The Relationship Between Dividend Payout Ratio With Revenue, Liabilities And Expenses: An Empirical Study Of KSE Listed Non-Financial Firms

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Abstract— There had been several researches and studies developed for identifying relationships between dividend policy with many other factors. These factors are searched or sometimes tested directly. Authors have continuously been engaged in different findings related to dividend policy of specific firms and specific areas. This research aimed towards finding the impact of total sales, debts and expenses on dividend payout policy of non-financial or manufacturing firms, listed in Karachi stock exchange, using past years financial data from financial statements. This research would be helpful to conclude for investors who mostly expect that those firms who have more earning pay more dividend and same thinking they keep for liabilities and expenses. Multiple Regression analysis was carried out to establish the relationship between dividend payout and all these three variables. Study shows the relation between all these variables with dividend payout and what correlation exists between them. It's also shown that how much impact each of the variable has on dividend policy, what correlation is and what significance level is.

Index Terms— Dividend policy, Dividend payout ratio, Expenses and dividend, Liabilities and dividend, Payout ratio, Sales and dividend, Shareholder wealth.

1 INTRODUCTION

THERE had been lots of researches on dividend policies and dividend payout schemes. Many of them are linked with particular industry or on specific company or a place. Several researches show impact of different aspects or elements on dividend policy and others are defining the determinants of dividend policy.

Dividend policy is a decision of paying to shareholders from income earned by company, no doubt it's important to pay to the shareholders for increasing investors and shareholders. Researchers have shown the effect of taxes, capital expenditure etc. on the amount decided to be paid as dividend, but there has never been a clear research on impacts of revenues, liabilities and expenditure on dividend payout ratio. If such information is available it can easily be evaluated by investors that whether buy shares or not. Our objective is to find that if sales or revenue is increased or decreased what impact would be on dividend payout, if there is more debt what impact would be on dividend, similarly if expenses have increased would this effect the worth of shareholders. For this purpose empirical data of past history of several organizations are used to get valid information and results.

This research paper is aimed at finding out a connection between liabilities, expenses and revenues/net sales on dividend ratio. Objective of research is to find the empirical data.

In this manner we can easily identify that if any relation exists between dependent variable (dividend payout) and independent variables (liabilities, expenses, revenues). And if there is any relation, can that predict the future dividend payout ratio of firm or industry?

2 LITERATURE REVIEW

Detail Dividend for future can be predicted by the dividend of last year and current earnings and suggested that changes in earning is the determinant of dividend policy of firm. [1]. It was proposed in a theory that dividend policy does not affect the wealth of shareholders and there major argument was, as the earning increases the value of firm increases and earning is increased by the investment policy of firm. [2]. Dividend payment has been under concentration from the beginning. Black worked on it thirty years back and researches are being made to know about the actual behavior of dividend. [3]. More debt or liability is harmful for company but it is sometimes used to pay dividends. Those firms which have high debt pay small amount of dividend to safe itself from risk. [4, 5, 6, 7]. Managers want retained earnings and investors or shareholders want dividend as their earnings. [8]. There is a relation among ownership, policy of dividend and the leverage. [6]. There are many curies but still dividend is the complicated topic in corporate finance. [9]. Dividend payment is the activity that is performed by management as per the cash availability and payment is made periodically. [10]

It must also be kept in mind before making payout decision that what amount firms needs for earnings and what would be the effect of their decision on share price. [11]. Further researches with valid data are required to find out the determinants of dividends policy. It may include cost/costs of agency, further information, expense of tax. [12]. Future earnings of firms are high when they pay more dividends and have more dividend payout ratio, and future earning is low when, payout ratio of dividend is low. [13].

The companies while paying dividend in cash, they are lowering down the liquidity dependency of shareholders and investors along with the fact of increasing value of firm.

Dividend decision making has effects on firms' value. [14]. Firms that pay higher dividends and do not think of investments which is required, get lower future earnings. [15]. The casual relationship between sales and dividend amount does not provide any long term period's reliable data, as shown in many empirical studies. Dividends cannot predict future earnings. [15]. Those firms that pay high volume of dividend get more earning in future. [16].

Dividend amount is increased by increase in sales, when profit margin is improved, making investment in capital. [17]. The wealth of stock holders is affected and increased by making more projects, increase in revenue [17]. KSE listed 73 firms' data as sample was used in the study and the relation between share price and dividend policy was tested. Data was from 2003 to 2008. Panel data had fixed and random effect. He reported many arguments, one of them was, leverage has non-significant and negative effect on share price and share price has significant and negative effect on dividend. [18]. It has been studied that there is a negative relation between liability and dividend policy. Any change in earning has no impact on the dividend and dividend payout ratio. [19]. It has been observed by empirical data that earnings and dividend are negatively co-related. The research was on Karachi stock exchange listed companies related to the textile industry. It proved that payment of dividend goes down when earning goes up. It is because of the investment requirement of firm that money is invested and lower amount of dividend is paid. [20]

3 Methodology

Samples were selected randomly using Google search engine. Financial statements of non-financial firms, listed in Karachi Stock Exchange were selected. Data including, liabilities, expenses, sales, total assets, and fixed assets along with the dividend payout ratio were recorded and three independent variables were gathered in the form of three ratios including Asset turnover ratio, dividend payout ratio (dependent variable), operating expense ratio and debt ratio.

Initially values in rupees were gathered but that was causing error due to the difference in nature of organizations and difference in earnings of huge and small organizations. Ratios were gathered from those companies which are listed in Karachi Stock Exchange. 10 companies were randomly selected and the data was for 5 year including year 2007 to year 2011. Average and the final results were calculated by using SPSS Statistical Software. In SPSS it was calculated were using more than one test. The tests that were run on SPSS include:

1. Reliability test was run to verify the validation of data
2. Bivariate and Partial Correlation Analysis test was run along with the controlling variables to check the relationship of each variable with dependent variable.
3. Regression analysis test was run for more than one time, to check that how much a variable can predict the dependent variable. This test was run several times by using each independent variable with dependent variable individually and also a single regression test using all variables in SPSS.

All the data has being gathered from websites of sample companies using soft copies of annual financial statement or annual financial reports which are available on websites. Data was collected and recorded initially on excel sheet.

4 Research Questions And Hypothesis

Question that will be answer by the research paper include:

1. What is the relationship between liabilities and dividend payout ratio?
2. What is the relationship between expenses and dividend payout ratio?
3. What is the relationship between the revenue and dividend payout ratio?
4. What relation exists in all these independent variables (liabilities, expenses, revenue)?
5. What effect is on dividend policy by one unit change in each independent variable separately and together?

Hypothesis of the research include,

H_{O1}: All the variables have no significant correlation.
H_{A1}: All the variables have significant correlation.

H_{O2}: There is no significant co relation between DPR and ATR.
H_{A2}: There is significant co relation between DPR and ATR.

H_{O3}: There is no significant co relation between DPR and OER.
H_{A3}: There is significant co relation between DPR and OER.

H_{O4}: There is no significant co relation between DPR and DR.
H_{A4}: There is significant co relation between DPR and DR.

H_{O5}: Regression variables are not significant.
H_{A5}: Regression variables are significant.

H_{O6}: The association between DPR and ATR is not significant.
H_{A6}: The association between DPR and ATR is significant.

H_{O7}: Association between DPR and OER is not significant.
H_{A7}: Association between DPR and OER is significant.

H_{O8}: The association between DPR and DR is not significant.
H_{A8}: The association between DPR and DR is significant.

5 Data Analysis

5.1 Reliability Test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.562	.563	4

In Reliability test on SPSS, Cronbach's Alpha value is 0.562 which is more than 50% it means data and variables' values are reliable.

5.2 Bivariate Correlations

Bivariate Correlations (a)					
		AvgDPR	AvgATR	AvgOER	AvgDR
AvgDPR	Pearson Correlation	1	-.066	.249	.554
	Sig. (2-tailed)		.857	.488	.097
	Sum of Squares and Cross-products	5802.988	-122.193	232.612	3411.066
	Covariance	644.776	-13.577	25.846	379.007
	N	10	10	10	10
AvgATR	Pearson Correlation	-.066	1	-.095	-.111
	Sig. (2-tailed)	.857		.794	.761
	Sum of Squares and Cross-products	-122.193	593.407	-28.345	-218.095
	Covariance	-13.577	65.934	-3.149	-24.233
	N	10	10	10	10

Bivariate Correlation Descriptive Statistics			
	Mean	Std.Deviation	N
AvgDPR	50.4500	25.39245	10
AvgATR	5.4273	8.11998	10
AvgOER	8.3672	4.08811	10
AvgDR	55.0165	26.94221	10

In Bivariate correlation test the first table shows number of observations of each variable is 10 mean of DPR is 50.45, mean of ATR is 5.42, mean of OER is 8.37 and mean of DR is 55. Bivariate

Correlation shows the correlation of each variable with dependent variable and among the independent variable. The correlation between DPR and ATR is -0.06 negative. They are negatively correlated. The correlation of DPR with OER is 0.249 which shows they are weekly correlated. Correlation of DPR with DR is 0.554 which shows that they are positively and moderately correlated. Correlation between OER with ATR is -0.095 which is negative correlation. Correlation of ATR with DR -0.111, its weak and negative correlated. Correlation of OER with DR is 0.099 with which is a positive but weak correlation. Thus we can see bivariate correlation they all have weak or negative correlation. So dependent variable does not change more even if independent variable changes. There is no impact of DPR, ATR, DR and OER. Additionally independent variables have no impact on each other.

Bivariate Correlations (b)					
AvgOER	Pearson Correlation	.249	-.095	1	.099
	Sig. (2-tailed)	.488	.794		.786
	Sum of Squares and Cross-products	232.612	-28.345	150.414	97.947
	Covariance	25.846	-3.149	16.713	10.883
	N	10	10	10	10
AvgDR	Pearson Correlation	.?	-.111	.099	1
	Sig. (2-tailed)	.097	.761	.786	
	Sum of Squares and Cross-products	3411.066	-218.095	97.947	6532.943
	Covariance	379.007	-24.233	10.883	725.883
	N	10	10	10	10

HO1: All the variables have no significant correlation.
HA1: All the variables have significant correlation.

5.3 Partial Correlation

1. Dividend pay-out and Revenue Correlations				
Control Variables			AvgDPR	AvgATR
AvgO-ER & AvgDR	AvgDPR	Correlation	1.000	.015
		Significance (2-tailed)	.	.972
		df	0	6
	AvgATR	Correlation	.015	1.000
		Significance (2-tailed)	.972	.
		df	6	0

HO2: There is no significant co relation between DPR and ATR.
HA2: There is significant co relation between DPR and ATR.

In first table the correlation between DPR and ATR is shown and there are two controlling (OER and DR) correlation between DPR and ATR is 0.015 it is positive but weak correlation. It means revenue have no impact on DPR or dividend payout ratio.

2. Dividend payout and Expenses Correlations				
Control Variables			AvgDPR	AvgOER
AvgDR & AvgATR	AvgDPR	Correlation	1.000	.235
		Significance (2-tailed)	.	.576
		df	0	6
	AvgOER	Correlation	.235	1.000
		Significance (2-tailed)	.576	.
		df	6	0

HO3: There is no significant co relation between DPR and OER.
HA3: There is significant co relation between DPR and OER.

In the second table controlling variables are DR and ATR correlation between DPR and OER is shown. Their correlation is 0.235 which is weak correlation. It means OER has no impact on dividend payout ratio.

3. Dividend payout and liabilities Correlations				
Control Variables			AvgDPR	AvgDR
AvgATR & AvgOER	AvgDPR	Correlation	1.000	.548
		Significance (2-tailed)	.	.159
		df	0	6
	AvgDR	Correlation	.548	1.000
		Significance (2-tailed)	.159	.
		df	6	0

HO4: There is no significant co relation between DPR and DR.
HA4: There is significant co relation between DPR and DR.

In third table correlation between DPR and DR is shown where controlling variables are ATR and OER. The co-relation between DPR and DR is 0.548. This co relation is a good co relation.It means they are moderately and positively co related. It shows that liabilities have impact on dividend payout ratio.

5.4 Hierarchical Regression Analysis

Hierarchical regression Coefficients (a)								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	51.568	10.396		4.960	.001	27.595	75.540
	AvgATR	-.206	1.103	-.066	-.187	.857	-2.750	2.338
2	(Constant)	38.444	22.441		1.713	.130	-14.621	91.508
	AvgATR	-.133	1.149	-.043	-.116	.911	-2.850	2.583

HO5: Regression variables are not significant.
HA5: Regression variables are significant.

Model 1: DPR = 51.57 - 0.206 (ATR)

Hierarchical regression Coefficients (b)								
	AvgOER	1.521	2.282	.245	.667	.526	-3.874	6.917
3	(Constant)	12.209	26.037		.469	.656	-51.501	75.919
	AvgATR	.038	1.043	.012	.037	.972	-2.515	2.591
	AvgOER	1.225	2.070	.197	.592	.576	-3.839	6.289
	AvgDR	.505	.315	.536	1.606	.159	-.265	1.275

a. Dependent Variable: AvgDPR

Model 2: DPR = 38.444 - 0.133 (ATR) +1.521 (OER)
Model 3: DPR = 12.209 + 0.038 (ATR) + 1.225 (OER) + 0.505 (DR)

In this table, constants with independent variables are given, after calculation. It gives three models separately, for regression coefficients and statistics. These constant values and coefficients can be used to create ordinary least square equation and can help to test hypothesis. These models can be coned in form of OLS equation by using the Beta values and Constant values.
As we can see that p values represented in the sig column are all greater than 0.05, which is out of the significance level, so we can say all the variables have most significant association. We failed to reject our null hypothesis and accepted it.In first model, ATR is negatively associated with DPR and is not significant.In second model ATR is negative and not significant, whereas OER is positive but still not significant.In third model, all the three independent variables are positive but are not significant.

5.4 Individual Regression Analysis

1. Dividend Payout and Asset Turnover Regression								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	51.568	10.396		4.960	.001	27.595	75.540
	AvgATR	-.206	1.103	-.066	-.187	.857	-2.750	2.338

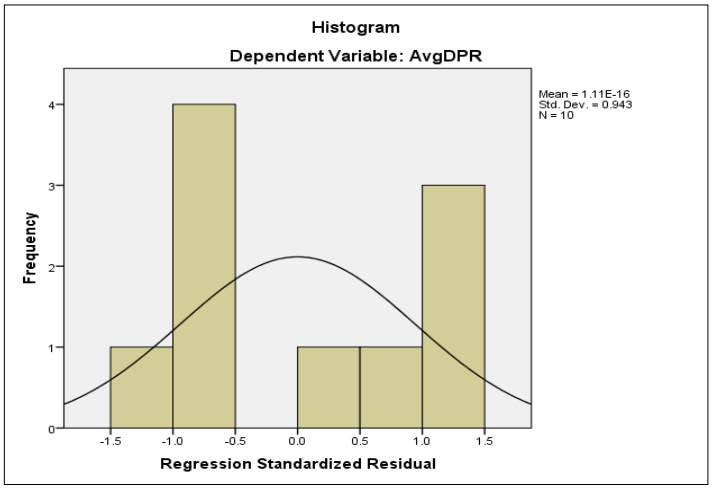
a. Dependent Variable: AvgDPR

HO6: The association between DPR and ATR is not significant.
HA6: The association between DPR and ATR is significant.

- In the above table of regression analysis test DPR as dependent variable and ATR as independent variable were selected. In the above model we can create the regression equation easy read by beta and coefficient values.

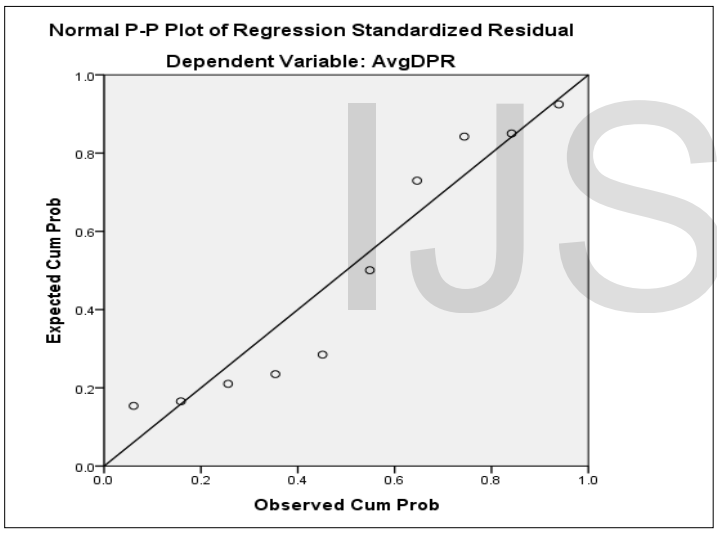
Equation: DPR = 51.568 - 0.206 (ATR)

P-value is greater than 5% so we can say that DPR and ATR are negatively associated and ATR is not significant. We failed to reject our null hypothesis.



1. Dividend Payout and Asset Turnover Regression Histogram (a)

The given histogram which is based on standardized residual shows the mean value and standard deviation value. The mean is approximately 0 and standard deviation is approximately 1; it shows that the fitted model is best and error



1. Dividend Payout and Asset Turnover Regression Plot (b)

chances are lower.

Second graph is normal probability plot of regression standardized residual, shows that the line of regression is touching many points in the model so it shows the accuracy of fitted model.

- In the second table of regression analysis test DPR as dependent variable and OER as independent variable were selected. In the given model we can create the regression equation easily by beta and coefficient values.

  Equation: DPR = 37.510 + 1.546 (OER)

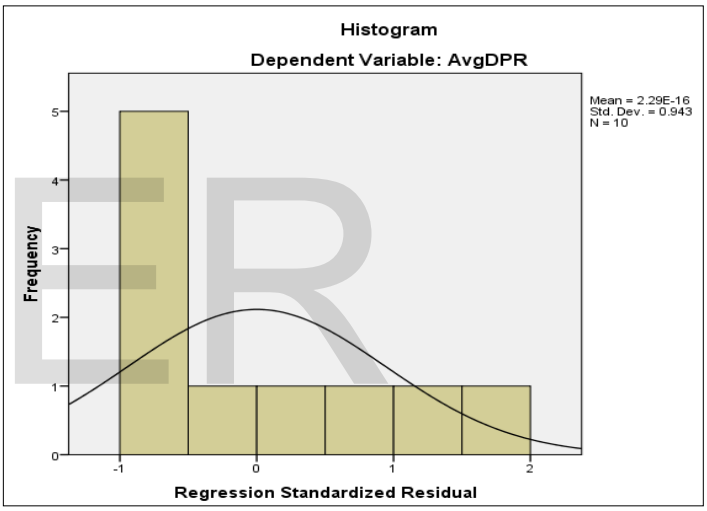
P-value is greater than 5% so we can say that DPR and OER are positively associated and ATR is not significant. We failed to reject our null hypothesis. The given histogram shows the fitted model is best and error chances are lower.

2. Dividend Payout and Debt Ratio Regression

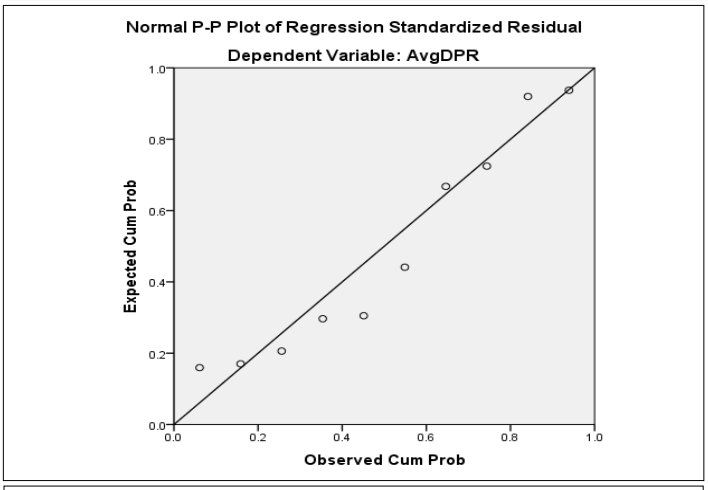
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	21.724	16.829		1.291	.233	-17.083	60.531
	AvgDR	.522	.277	.554	1.882	.097	-.118	1.162

a. Dependent Variable: AvgDPR

HO7: Association between DPR and OER is not significant.
HA7: Association between DPR and OER is significant.



2. Dividend Payout and Debt Ratio Histogram (a)



2. Dividend Payout and Debt Ratio Plot (b)

It is a normal probability plot of regression standardized residual, shows the accuracy of fitted model.

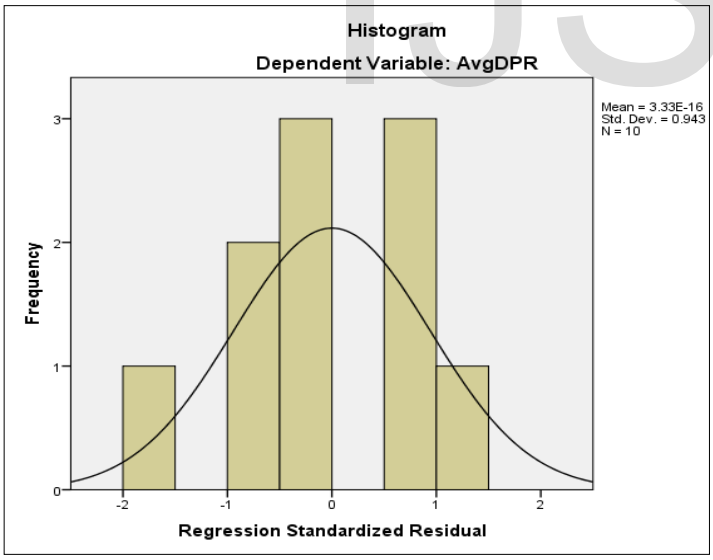
3. Dividend Payout and Operating Expense Regression								
Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	37.510	19.615		1.912	.092	-7.721	82.742
	AvgOER	1.546	2.127	.249	.727	.488	-3.358	6.451
a. Dependent Variable: AvgDPR								

HO8: The association between DPR and DR is not significant.
HA8: The association between DPR and DR is significant.

- In the above table of regression analysis test DPR as dependent variable and DR as independent variable were selected. In the above model we can create the regression equation easy read by beta and coefficient values.

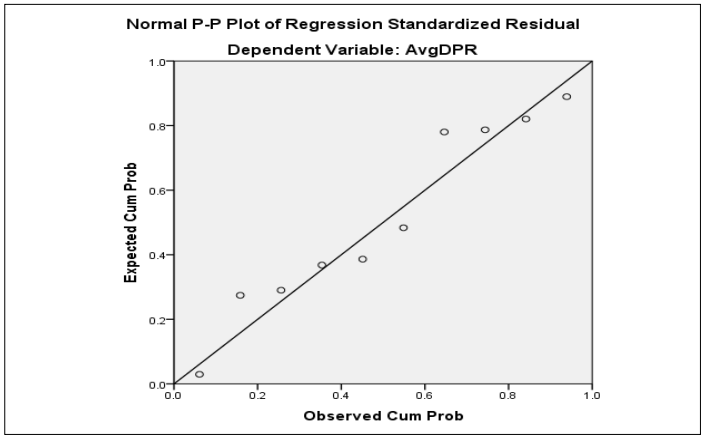
Equation: DPR = 21.724 + 0.522 (DR)

P-value is greater than 5% so we can say that DPR and DR are positively associated and ATR is not significant. We failed to reject our null hypothesis. The given histogram shows that the fitted model is best and error chances are lower.



3. Dividend Payout and Operating Expense Histogram (a)

Normal probability plot shows the accuracy of fitted model.



3. Dividend Payout and Operating Expense Plot (b)

Avg	Average
DPR	Dividend Payout Ratio
DR	Debt Ratio
OER	Operating Expense Ratio
Sig	P-value, significance level
B	Beta value
Std. Dev.	Standard Deviation
Df	Degree of freedom (n-1)
N	Number of observations
N of items	Number of items
ATR	Asset turnover ratio
Ho	Null Hypothesis
H_A	Alternative Hypothesis
KSE	Karachi Stock Exchange

7 CONCLUSION

By the help of empirical data and hypothesis testing we have come across to conclude the relationship among all the variables, for which purpose this research paper was design. Bivariate Correlation test has clearly presented that, if revenue is increasing or decreasing there is no change in dividend payout. So we can conclude that dividend payment is not dependent on revenue or sales of the organization. Additionally they have negative Correlation but, weakest Correlation negative correlation is showing that revenue is increasing dividend will go down and if revenue is decreasing dividend will go up. But because of weak negative Correlation we can say that there is no such high impact of dividend payout. Dividend payout has a positive Correlation with expenses but still it is weak. positive correlation shows that if expenses go up the dividend will also go up and vice versa, but as they are weakly correlated we can conclude that there is no more change in dividend payout even if expenses is go up or down. Similarly the correlation between dividend payout and liabilities have positive moderate correlation which shows that if liabilities or debt increase, there is increase in dividend payout and if debt or liabilities decrease, dividend payout is also decrease.

6 APPENDICES

CODES	DESCRIPTION

In the partial co-relation, it is also shown same type of result as in bivariate test. Furthermore, the regression test has presented amount of impact on dividend by change in unit of each variable. Multiple hierarchical regressions shows that by change in one dollar of revenue, there is no more change in dividend, it is up to 0.038, by increase in one dollar of expense there is 1.225 change in dividend and when one dollar of liability increases there is 0.505 change in dividend. So, finally we can say revenue and expense have no impact on dividend and cannot predict any apparent high change in dividend by checking the expenses or sales of firm. But liabilities can predict somehow the dividend amount. If any organization has more liability then it will pay more dividends. It is because of the fact that it has invested the amount in several projects that can definitely increase the share holders' wealth.

8 Future Research

A future research is needed to take into account, dividend payout, investment amounts, expenses and liabilities to test that if liabilities are high what impact is on investment. In other words a relationship between debt and capital investment along with the dividend ratio is needed to study.

9 Recommendations

Do not rely on sales and expenses of organizations to check either to invest on it or not but shareholders can see the debt or liabilities of the firm and if liability is high they can invest on it. Shareholders must also consider some other factors like future plans of company and their investments on different projects.

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