A COMPARATIVE STUDY ON DIVIDEND POLICY AND ITS INFLUENCE ON STOCK PRICES OF SOME SELECTED INDIAN STEEL AND ALUMINUM COMPANIES

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Abstract: As the companies must balance the interest of different shareholders the dividend policy they select may have different impact on stock prices or sometimes it may not be impacted on stock price. Objectives of the study to examine whether EPS and DPS has any impact on stock prices of two important industries like steel and aluminum. Ten listed sample company from each industry are chosen on the basis of market capitalization. The analysis has been done on the basis of correlation and regression statistic. Finally it was found that steel companies MPS will not change by EPS and DPS , on the other side aluminum companies MPS will change by EPS and DPS.

Keywords: Dividend, Dividend Policy, Market Price, Earnings Per Share

Introduction

Dividend policy is regarded as one of the company's most significant strategic and decisive decision. Companies are in deep dilemma whether they pay high dividend, moderate dividend or low dividend. If any company pays high rate of dividend then it may reduce the reserves and for that company's growth and development can be reduced due to non-availability of fund as reserve has been utilized for dividend distribution. In order to maximize the advantage of capital gains, some investors prefer low rate of dividends because immediately after payment of dividend share price normally fall down more than dividend paid by the company. As companies balance the various stakeholders interest the dividend policy they select may have a positive or negative impact on company's stock prices. Apart from that dividend policy affects a number of things e.g. rate of returns, arbitrage pricing, average rate of returns, capital budgeting decision and many more things. However in this study receptacle on impact of dividend policy on stock price.

History of Steel and Aluminum Industry

In the middle Ganges valley show iron working in India may have begun as early as 1800 BCE. Archaeological sites in

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India, such as Dadupur, Raja NalaKaTila, Malhar, Lahuradewa in the state of Uttar Pradesh shows iron implements in the period 1800 BCE- 1200BCE. Iron smelting was definitely practiced a larger scale in India, suggesting that the technology of steel production took place as early as twelfth century. Various utensils, weapons have been discovered at several archeological sites like spikes, knives, daggers, spoons, saucepans,, chisels, tongs, door fittings etc.

The commencement of the first millennium BCE saw extensive improvements in iron metallurgy in India. The year between 322-185 BCE saw various developments made to the technology applied in steel production during the political stable Maurya period. Greek historian Herodotus wrote that first western account of the use of iron in India. Perhaps as early as 300 BCE- although certainly by 200 CE – high quality of steel was being produced in Sothern India. In this technique, high purity of iron ore, charcoal and gasses were mixed in a crucible and heated until iron melted and absorbed the carbon. The first crucible steel was the wootz steel that originated in India before the beginning of Common Era. Wootz steel was widely exported in ancient Europe, China and became particularly famous in the Middle East where it became known as Damuscus steel. Archaeological evidence suggests that this manufacturing process already exists in south India, before the Christians era.

The world's first iron pillar was the iron pillar of Delhi erected during the time of Chandragupta Vikramaditya 375-413 BCE. Indian Blades produced of Damascus steel found their way into Persia. Indian metallurgy under the Mughal emperor Akbar produced excellent small firearms, handguns which were also stronger and more accurate than others.

The British knew about the historical role metal-working had played in supporting indigenous powers through the production of arms ammunition. India's skill in casting brass cannon had made Indian artillery a daunting rival from the region of Akbar to the Maratha and Sikh wars few centuries later.

Modern still making in India embarked with the setting of first blast furnace of India at Kulti in 1973 and production began in 1874 which was set up by Bengal Iron Works. Tata Iron and Steel Company (TISCO) were established by Dorabji Tata in 1907, as a part of father's of conglomerate. By 1939 it operated the largest steel plant in the British Empire. The company launched a major modernization and expansion program in 1951.

The Indian steel industry began expanding into Europe in the 21st century. In January 2007 India's Tata Steel made a successful $11.3 billion offer to buy European steel maker Corus Group. In 2006 Mittal Steel Company acquired Arcelor for $34.3 billion to become the world's biggest steel maker, Arcelor Mittal, with 10 percent of the Worlds output.

Aluminum is the second most important

industry after the iron and steel industry. Being a good conductor of electricity aluminum is used in the production and distribution of electricity, electric appliances, aero planes manufacturing, nuclear and defense accessories etc. it is the fastest growing metal which has grown by nearly twenty times in last sixty years. For producing one ton of aluminum six tons of bauxite is required. The industry is basically power intensive industry as 30% to 35% cost of production is accounted for by power.

There are two basic segments of aluminum industry such as upstream and the downstream sector. The upstream sector produces aluminum from bauxite ore and the downstream sector comprises of processing of aluminum into semi-finished aluminum goods like rods, bars, casting, forgings etc.

Indian aluminum industry is one of the leading industries in the Indian economy. With a growing demand of aluminum in India, the Indian aluminum industry is also growing at an enviable pace. Though India's per capita consumption is remarkably low (under one kg) comparing to the per a capita consumption of other countries like US & Europe (25 kg- 30 kg range) Japan (15 kg), 3 kg)the growth of the aluminum industry would be sustained by the diversification and exploration of the new horizon for the industry. At present HINDALCO and NALCO are the most economical in the production of aluminum in the world. The Indian aluminum industry is developing fast and the advancement in the technologies is boosting the growth even faster.

Research Questions

1. Does dividend policy have any dominance on market price of stock?

2. Is there any relationship between dividend policy factors like earnings of the company, dividend distribution and stock prices?

Objectives

1. To check whether earnings per share will affect the market price per share of selected Indian steel and aluminum companies.

2. To check whether dividend per share will affect the share price of selected Indian steel and aluminum companies.

Methodology

The entire paper is exploratory in nature will be done on secondary data from the annual reports of the companies and money control website as required. The companies are chosen on the basis of market capitalization. Two major variables are identified namely earnings per share (EPS) and dividend per share (DPS) for analysis of share price. Firstly correlations of the variables are calculated from micro soft excel. There after regression is done from panel data to analyze the impact of EPS and DPS on market price per share (MPS) of the steel industry. Appropriate accounting and statistical tools are used to analyze the data collected for research and draw the inferences accordingly.

Hypothesis

Null Hypothesis: H_0: EPS and DPS will not influence the mps of steel and aluminum companies.

Alternative Hypothesis H_1: EPS and DPS will influence the MPS of steel and aluminum companies.

Variables

Earnings per share (EPS) are calculated as a earnings available to equity share holders divided by the number of equity shares. The resulting number serves as an indicator of a company's profitability. The higher a company's EPS the more profitability it is considered. EPS is most valuable when compared against competitor metrics, companies of the same industry, or across a period of time.

EPS= Earnings Available to Equity Shareholders / Total number of Equity Shares

Reasons for its being selected that EPS is reflected as assign of determining ability of the firms to earn profit. In the light of GAAP publicly owned companies are to show eps next to the income line in their respective p/l a/c. it has its own distinct position in financial ratios.

Dividend Per Share (DPS) calculates the portion of company's earnings that is paid out to shareholders. A company uses this calculation to share profits with its shareholders. It indicates how profitable a company is over a fiscal period and it can tell investors about the past financial health and current financial stability.

DPS = total dividend pays out over twelve months period / Number of Equity Shares

It is an important financial ratio in understanding the financial health and long term growth prospects of a company, growing dividend payment by a company can be signal of growth, stability and sustainability. At the same time declining DPS may be due to reinvestments in a firm operation or debt reduction, but may also indicate poor earnings and be a red flag for financial hardship.

Market Price per Share (MPS) it is calculated by considering the market value of a company divided by the total number of equity shares. A market price per share of a company is the amount of money investors are willing to pay for each share. The prices of shares fluctuate in response to investors demand. The market price tends to mere towards an equilibrium point at which the number of sellers equals the number of buyers. If the number of buyers increases the price will tend upward. Conversely if the number of sellers increases the price tends to fall.

In this study the stock market price has been used as a dependent variable. Stock market price can be calculated through the process of considering closing market prices of shares at the last trading day of the financial year.

Steel Companies Results Analysis

STEEL COMPANIES	
Correlation Results	
EPS to MPS	0.081879
DPS to MPS	0.012892

The correlation coefficient between EPS with MPS is 0.0818 which signifies that EPS is positively associated with MPS but not at all related with MPS and the value is less than 0.5.

The correlation coefficient between DPS with MPS is 0.0128 which signifies that DPS is positively associated with MPS but very insignificant with MPS and the value is less than 0.5.

Summary Output								
Regression Statistics								
Multiple R	0.133634							
R Square	0.017858							
Adjusted R Square	-0.02394							
Standard Error	205.2999							
Observations	50							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	36019.44	18009.72	0.427297	0.654778			
Residual	47	1980958	42148.04					
Total	49	2016977						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	200.3764	35.61629	5.625975	9.86E-07	128.7256	272.0271	128.7256	272.0271
X Variable 1	0.888801	0.965952	0.92013	0.362203	-1.05444	2.832045	-1.05444	2.832045
X Variable 2	-4.52331	6.191259	-0.7306	0.468652	-16.9785	7.931898	-16.9785	7.931898

Multiple R denotes the correlation coefficient between the three variables, namely MPS, EPS and DPS. The value of R= 0.13336, shows positive correlation but significantly correlated among MPS with EPS and DPS.

R square (R^2) has a value 0.01785. R^2 is called the coefficient of determination. This gives the contribution made by regression in explaining the variations in the dependent variable. Closer the value of R^2 to 1, greater is the veracity of the model. The interpretation from our result is 1.785%% of the variations in mps is explained by EPS and DPS and 98.22%%

is explained by error or residual term. So the model is not fitted fairly accurate.

Adjusted R square has a value -0.02394. It implies that variations in mps is not at all influenced by EPS and DPS and remaining part is explained by error or residual term.

Here the calculated F value is .4272 and is less than critical F (3.195). Accept the null hypothesis. Here significance F value is given to be 0.654778, which seems to be greater than the level of significance 0.05, accept Null Hypothesis.

Coefficient Y intercepts is 200.3764 and slope of variables EPS and DPS are 0.888 and -4.523, which implies that there is a positive relation of MPS with EPS. On the other side there is a negative relation of MPS with DPS.

P value – If the P value is lower than 0.05 means no effect of independent variable on dependent variable. Of our calculations EPS and DPS, P-value has more than 0.05 which implies both has some effect on MPS.

Aluminum Companies Results and Analysis

Aluminum Companies	
Correlation Results	
EPS to MPS	0.827533
DPS to MPS	0.486701

The correlation coefficient between EPS with MPS is 0.8275 which signifies that EPS is positively associated with MPS and very strongly associated with MPS as the value is more than 0.5.

The correlation coefficient between DPS with MPS is 0.4867which signifies that DPS is positively associated with MPS but not highly related with MPS as the value is less than 0.5.

Summary Output	
Regression Statistics	
Multiple R	0.841175
R Square	0.707575
Adjusted R Square	0.695131
Standard Error	57.22378
Observations	50

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	372398.6	186199.3	56.86237	2.83E-13
Residual	47	153904.4	3274.561		
Total	49	526303			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	16.16302	9.673754	1.670812	0.101406	-3.29806	35.6241	-3.29806	35.6241
X Variable 1	5.486852	0.630828	8.697853	2.36E-11	4.217789	6.755915	4.217789	6.755915
X Variable 2	10.85438	5.674632	1.912789	0.061879	-0.56151	22.27026	-0.56151	22.27026

Multiple R denotes the correlation coefficient between the three variables, namely MPS, EPS and DPS. The value of R= 0.8411, shows very strong positive correlation among MPS with EPS and DPS.

R square (R^2) has a value 0.7075. R^2 is called the coefficient of determination. This gives the contribution made by regression in explaining the variations in the dependent variable. Closer the value of R^2 to 1, greater is the veracity of the model. The interpretation from our result is 70.75% of the variations in MPS is explained by EPS and DPS and 29.25% is explained by error or residual term. So the model fitted is fairly accurate.

Adjusted R square has a value .6951. it implies that 69.51% of variations in MPS due to EPS and DPS and remaining part 30.49% is explained by error or residual term.

Here the calculated F value is 56.862 and is greater than critical F (3.195). Reject the null hypothesis. Here significance F value is given to be 2.83E-13, which seems to be less than the level of significance 0.05. Reject Null Hypothesis.

Coefficient Y intercepts is 16.163 and slope of variables EPS and DPS are 5.486 and 10.854, which implies that there is a positive relation of MPS with EPS and DPS both.

P value – if the P value is lower than 0.05 means no effect of independent variable on dependent variable. Of our calculation P value of both EPS and DPS has more than 0.05 which implies that both have effect on MPS.

Summary

The central intention of this study is to observe the association linking dividend policy and stock prices. Research question of the study are whether dividend policy has an impact on stock prices or not? The objectives of the study are to study the impact of the earnings per share with the market price of stocks and accept or reject

the academic explanation of the practice of paying dividend, and from another angel also to see whether dividend per share has any impact on share price. Though simple regression analysis is used and at the same time correlation of the variables also done to get the concrete results from the analysis. Result shows that there is a positive correlation between earnings per share and dividend per share with mps for aluminum companies stock prices but steel companies stock prices are not strongly associated with share price. On the other side from regression analysis shows that for steel companies near about one percent changes of mps due earnings per share and dividend per share and ninety nine percent approximately for residual term but for aluminum companies 70.75% changes of MPS due to EPS and DPS and 29.25% changes due to residual term.

Conclusion

The study is conducted to know the impact of dividend policy on stock price. A result of the correlation shows that among the given variables earnings per share and dividend per share are positively correlated with market price per sharefor aluminum companies' .8275 and0.4867 respectively but very poorly positive with market price per share for steel companies.On the basis of regression analysis on the basis of R^2 results shows that 70.75%% of changes in market price per share due to earnings per share and dividend per share and balance 29.25%% is explained by error or residual term for aluminum companies, on the other side 1.78%of changes in market price due to EPS and DPS and balance 98% for residual term.. Hence from the above analysis we can conclude that (on the basis of last five years data) earnings per share and dividend per share of Indian steel companies has not significant impact on market price per share but this will be almost opposite for aluminum companies, at the same time finally we conclude that dividend declaration out of earnings has vary upon industry to industry for impacted on market price per share.

Conflict of Interests

The authors declare that there are no conflict of interests that are directly or indirectly related to this research work.

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Table 1: Companies and Company Code Including Years and Year Code at a Glance

Aluminum Companies	Steel Companies	Years
HINDALCO	JSW STEEL	2017-18
NALCO	TATA STEEL	2018-19
PG FOILS	JINDAL STEEL	2019-20
MAAN ALUMINUM	SAIL	2020-21
MANAKSIA ALUMINUM	APL APPOLLO	2021-22
CENTURY EXTRUSION	KIOCL	
SACHETA METAL	JINDAL STAINLESS	
HIND. ALUMINUM	MAHARASHTRA SEAM.	
GOLKUNDA ALUMINUM	GODAWARI POWER	

Table 2: Aluminum Data for Last Five Years 2017-18 to 2021-22

com code	year code	MPS	EPS	DPS
1	1	214.55	27.3	1.2
1	2	205.5	24.67	1.2
1	3	95.7	16.94	1
1	4	326.85	15.66	3
1	5	569.5	61.73	4
2	1	66.6	6.94	5.7
2	2	56.05	9.07	5.75

2	3	28.95	0.73	1.5
2	4	54.05	6.97	3.5
2	5	121.8	16.07	6.5
3	1	158.9	9	1.2
3	2	79	19.95	0
3	3	48.05	18.46	0
3	4	80.7	18.85	0
3	5	314.85	56.92	2
4	1	51.88	9.49	1
4	2	49.5	13.56	1
4	3	13.33	11.17	1
4	4	76.9	21.89	1
4	5	134.5	16.26	1
5	1	8.7	0.19	0
5	2	6.9	1.12	0
5	3	2.6	0.89	0
5	4	8.65	-0.48	0
5	5	23.95	1.14	0
6	1	4.85	0.46	0
6	2	5.9	0.5	0
6	3	1.7	0.46	0
6	4	4.1	0.27	0
6	5	10.35	0.77	0
7	1	43.91	0.98	0.25
7	2	18.96	1.1	0.25
7	3	13.62	0.67	0.2
7	4	14.75	1.13	0.25
7	5	22.9	1.18	0.25
8	1	93.15	13.72	1.6

8	2	72.3	3.92	0.5
8	3	32.6	-16.82	0.5
8	4	33.15	-23.24	0
8	5	39.4	-5.29	0
9	1	8.08	0.12	0
9	2	8.31	0.07	0
9	3	7.75	0.86	0
9	4	5.85	0.38	0
9	5	60.2	0.82	0
10	1	3.2	2.61	0
10	2	3.5	0.26	0
10	3	9.06	-2.56	0
10	4	8.29	4.13	0
10	5	18.05	1.08	0

Table 3: Steel Data for Last Five Years 2017-18 to 2021-22

com code	year code	MPS	EPS	DPS
1	1	288.15	25.85	3.2
1	2	293.05	31.77	4.1
1	3	142.4	16.78	2
1	4	468.45	32.91	6.5
1	5	732.65	85.96	17.35
2	1	57.11	128.12	10
2	2	52.1	87.75	13
2	3	26.96	11.86	10
2	4	81.19	63.78	25
2	5	130.72	332.35	51
3	1	219.1	-15.38	0

3	2	179.7	-17	0
3	3	82.2	-1.8	0
3	4	343.6	35.63	0
3	5	532.85	56.4	1
4	1	70.2	-0.68	0
4	2	53.75	5.69	0.5
4	3	23.05	5.13	0
4	4	78.8	10.04	2.8
4	5	98.55	29.64	8.75
5	1	187.15	66.84	14
5	2	144.19	62.47	14
5	3	124.67	19.43	0
5	4	700.43	28.91	0
5	5	914.6	22.3	0
6	1	220.5	1.28	1.06
6	2	138.75	1.78	1.33
6	3	59.2	0.7	0.7
6	4	136.6	4.87	1.64
6	5	208.7	5.16	1.77
7	1	78.55	7.6	0
7	2	39.2	2.97	0
7	3	24.1	1.48	0
7	4	67.6	8.6	0
7	5	202.55	37.81	0
8	1	158	24.5	0
8	2	93.75	16.16	0
8	3	39.65	16.65	0
8	4	125.05	29.4	0

8	5	389.35	82.33	0
9	1	423.5	31.45	6
9	2	480	34.96	6
9	3	193.6	12.52	2.5
9	4	275.3	14.63	3.5
9	5	551.55	56.75	5
10	1	107.76	58.92	0
10	2	57.88	71.55	0
10	3	26.16	47.33	0
10	4	179.71	181.17	18.5
10	5	386.45	111.41	11