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The Impact of Dividend Policy on Shareholders' Wealth: Evidence from IT Sector in India

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Abstract

Dividend policy (DP) of corporate sector is widely researched topic in finance however; it remains a debatable issue to decide what factors determine the DP. The objective of this paper is to analyze the impact of dividend policy (DP) on shareholders' wealth (SW) of Information Technology (IT) sector in India. Out of 84 firms listed in National Stock Exchange (NSE), 32 firms were considered for analysis, (19 dividend paying firms and 13 dividend non- paying firms). Various factors affecting DP such as market value (MV),lagged market value (MVt-1), price earnings ratio (PER), lagged price earning (PERt-1) dividend per share (DPS), book value (BV) earnings per share (EPS) and retained earnings (RE) are used for analysis. Stepwise regressions to estimate the impact of RE, PER, PERt-1, DPS, and MVt-1 on MV (DP) reveals that the DP (MV) of overall IT sector is strongly influenced by RE, PER, PERt-1, EPS, MVt-1, DPS which fact shows that the DP of IT sector is significantly influenced by the selected financial variables during the period of the study. More specifically, the overall regression result proves that the DP (MV) is significantly and positively influenced by the DPS and RE.

Keywords: Dividend Per Share (DPS), Dividend Policy (DP), Market Price Per Share (MPS), Price Earnings Ratio (PER), Shareholders' Wealth

Introduction

Dividend policy (DP) is considered to be one of the three major decisions of financial management. The decision of the firm regarding how much earnings could be paid out as dividend and how much could be retained by the firm is the concern of DP. The DP determines what proportion of earnings is paid to shareholders by way of dividends and what proportion is ploughed back in the firm for reinvestment purposes. The development of such a policy will be greatly influenced by investment opportunities available to the firm and the value of dividends as against capital gains to the shareholders. Each firm should develop such a DP, which divides the net earnings into dividends and retained earnings in an optimum way to achieve the objective of maximizing the shareholders' wealth (SW). The shareholders' wealth is represented in the market price (MP) of the firm's common stock, which in turn, is the function of the firm's investment, financing and dividend decision.

For studying the impact of DP on (SW), IT sector is selected because the IT sector in India is one of the fastest growing sectors and has built up valuable brand equity for itself in the global market. It plays a vital role in strengthening the economic and technological foundation in India, which comprises Software industry and IT enabled services (ITES)**,** which also includes business process outsourcing (BPO) industry. India is considered as a pioneer in software development and a favourite destination for IT-enabled services. The industry was begun by Bombay-based conglomerates which entered into the business by supplying programmes to global IT firms located overseas. When Indian economy was state-controlled and the state remained hostile to the software industry through the 1970s. Government policy towards IT sector was changed when Mr. Rajiv Gandhi became Prime Minister in 1984. His New Computer Policy (NCP-1984) consisted of a package of reduced import tariffs on hardware and software, recognition of software exports

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Table 1: Average 5-Year Annual Dividend Growth Rate

Stocks in Every S&P 500 Sector Support Current Yields of 2% or Higher					
	S&P 500 Index		*Stocks within S&P 500 Index Yielding 2% or More*		
Sector	*Number of Stocks*	*Sector Weight in Index (in %)*	*Number of Stocks*	*Percent of Sector Market Cap (in %)*	*Average 5-Year Annual Dividend Growth Rate (in %)*
Consumer Discretionary	82	11.50	34	45.00	8.00
Consumer Staples	42	10.90	28	83.00	9.00.
Energy	43	11.10	11	62.00	8.00
Financials	81	15.80	47	50.00	1.00
Healthcare	53	12.30	14	57.00	8.00
Industrials	60	10.30	30	74.00	8.00
Materials	30	3.50	14	55.00	4.00
Information Technology	70	18.20	28	52.00	12.00
Telecommunications	08	3.00	5	90.00	3.00
Utilities	31	3.40	29	97.00	3.00
Total	500	100.00	240	61.00	6.00

Source: Thomson Reuters Baseline, as of 2/28/2013.

as a "deli censed industry", permission for foreign firms to set up wholly-owned, export-dedicated units and a project to set up a chain of software parks that would offer infrastructure at below-market costs. These policies laid the foundation for the development of a world-class IT industry in India.

The cost of software development and other services in India is very competitive when compared to the West. Indian IT industry has also gained enormously from the availability of a robust infrastructure (telecom, power and roads) in the country. The domestic IT market has grown to the tune of 16.7% to ₹918 billion during 2011-2012. (Source: www.investopedia.com/terms/growthindustry.asp). The contribution of the IT sector to India's gross domestic product (GDP) has been increased from 6.4% in 2008 to 7.5% in 2012.

Reason for Selecting Information Technology (IT) Sector for the Present Research Work

While an above-average dividend may be attractive to income-oriented investors, dividend growth over time can be more beneficial in generating long-term total return. In India, out of 82 higher yielding stocks of consumer discretionary sector, 32 stocks had the average annual dividend growth rate of 8% over the past five years. The consumer staples, healthcare and industrials sectors have been the other sectors among the stronger dividend growers, at 9%, 8% each respectively (Table 1). The emerging star of dividend growth is unquestionably the technology sector, boasting a median compound dividend growth rate of 12% over the past five years proving that the IT sector has been has been the largest as well as consistent dividend paying sector among all. Hence, the study has selected the IT sector as its sample sector for the study (*Source: Thomson Reuters Baseline, as of 2/28/2013).*

Out of 10 sectors mentioned in Table 1, average 5-year annual dividend growth rate for Information Technology sector is high (12%) when compared with the other 9 sectors like Consumer Discretionary, Energy, Healthcare etc. Hence, the Information Technology sector has been selected for the study.

Hence, the present paper is to analyze the financial data of 32 IT firms, which are selected based on multi stage sampling method for the financial years ranging from 2008 to 2012 focusing on estimating the impact of financial variables viz., RE, PER, PER $_{t-1}$, MV $_{t-1}$, DPS, and BVon DP (MV) in the IT Sectorin India.

Review of Literature

Alzomaniaand Al-Khadiri (2013) examined the factors determining dividend policy represented by dividend per share for firms in the Saudi Arabia stock exchanges. They

used regression model and used a panel data covering the period during 2004-2010 for 105 non-financial firms listed in the stock exchange. The results consistently supported that Saudi Arabia non-financial firms rely on current earnings per share and past dividend per share of the firms to set their dividend payments. Okpara (2010) investigated the relationship between asymmetric information and DP in Nigeria. The data were sourced from the published data of the Nigerian Securities and Exchange Commission. To carry out research work, the researcher employed the unit root test, Dickey fuller test, Johansen co-integration and Vector error correction model to ascertain the long run relationship between variables. Granger causality tests suggested that DP has casual impact on information asymmetry without a reverse or feedback effect. The study investigated the long run effect of the dichotomy of information on DP and found that DP is a positive and significant function of information asymmetry.

Mistry (2011) attempted to ascertain the influence of the factors affecting dividend decision of Indian Cement Industry for a period from 2004-05 to 2008-09 based on data of 28 out of 36 listed public firms listed on NSE. The study found that significant increase in the selected factors influence the dividend decision rather than the factors which have resulted marginal or moderate increase. The study also found that the change in total assets (TA) and profitability (P) affects dividend decision positively while change in liquidity, inventory turnover ratio, retained earnings affect dividend decision negatively.

Acharya and Mahapatra (2012) examined the Linter's dividend behaviour model in three major commercial banks of Indian bank namely HDFC, ICICI, and SBI. Data were related to *PAT*, equity dividend paid, covering a period of 11 years i.e. from 1998-99 to 2008-09. The study found that the Linter's model was holding good only in ICICI bank with all specifications.

Asif *et al.* (2011) examined the relationship between DP and financial leverage of 403 firms listed on Karachi stock exchange during the period from 2002 to 2008.Descriptive statistics, correlation matrix and regression were used to analyze the significance and magnitude through fixed and random effect models. Financial leverage was found to have negative impact on DP, indicating less dividend payments by high debt firms. The study revealed that change in earnings has no significant impact on DP in case of Pakistani firms.

Gill and Obradovich (2012) found a relationship between corporate governance, institutional ownership and the decision to pay dividends in American service firms. A sample of 296 American firms listed on NewYork stock exchange for a period of three years was selected. The study applied a co-relational and non-experimental research design and indicated that the decision to pay dividends was a positive function of board size, CEO duality, internalization of the firm, a negative function of institutional ownership.

Bawaand Prabhjot (2012) examined the DP of small and medium enterprises in Indian manufacturing sector. Sample consists of 106 dividend paying listed firms of MSMEs for 5 years from 2006 to 2010. Data have been collected from Acc-equity base. Regression models such as Linter's, Britain, Darling and Dobrovolskys model have been used to test their validity in Indian conditions. Linter's model and Dobrovolskys model have best fit in the Indian manufacturing MSMEs as per cross-sectional regression results while Linter's model, Darling and Dobrovolskys model hold good for Indian manufacturing MSMEs.

Abbas and Zahra (2012) investigated the impact of financial leverage, operating cash flow and size of firm on the DP (Case study of Iran). A sample of 74 firms has been selected and investigated. F-limer test, Hasman test and random effects model were used for analysis and the study found a negative relationship between financial leverage and DP; positive relationship between operating cash flow, size of the firm and DP.

Afza and Mizra (2011) investigated the impact of institutional ownership and growth opportunities on DP based on a sample of 120 listed firms on Karachi stock exchange for a period of five years from 2002 to 2007. The estimated results using OLS, and Tobit regression models suggested that DP is positively affected by growth opportunities, proportion of shares held by insurance firms and profitability; negatively affected by leverage. Large firms are less likely to pay high dividends but the relationship of size with DP is insignificant.

Shahteimoari Collins *et al.* (2013) investigated the impact of investment opportunity set and corporate financing in the industrial products sector. The sample consists of 62 firms, which were listed on the main board of Malaysia. Tools like Tobin's Q were used to measure investment opportunity set, financial leverage and debt maturity. The

study suggested that investment opportunity and debt maturity are the factors significantly influence the DP. Profitability and risk play significant role in determining DP in the industrial products sector of Malaysia.

Azhagaiah and Priya (2008) investigated the impact of dividend policy on shareholders' wealth. Sample of 28 firms in chemical industry has been chosen from114 listed firms in BSE for a period of 1997-2006. Tools like multiple regression and stepwise regression were used. The study suggested there is a significant impact of DP on SW.

Miller and Modigliani's (1961) study concluded that under perfect capital markets dividends are not relevant. However, later investigations lighten up the assumption of perfect market and documented the presence of market imperfections, such as information asymmetry, tax consideration and agency cost discovered that DP was indeed relevant to the value of a firm. Sharma, D. (2007) analyzed the applicability of tax theory in the Indian context and offered mixed and inconclusive results about tax theory indicating that the change in the tax structure does not have a substantial effect on dividend behaviour of firms. Tax-adjusted models presume that investors require and secure higher expected returns on shares of dividend-paying firms.

Amiduand Joshua (2006) and Mahira, R. (2012) found a positive relationship between tax and dividend payout ratios.

In case of firms listed on Amman Securities Market the tax imposition on dividend did not have significant impact on the dividend behaviour (Omet, 2004). The dividend paying firms are more profitable, large in size, and growing in nature (Subba, R., and R. Subhrendu, 2005). The corporate tax or tax preference theory doesn't appear to hold true in Indian context. It has been taken as an explanatory variable with the expected negative association with dividend payout (Anil, K. and S. Kapoor, 2008), which is consistent with Subba, R., and R. Subhrendu's (2005) conclusion.

Corporate firms generally do not want to be in a position of raising a dividend only to reduce it later. As such, firms are often conservative in setting payout ratios based on the long-term earnings power of the franchise. Other factors integral to a dividend analysis include firm's balance sheet leverage, merger and acquisition aspirations and, of course, the ability to generate free cash flow over and above that needed for business reinvestment. Smaller and large growth firms, generally, are less likely to pay substantial dividends rather to reinvest capital into the firm for future growth. More mature firms and those firms with high free cash flow are often good enough for healthy dividend payouts. The analytical challenge of high-dividend-paying firms is determined when the ability to grow a dividend has been curtailed. Therefore, firms with strong business models offering competitive dividend yields and an increasing payout rate over time can be among the most compelling equity investments.

Objectives and Hypotheses Development of the Study

The main objective of the study is to empirically analyze the impact of dividend policy on shareholders' wealth. The following are the specific objectives of the paper:

- To study the relationship between dividend payout and shareholders' wealth.
- To analyze the variation in the impact of selected dividend variables RE, PER, PER $_{t-1}$, DPS, MV$_{t-1}$, EPS, CT, CDT on the dividend policy of IT sector in India.

The following hypotheses are developed for the study

H_0^1: " There is no significant difference in average market value relative to book value of equity between dividend payers and dividend non-payers of IT firms" in 2008.

H_0^2: " There is no significant difference in average market value relative to book value of equity between dividend payers and dividend non-payers of IT firms" in 2009.

H_0^3: "There is no significant difference in average market value relative to book value of equity between dividend payers and dividend non- payers of IT firms (overall)".

H_0^4: "There is no significant impact of dividend per share (DPS) on DP of IT sector in India".

H_0^5: "There is no significant impact of retained earnings (RE**)** on DP of IT sector in India".

H_0^6 **"**There is no significant impact of corporate tax (CT) and corporate dividend tax (CDT) on the market value (MV) of firms of *IT* sector in India".

Table 2: List of Measures (ratios) Used in the Study for Analysis

Sl. no.	*Variable/ Measure*	*Formula*	*Inference*
1	Price earnings ratio (**PER**)	Market value per share / Earnings per share	High price earnings ratio indicates that investors are anticipating high growth in future.
2	Dividend per share (**DPR**)	Total dividend / No. of equity shares listed	The dividend per share provides an idea as to how well earnings support the dividend payment. More mature firms tend to have a high dividend per share.
3	Earnings per share (**EPS**)	Net income / Number of equity shares	It represents the capacity of firm to pay dividends. Firm is willing to pay high amount of dividend if it increases profitability.
4	Market Price per share (**MPS**)	Market capitalization /No. of out-standing equity shares	High market value reflects that the firms are in very good position and lower value reflects otherwise.
5	Corporate tax (***CT***)	% of tax on the earnings before tax	Higher the earnings before tax higher will be the corporate tax
6.	Corporate dividend tax ***(*CDT*)***	% of tax on dividends distributed to shareholders	Higher the dividend or proportion of dividend high-er will be the corporate dividend tax
7	Retained earnings per share (**RE**)	Retained earnings/Earnings per equity share	A firm with growth in its retained earnings can use the additional money to expand its business. This can potentially lead to high profits and increase the firm's value.

Source:www.ukessays.com/essays/finance/current-assets-current-liability.php

Research Methodology

Period of the Study and Data Source

The period of the study is five years i.e. from 2008 to 2012. The period of the study is considered based on the full-fledged data availability in the data source (Annual Financial Reports moneycontrol.com). Originally, it was planned to consider the period of study from 2003 to 2012, however, it was noticed that the full-fledged data were available for more number of units only from 2008 onwards, hence the period of the study has been restricted to five years from 2008-2012.

Research Methods

To achieve the aforementioned research objectives, data for the study were collected from the annual financial reports of the IT firms concerned. The annual data so collected from the selected IT firms during 2008-2012 are analyzed using key financial ratios (Table 2) to study the impact of dividend policy on shareholders' wealth.

In addition, independent sample t-test is used to test the difference between the book value and market value of equity between dividend payers and dividend non-payers and step-wise regression is also used to study the determinants of value of the firm.

General Form of the Regression Model

$$MPS = \beta 1\ (DPS) + \beta 2\ (RE) + \beta 3(PER_{t-1}) + \beta 4(MV_{t-1})\ e$$
$$MPS = \beta 1\ (DPS) + \beta 2\ (RE) + \beta 3\ (MV_{t-1}) + e$$
$$MPS = \beta 1\ (RE) + \beta 2\ (MV_{t-1}) + e$$
$$MPS = \beta 1\ (RE) + e \quad (1)$$

Market price per share (MPS), Dividend per share (DPS), Retained Earnings (RE), Price earnings ratio (PER), Lagged Price Earnings Ratio (PER_{t-1}), Lagged Market Value (MV_{t-1})

Sources of Data

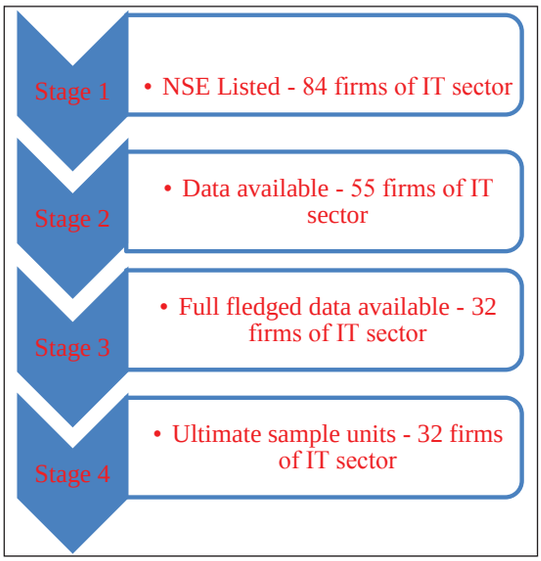
The study used secondary data which were collected from the money control data source and websites of various IT firms concerned. The period covered by the study extends to 5 years ranging from 2008 to 2012.

Sample Selection and Technique

The study used multistage non-random sampling technique to select sample units for the study. Out of 84 listed firms of IT sector on NSE, 55 firms were selected based on the availability of data for the study period in

the data source. However, in the data source full-fledged data were available for only 32 firms, hence the ultimate sample units comprise 32 firms of IT industry in India, which is shown in Fig.1.

Figure 1: Multi-stage Non-random Sampling Technique



Source: Compiled data from Annual Financial Reports moneycontrol.com

Analysis and Discussion

Comparison of Shareholders' Wealth between Dividend Payers and Dividend Non-Payers among the Firms of IT Sector

Before going through evaluating the relationship between dividend policy (DP) and (SW) of selected (IT) firms in India, it is better to compare the average wealth of investors between dividend paying and dividend non-paying firms under IT sector. The comparison of mean shareholders' wealth of firms of all types pooled under dividend paying and dividend non-paying firms are also carried out. The mean values of two groups are compared with t-test.

It is evident from Table 3 that the Levene's test for the market value and book value of dividend payers and dividend non-payers shows probability greater than 0.05 (that is 0.451, 0.987), therefore the homogeneity variances are relatively equal. The average mean value of market value of equity >300 for all the years under study, the value of which ranges from 600.45 in 2008 to 478.63 in 2012 and 532.98 in 2011, and in 2010, and 2009 it shows 455.32, 335.67 for dividend paying firms of IT sector.

On the other hand, the mean market value to book value of equity for dividend non-payers among IT firms >100 for all the years under study, from 2008 it shows 255.17 to 193.91 in 2012. For the remaining years, it has been as 206.91, 174.01, and 124.57. For all the years pooled together, the average shareholders' wealth shows as 480.61 for dividend paying and 190.91 for dividend non-paying firms of IT sector. The mean book value of equity < 1 for all the years under study and the value of which ranges from 0.075 in 2008 to 0.080 in 2012 for dividend paying firms. On the other hand, the mean book value of equity for dividend non-payers under IT sector is < 1 for all the years under study, recording an average of 0.076 for the study period. Further, from the comparison of average market value to book value of shares between dividend paying and dividend non-paying firms of IT

Table 3a: Year-wise Comparison of Market Value of Equity between Dividend Payers and Dividend Non-Payers Among the Firms of IT Sector in India

	MARKET VALUE (*MV*								
Year	*Dividend payers*		*Dividend non-payers*		*L test – F*	*L test - Sig.*	*t*	*Df*	*sig. (2-tailed)*
	Mean	*SD*	*Mean*	*SD*					
2008	600.45	596.99	255.17	483.84	0.763	0.389	1.73*	30	0.094
2009	335.67	376.36	124.57	250.12	1.630	0.212	1.768*	30	0.087
2010	455.32	514.58	174.01	474.48	0.533	0.471	1.566	30	0.128
2011	532.98	654.52	206.91	590.50	0.222	0.641	1.439	30	0.161
2012	478.63	621.30	193.91	574.85	0.258	0.615	1.311	30	0.200
All years	480.61	526.46	190.91	470.60	0.584	0.451	1.594*	30	0.012

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

SD- Standard deviation, <0.01- significant at 1% level; >0.01 and ≤ 0.05 – significant at 5% level; >0.05-significant at 10% level.

Table 3b: Year-wise Comparison of Book value of equity between Dividend Payers and Dividend Non-Payers among the firms IT sector in India

Year	BOOK VALUE								
	Dividend payers		Dividend Non-payers		L test - F	L test - Sig.	t	df	sig. (2-tailed)
	Mean	SD	Mean	SD					
2008	0.075	0.035	0.076	0.328	0.180	0.674	-0.073	30	0.942
2009	0.075	0.035	0.076	0.033	0.180	0.674	-0.073	30	0.942
2010	0.076	0.035	0.076	0.033	0.254	0.618	-0.030	30	0.977
2011	0.080	0.033	0.076	0.033	0.036	0.851	0.327	30	0.746
2012	0.080	0.032	0.076	0.033	0.068	0.796	0.284	30	0.778
All years	0.077	0.033	0.076	0.033	0.000	0.987	0.085*	30	0.043

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

SD- Standard deviation, <0.01- significant at 1% level; >0.01 and ≤ 0.05 – significant at 5% level; >0.05 – significant at 10% level.

sector using t-test it is inferred that the difference between mean values are statistically significant in 2008 and 2009 (t=1.73 in 2008 p= 0.09), (t=1.76 in 2009;p =0.08). H_0^1: " There is no significant difference in average market value relative to book value of equity between dividend payers and dividend non- payers of IT sector" in 2008 is rejected. From the results, it is inferred that the wealth of the investors of dividend paying firms is significantly higher than that of the dividend non-paying firms of IT sector in India. H_0^2: "There is no significant difference in average market value relative to book value of equity between dividend payers and dividend non-payers of IT sector" in 2009. The H_0^2 is rejected. From the results, it is inferred that the wealth of the investors of dividend payers is significantly higher than that of the dividend non-payers of IT sector in India. On the whole, an average wealth creation, book value, which is 480.61 and 190.91 for dividend payers and dividend non- payers respectively, differ significantly at 1% level. (t = 1.594; p<0.01). H_0^3: There is no significant difference in average market value relative to book value of equity between dividend payers and dividend non-payers of IT sector for overall study period. The H_0^3 is rejected as the market value has been well above the book value of share in case of dividend paying firms and the market value relative to book value is significantly higher than that of the dividend non-paying firms under IT sector. Hence H_1^3 "there is a significant mean difference in average market value relative to book value between dividend payers and non- payers of IT sector" is rejected .

Tables 3a (i) and 3a (ii) and Fig. 2 show market value of stem and leaf plots for dividend paying firms and dividend non-paying firms which reveal that the normality assumption is not violated.

Table 3a (i): Market Value Stem and Leaf Plot for Firm – Dividend Payers

Frequency	Stem and Leaf
2.00	0 . 39
4.00	1 . 3789
3.00	2 . 125
3.00	3 . 246
.00	4 . 456
.00	5 .
1.00	6 .
3.00	7 . 8
Extremes	(>=892)
Stem width	100.00
Each leaf	1 case (s)

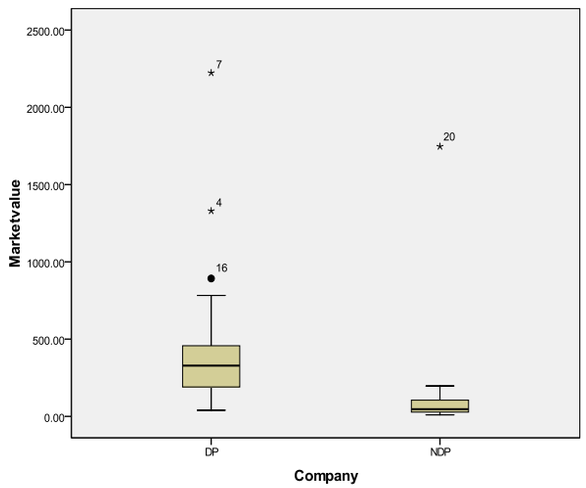
Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Table 3a (ii): Market value Stem-and-Leaf Plot for Firm – Dividend Non- Payers

Frequency	Stem and Leaf
8.00	0 . 01222344
1.00	0 . 6
2.00	1 . 03
1.00	1 . 9
1.00	Extremes (>=1747)
Stem width	100.00
Each leaf	1 case (s)

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Figure 2: Chart: Stem and Leaf Plot for Firms – Dividend Payers



Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Tables 3b (i) and 3b (ii) and Fig. 3 show book value of stem and leaf plots for dividend paying firms and dividend non-paying firms, which reveals that the normality assumption is not violated.

Table 3b (i): Book Value Stem –and-Leaf Plot for Firm = Dividend Payers

Frequency	*Stem and Leaf*
3. 00	0 . 222
4. 00	0 . 5555
12. 00	1 . 0000
Stem width	0 . 10
Each leaf	1 case (s)

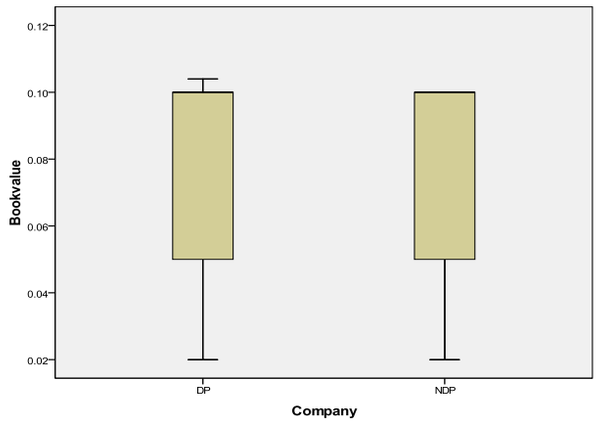
Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Table 3b (ii): Book value Stem –and-Leaf Plot for Firm = Dividend Non-Payers

Frequency	*Stem and leaf*
2.00	0 . 22
3.00	0 . 555
8.00	1 . 0000
Stem width	0.10
Each leaf	1 case (s)

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Figure3: Chart: Stem and leaf plot for firms – Dividend Payers



Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Impact of Dividend Policy on Shareholders' Wealth of Dividend Paying Firms of it Sector

Regression Analysis

The impact of DP on SW of IT sector with adoption of DP has been analyzed using multiple regression analysis. The dividend per share (DPS) has been used as proxy for measuring the DP of the firms and market value (MV) of equity of the firms is considered as proxy for measuring the SW and used as responding variable. Apart from DPS, retained earnings (RE), lagged price-earnings ratio (PE_{t-1}) and lagged market value of equity (MV_{t-1}) are also used as predictor variables in order to study whether DP of IT firms is dominated by these factors in influencing the maximization of SW. The results of the regression analysis are presented in Table 4.

The results of four regression models with stepwise process reveal that model 1 is not fitted significantly. On the other hand, the coefficient of DPS in model 2 is significant. Also, the co-efficient of DPS, in model 2 (β=0.03, t= 0.012,p< 0.05) which is fitted statistically significant. The predictor variable in model 2 with DPS could explain to the extent of 40 per cent of the variance in the market value of the IT firms.

The H_0[4] "there is no significant impact of dividend per share (DPS) on the market value (MV)"is rejected" at 1% level. The value of F statistics is 4.76 with R^2 *0.51***.** Further, the co-efficient of retained earnings (RE), 0.05 in

Table 4: Results of Regression Showing the Impact of Dividend Policy on Market Value of Equity of *IT* Firms in India

Responding Variable: Market Price of Share (MV)				
Variables	*Regression Model*			
	1	*2*	*3*	*4*
MV	290.70 (1.04)	303.29 (2.10)*	304.29 (2.18)**	256.39 (2.40)**
DPS	0.039 (0.12)	0.03 (0. 12)**		
RE	0.051 (1.35)	0.05 (1.42)	0.05 (3.89)***	0.05 (3.95)***
LAGPER	1.03 (0.05)			
LAGMV	-0.09 (-0.47)	-0.09 (-0.50)	-0.10 (-0.55)	
R^2	0.51	0.51	0.50	0.49
Adjusted R^2	0.35	0.40	0.44	0.46
F value	3.31**	4.76**	7.63***	15.63***

Figures in parenthesis show t-values

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

model 3 (t = 3.89, p< 0.01) and 0.05 in model 4 (t=3.95, p< 0.01) is also significant at 1% level.

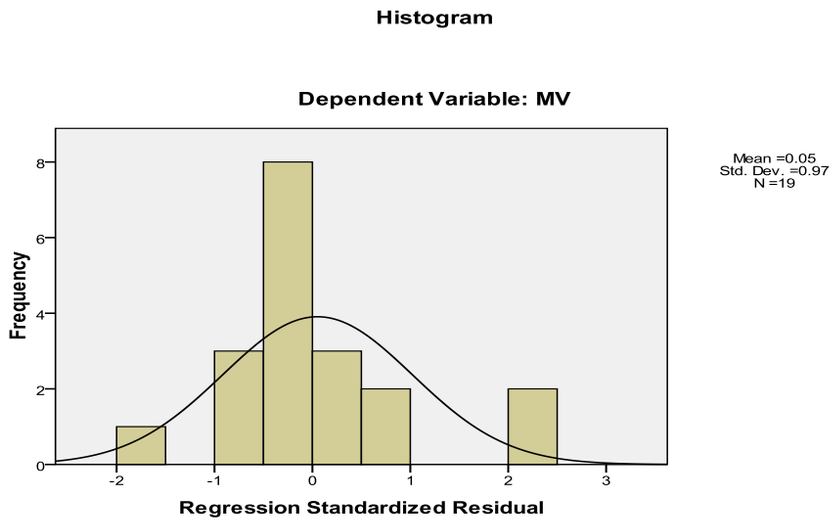
The refore, H_0^5 "there is no significant impact of dividend per share (RE) on the market value (MV)" is rejected at 1% level. The value of *F* statistics is 7.63 in model 3 and 15.63 in model 4 with R^2 0.50. Hence, it is inferred from the results that the shareholders' wealth is dependent on the DP and thereby depending upon the retained earnings of IT firms in India.

Table 4a and Fig. 4 show the residual statistics with predicted value, residual, standard predicted values and standard residual values. The figure shows the histogram of responding variable (market value).

Corporate Dividend Tax (CDT)

Corporate dividend taxes are more efficient instrument for raising tax revenue than corporate taxes (Chetty andSaez, 2010). The influence of the change in tax regime on the dividend behaviour suggested that the trade-off or the tax preference theory did appear to hold true in the Indian

Figure 4: Chart: Histogram of Regression Standardized Residual



Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

Table 4b: Results of Correlation Analysis for Selected Variables of IT Firms in India from 2008-2012 (₹ in crore)

Variables	*CT*	*CDT*	*MV*	
CT	Pearson Correlation	1	0.902***	0.799***
	Sig. (2-tailed)		0.000	0.000
CDT				
	Pearson Correlation		0.633***	
	Sig. (2-tailed)		0.004	

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

*** Significant at 1% level.

MV=Market value of firm; CT= Corporate tax; CDT= Corporate dividend tax

Table 4c: Results of Regression Analysis for Selected Variables of IT Firms in India during 2008-2012 (₹ in crore)

Variables	*Un-standardized Coefficients*		*Standardized Coefficients*		
	B	*Std. Error*	*β*	*t*	*Sig.*
MV	289.62***	81.04		3.574	0.003
CT	1.403***	0.37	1.218	3.721	0.002
CDT	-1.838	1.294	-0.465	-1.420	0.175
				R	0.82
				R^2	0.68
				F	16.923(0.000)***

Source: Computed results based on compiled data from Annual Financial Reports moneycontrol.com

*** Significant at 1% level; Figure in parenthesis shows p value

MV=Market value of firm; CT= Corporate tax; CDT= Corporate dividend tax

context in the case of both the total firms as well as the regular dividend paying firms (Singhania, M. (2006).

Table 4b shows the results of Pearson's co-efficient of correlation used to study the relationship between predictor variables and responding variable, and it reveals that the relationship between CT and CDT (0.902, p<0.00); that of between CT and MV (0.799, p< 0.00); that of between CDT and MV (0.633, p< 0.00) respectively is highly significant positively at 1% level.

Table 4c shows the regression result that CT has significant positive co-efficient (1.403) on MV of IT firms in India. Hence, H_0[6] "there is no significant impact of CT on the market value of firms of IT sector in India" is rejected (1.403, p<0.00) at 1% level while CDT has insignificant negative co-efficient with β (-1.838) on MV of firms. The F-statistics (16.923) is significant at 1% level recording with $R^2$0.64.

Conclusion

The present study attempts to seek answer the question: Is there any significant impact of dividend policy on shareholders' wealth? The objective of the study is to shed light on the above apprehension. To test the relationship between the dividend policy and the shareholders' wealth, first the average wealth of investors (shareholders) is compared between the dividend paying and dividend non-paying firms (mean values between two groups are compared by t-test). The firms which paid dividend during the study period (2008-2012) are treated as dividend paying firms, otherwise dividend non–paying firms. And it is found that "there is a significant difference in the average market value to book value of equity between dividend payers and dividend non-payers of IT firms" is rejected.

The responding variable i.e. market price (MP) per share is considered as proxy for measuring the shareholders'

wealth and dividend per share (DPS) is used as proxy for measuring the DP of the firms as a predictor variable. Besides, retained earnings (RE), lagged price earnings ratio (PE_{t-1}) and lagged market value of equity (MV_{t-1}) are also used as predictor variables. The step wise multiple regression method is used to ascertain the best fitted model for predicting the impact of DP on shareholders' wealth.

Generally, higher dividend payout increases the market value of equity share and vice-versa. Particularly, the IT firms are consistent dividend payers. Shareholders preferred current dividend to future income so, dividend is considered to be an important factor which determines the shareholders' wealth. This is normally true in case of salaried individuals, retired persons, and others with limited income. Moreover, dividend has information content and the payment of dividend indicates that the firm has a good earning capacity.

As far as the dividend paying firms are concerned, there is a significant impact of dividend policy on shareholders' wealth of IT firms. However, in respect of dividend non-paying firms, there is no significant increase in the market price of equity shares. On the whole, it is inferred that during the recent past decade, the market value of equity has been well above the book value in case of dividend paying firms and the market value relative to book value is significantly higher than that of the dividend non-paying firms of IT sector.

H_0^4 "there is no significant impact of dividend per share (DPS) on market value (MV)"is rejected at 1% level. The value of F statistics is 4.76 with R^2 0.51 and H_0^5 "there is no significant impact of retained earnings (RE) on market value (MV)" is rejected at 1% level. The value of F statistics is 7.63 in model 3, 15.63 in model 4 with R^2 0.50. Hence, it is inferred from the results that the shareholders' wealth is dependent on the DP and there by depending upon the retained earnings of IT firms in India. On the whole, the results reveal that the dividend payout i.e. market value of share has significant impact on variables like RE and DPS.

When the firms pay dividend regularly with periodic growth, the shareholders' wealth would be maximized. This is quite possible for all dividend paying firms in IT sector. The payment of dividend has significant effect on shareholders' wealth in IT firms. From the analysis it is inferred that retained earnings act as an important factor in determining shareholders' wealth. Since, increase in retained earnings lead to increase in net worth (book value of equity) of the shareholders, and there would be a large volume of shareholders' inflow for which they would be ready to purchase the shares by paying even premiums. The increase in dividend payment, large amount of retained earnings, for dividend paying firms in IT sector significantly increase the shareholders' wealth.

The study shows that retained earnings act as an important factor in determining shareholders' wealth. H_0^4 **"**there is no significant impact of dividend per share (DPS)on the market value (MV)" is rejected at 1% level. H_0^5"there is no significant impact of retained earnings (RE) on market value (MV)" is rejected at 1% level. The results of the analysis reveal that the dividend payout i.e. market value of share has significant impact on variables like RE and DPS.

$$MPS = \beta1\ (DPS) + \beta2\ (RE) + \beta3(PER_{t-1}) + \beta4(MV_{t-1})\ e$$
$$(290.70) = (0.039) + (0.051) + (\ 1.03) + (-0.09)$$
$$MPS = \beta1\ (DPS) + \beta2\ (RE) + \beta3\ (MV_{t-1})\ e$$
$$(303.29)\ *= (0.03)* + (0.05) + (-0.09)$$
$$MPS = \beta1\ (RE) + \beta2\ (MV_{t-1}) + e$$
$$(304.29)**= (0.05)*** + (-0.10)$$
$$MPS = \beta1\ (RE) + e$$
$$(256.39)**=(0.05)\ ***$$

(1)

Market price per share (MPS), Dividend per share (DPS), Retained Earnings (RE), Price earnings ratio (PER), Lagged Price Earnings Ratio (PER_{t-1}), Lagged Market Value (MV_{t-1})

Limitations and Scope for Further Studies

The study is based on secondary data collected from the money control data source, and websites of various IT firms concerned. Therefore, the quality of the study depends upon the accuracy, reliability, and quality of secondary data source.

In the study, a sample of 32 IT firms are considered for analyzing the "the impact of dividend policy on shareholders' wealth". In future, researchers can consider inclusion of more firms to explore possible varying results. In the study, basic financial ratios, independent sample t-test, and stepwise regression are only used for analysis, Therefore, inclusion of some or more appropriate predictor variables may influence the result and hence the

impact of dividend policy on the shareholders' wealth of the IT firms in India may differ.

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