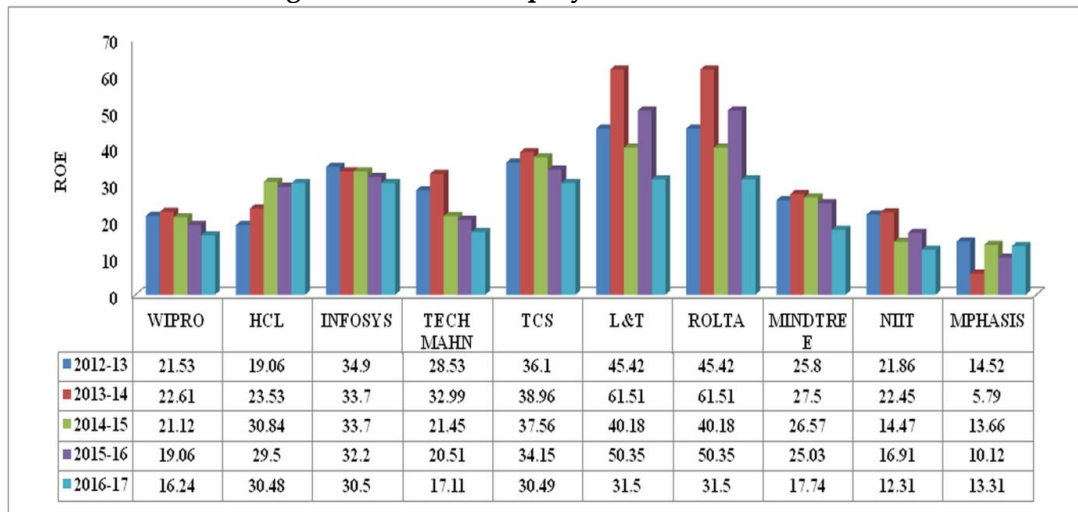*Source: Annual Reports of IT Companies*

TCS, L&T and Rolta have comparatively earned better return on their assets because of their business efficiency and high employees return during the study period. NIIT and Mphasis have reported lowest return on their assets as it was only less than 10 per cent during the study period as shown in Figure 4.

4.1.6 Return on Equity (ROE)

ROE is the measure of return from the total funds of ordinary shareholders. It indicates firm's profitability from the ordinary shareholders' funds invested.

Figure 5: Return on Equity of Selected IT Firms

	WIPRO	HCL	INFOSYS	TECH MAHN	TCS	L&T	ROLTA	MINDTREE	NIIT	MPHASIS
2012-13	21.53	19.06	34.9	28.53	36.1	45.42	45.42	25.8	21.86	14.52
2013-14	22.61	23.53	33.7	32.99	38.96	61.51	61.51	27.5	22.45	5.79
2014-15	21.12	30.84	33.7	21.45	37.56	40.18	40.18	26.57	14.47	13.66
2015-16	19.06	29.5	32.2	20.51	34.15	50.35	50.35	25.03	16.91	10.12
2016-17	16.24	30.48	30.5	17.11	30.49	31.5	31.5	17.74	12.31	13.31

Source: Annual Reports of IT Companies

L&T and Rolta reported highest ROE of about 62 per cent whereas Mphasis reported the lowest ROE range from 5 % to 15 %. Almost all companies considered for the study reported greater fluctuation in ROE except TCS and Infosys as depicted in Figure 5.

4.2 Testing of Hypothesis

In this section of the study hypothesis are tested using correlation matrix and panel regression model.

4.2.1 Correlation Matrix

Correlation Matrix is a table which reflects the relation between different sets of variables. It helps us to find out which pair of variables has the highest correlation.

μ_{01}: There is no significant association between dividend policy and profitability of the firms.

Table 2: Correlations Matrix

		DPR	EPS	PER	ROA	ROE
DPR	Pearson Correlation	1	-.127	.282*	-.043	-.018
	Sig. (2-tailed)		.379	.047	.766	.901
	N	50	50	50	50	50
EPS	Pearson Correlation	-.127	1	.066	.622**	.456**
	Sig. (2-tailed)	.379		.649	.000	.001
	N	50	50	50	50	50

PER	Pearson Correlation	.282*	.066	1	.021	-.066
	Sig. (2-tailed)	.047	.649		.886	.650
	N	50	50	50	50	50
ROA	Pearson Correlation	-.043	.622**	.021	1	.915**
	Sig. (2-tailed)	.766	.000	.886		.000
	N	50	50	50	50	50
ROE	Pearson Correlation	-.018	.456**	-.066	.915**	1
	Sig. (2-tailed)	.901	.001	.650	.000	
	N	50	50	50	50	50

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

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

From the output, it could be observed that the correlation coefficient between PER - DPR is 0.282 which is very low positive and significant at 0.05. Similarly the correlation coefficient between ROA - EPS is 0.485 and ROE - EPS is 0.456 which is low positive and significant at 0.01. However, correlation coefficient between ROE- ROA is 0.915 which very high positive at 0.01and is significant as shown in Table 2.

4.2.2 Panel Regression Model

Regression Model is a statistical tool used to establish association among variables. It facilitates in establishing fact that how the particular value of dependent variable will changes with any change in one of the independent variables; while keeping other independent variables fixed. Panel Regression Model helps in conducting multi dimensional analysis over a period of time.

In order to go for panel regression, first we will try to know that which method is best for our model. Two methods are available

- Fixed effect model: It is assumed that attributes of certain variables does not vary across time and may or may not be correlated with the individual dependent variables. Therefore it is tested to ascertain that whether fixed effects or random effects would be required to develop the model. It can be checked using Haussman test.
- Random effect model: In this model parameters are random variables and have similarity with hierarchy liner model. It is used to analyse panel data when we assume no fixed effects.

5. RESULT AND DISCUSSIONS: Model I: (*ROA c DPR PER EPS*)

μ_{02}: There is no significant impact of DPR, PER and EPS on ROA across the panel.

First we estimate the model with random effect and then estimate the Hausman test to conclude about the method to be used for hypothesis testing. If the prob. Value of Hausman Test is less than 0.05; the null hypothesis will be rejected. This would indicate that using Fixed Effect Model for the study would be appropriate. If null hypothesis is accepted it would be appropriate to use Random Effect Model.

Table 3: Correlated Random Effects - Hausman Test

Test cross-section random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	5.985074	3	0.1123
Cross-section random effects test comparisons:			
Variable	**Fixed**	**Random**	**Var (Diff)**	**Prob.**
DPR	2.326758	2.280160	0.385410	0.9402
PER	0.224224	0.177819	0.009282	0.6301
EPS	0.083836	0.096895	0.000330	0.4721
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	11.54742	3.526041	3.274896	0.0023
DPR	2.326758	2.710201	0.858519	0.3961
PER	0.224224	0.169266	1.324687	0.1934
EPS	0.083836	0.034323	2.442600	0.0195
Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.835471	Mean dependent var	19.46500
Adjusted R-squared	0.782111	S.D. dependent var	7.317103
S.E. of regression	3.415522	Akaike info criterion	5.513432
Sum squared resid	431.6342	Schwarz criterion	6.010558
Log likelihood	-124.8358	Hannan-Quinn criter.	5.702741
F-statistic	15.65708	Durbin-Watson stat	2.314255
Prob(F-statistic)	0.000000		

As the prob. value (0.1123) is greater than 0.05; the null hypothesis is accepted. Thus, it could be concluded that fixed effect regression model is not appropriate as depicted in Table 3. It would be appropriate to use random effect model.

Table 4: Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.42773	3.203235	3.567559	0.0009
DPR	2.280160	2.638140	0.864306	0.3919
PER	0.177819	0.139171	1.277706	0.2078
EPS	0.096895	0.029124	3.327027	0.0017
Effects Specification				
			S.D.	Rho
Cross-section random			4.752799	0.6594
Idiosyncratic random			3.415522	0.3406
Weighted Statistics				
R-squared	0.185843	Mean dependent var	5.955699	

Adjusted R-squared	0.132745	S.D. dependent var	3.784746
S.E. of regression	3.524602	Sum squared resid	571.4495
F-statistic	3.500045	Durbin-Watson stat	1.631277
Prob(F-statistic)	0.022724		
Unweighted Statistics			
R-squared	0.286681	Mean dependent var	19.46500
Sum squared resid	1871.363	Durbin-Watson stat	0.563799

Apart from that the other necessary and sufficient conditions are also approving the model and its results. The probability value of the model is also less than 0.05 (0.0000) suggesting that inference drawn from the model is correct and results justified. This also suggests that there is no possibility of type I and type II errors. The R square is 0.83 suggesting that variation in the dependent variable is explained by the independent variable with a percentage value of 83% and the rest of 17% may be due to the presence of other factors having erratic behaviour and movements. The Durbin-Watson statistics deals with the problem of auto correlation and stationarity alike. Because the D-W statistic value is between 2 and 3 (considered acceptable under the lenient approach) there is no problem of auto correlation and non-stationarity in the model as reflected in Table 4.

6. RESULT AND DISCUSSIONS: Model II (*ROE c DPR PER EPS*)

μ_{03}: There is no significant impact of PER, PER and EPS on ROA on ROA across the panel.

Table 5: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.431285	3	0.4878
Cross-section random effects test comparisons:			
Variable	Fixed	Random	Var(Diff)	Prob.
DPR	1.816530	2.160839	0.991177	0.7295
PER	0.086439	0.067219	0.025886	0.9049
EPS	0.077991	0.097706	0.000916	0.5147
Cross-section random effects test equation:			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.66451	6.549772	3.460350	0.0014
DPR	1.816530	5.034315	0.360830	0.7203
PER	0.086439	0.314418	0.274916	0.7849
EPS	0.077991	0.063756	1.223274	0.2290
Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.800729	Mean dependent var	28.45560
Adjusted R-squared	0.736101	S.D. dependent var	12.35028
S.E. of regression	6.344479	Akaike info criterion	6.751942
Sum squared resid	1489.339	Schwarz criterion	7.249068
Log likelihood	-155.7985	Hannan-Quinn criter.	6.941250
F-statistic	12.38973	Durbin-Watson stat	2.436635
Prob(F-statistic)	0.000000		

The prob. value of Hausman test (0.4878) is greater than 0.05. Thus, the null hypothesis is accepted. This means that the result is significant. Thus it could be concluded that fixed effect regression model is not appropriate as depicted in Table 5. It would be appropriate to use random effect model.

Table 6: Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21.72917	6.443994	3.372004	0.0015
DPR	2.160839	4.934891	0.437870	0.6635
PER	0.067219	0.270135	0.248835	0.8046
EPS	0.097706	0.056116	1.741131	0.0883
Effects Specification				
			S.D.	Rho
Cross-section random			10.49858	0.7325
Idiosyncratic random			6.344479	0.2675
Weighted Statistics				
R-squared	0.066126	Mean dependent var		7.424037
Adjusted R-squared	0.005221	S.D. dependent var		6.321662
S.E. of regression	6.305137	Sum squared resid		1828.719
F-statistic	1.085729	Durbin-Watson stat		1.914833
Prob(F-statistic)	0.000589			
Unweighted Statistics				
R-squared	0.145318	Mean dependent var		28.45560
Sum squared resid	6387.843	Durbin-Watson stat		0.615159

The necessary and sufficient conditions are also endorsing use of Random Effect Model and its result. The probability value of the Model is also less than 0.05 (0.0000) suggesting that the inferences drawn from the model is correct and result is justified. It is also an indication that there are chances of Type I and Type II errors. The R square is 0.80 suggesting that the variation in the dependent variable is explained by the independent variable with a percentage value of 80 % and the rest of 20% may be due to the presence of other factors having erratic behaviour and movements. The Durbin –Watson statistics deals with the problem of auto correlation and stationarity alike. As D.W. statistics value is between 2 and 3 (which is considered acceptable under the lenient approach) there is no problem of auto correction and non stationarity in the model as depicted in Table 6.

7. CONCLUSION

Different dividend ratios considered for the study reveals that sample companies do not have any consistent pattern of dividend payment and trend is skewed in nature. It has also been observed from the correlation matrix that a very low positive association exists between Price Earnings Ratio and Divided Payout Ratio at 5% level of significance. Similarly, it was also observed that association between ROA–EPS, ROE - EPS was low positive and significant at 1%. However, there is strong association positive between ROE- ROA at 1% level of significance.

In this study two regression models were also used (i) *Model I: ROA c DPR PER EPS* and (ii) *Model II: ROE c DPR PER EPS*. These Models were tested using on Hausman's test. The results of both the Models were significant thereby indicating that random effect regression model is appropriate. It could be concluded that performance of firm has a significant impact on the dividend policy of companies belonging to Information Technology Sectors.

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