

IMPACT OF INDEPENDENT VARIABLES ON MARKET PRICE MOVEMENTS IN AUTOMOBILE SECTOR: AN ANALYSIS

Dr. A.R. Aryasri*
Mrs. Surekha Adiki**

ABSTRACT

The study examines to what extent the Earnings per Share (EPS), Dividend per Share (DPS) and Price Earnings (P/E) Ratio can be used as a significant explanatory variable for predicting share Market prices. The data was collected from seven automobile companies for five years (2012-16) and all these companies are listed and traded on National Stock Exchange (NSE). Using Karl Pearson's coefficient of Correlation, Multiple Regression Analysis and Analysis of variance, the authors explain that a) EPS, DPS, PE Ratio influence the share price of select companies in automobile sector. b) There is strength of association among these variables. Investors can take better informed decisions once the pattern of these movements is analysed and understood.

KEYWORDS: EPS, DPS, PE Ratio, Automobile Sector, Stock Price Movements, Liberalization.

Introduction

Auto Mobile Industry: An Overview

The automobile industry coupled with the development of an extensive road system, made possible the growth of suburbs and shopping centre's around major cities, and played a key role in the growth of both urban and rural economy through development of ancillary industries including the oil and travel businesses. The auto industry has become one of the largest purchasers of many key industrial products, such as steel. The large number of people the industry employs has made it a key determinant of economic growth. Automobile is self-propelled vehicle which is used for the transportation of passenger and good upon the ground. The liberalization policies had a salutary impact on the Indian economy and the automobile industry in particular. The automobile industry in the country is one of the key sectors of the economy in terms of the employment opportunities that it offers. The industry directly employs close to around 0.2 million people and indirectly employs around 10 million people. The prospects of the industry also has a bearing on the auto-component industry which is also a major sector in the Indian economy directly employing 0.25 million people. The automobile industry in India is gradually evolving to replicate those of developed countries. The trends are emerging in the industry across segments, namely, passenger cars, multi-utility vehicles, commercial vehicles, two-wheelers and tractors. The qualitative analysis of the various trends reveals that the industry offers immense scope even for allied industries and those looking at investing in the auto industry. The Indian automobile industry is undergoing a revolution of sorts. The vehicle war is on and it's a fight to the finish. Within the span of a few years, the vehicle market has displayed an array of models that were hitherto undreamt of Ford, General Motors, Toyota, Volvo are household names today. Launch of a vehicle in one category spawns aware for the throne.

There are 48 companies in the Automobile Industry in India that comprise of all vehicles, including two and three-wheelers, Passenger Cars and multi-utility vehicles, light ,medium and heavy commercial

* Professor, School of Management Studies, CBIT, Rangareddy District, Hyderabad, Telangana, India.

** Assistant Professor, School of Management Studies, CBIT, Rangareddy District, Hyderabad, Telangana, India And Research Scholar, Osmania University, Hyderabad, Telangana , India.

vehicles, agriculture and earth moving machinery. From the inception of the Automobile Industry in India to liberalization (1942 to 1991), in a span of 50 years, only 31 companies were established, while in post-liberalization period in a ten-year period from 1992 till 2001, 17 companies surfaced the Indian Automobile industry.

POST-1991 This was the time when the companies enjoyed all the freedom to grow, expand and diversify. As part of LPG policies, Government of India made some radical changes in its policies in respect of trade, foreign investment, exchange rate, industry, fiscal affairs etc. Mass Emission Norms were introduced for in 1991 for Petrol Vehicles and in 1992 for Diesel Vehicles. In 1991 new Industrial Policy was announced. Economic liberalisation dismantled License Raj and this opened the gates for true expansion in the Automobile Industry in India. Another phase was 1996 when the emission norms were tightened. The Supreme Court passed an order in 1999 directing all car manufacturers to comply with Euro I emission norms. In 1997 National Highway Policy has been announced which will have a positive impact on the Automobile Industry. The Indian Automobile market in general and Passenger Cars in particular have witnessed liberalization. Many multinationals like Daewoo, Peugeot, General Motors, Mercedes-Benz, Honda, Hyundai, Toyota, Mitsubishi, Suzuki, Volvo, Ford and Fiat entered the market. Various companies are coming up with state-of-art models of vehicles. TELCO diversified in Passenger Car segment with Indica. Despite the adverse trend in the growth of the industry, it is resolutely trying to meet the challenges. Various issues of critical importance to the industry are being dealt with forcefully. The 1990s saw both the Indian and foreign manufacturers entering with new models like Maruti's Classic, Alto, Station Wagon, Ford's Ikon and Mitsubishi Lancer.

Impact Analysis of Independent variables on Stock price Movements

The companies will be in dilemma on how the investors will be reacting towards the company against its dividend decisions. So by analyzing the past data we will know the impact of the independent variables on the market price of a share. So the need for the study is to analyze the impact of Earnings per Share, Dividend per Share, and Price Earnings Ratio on the various share price movements of various companies of various sectors of National Stock Market, which is also funneled down to the NIFTY stocks. This study explains the impact of independent variables of a share on its market price.

Literature Review

Nikolas (2002) examined the behaviour of ex-dividend day on share prices in the Chinese stock market. It was observed that in an efficient capital market, the stock prices are the reflection of all the information that is available in public and private. In general stock price will be declining/decreasing on the ex-dividend day. Nikolas quantified such decline in the value of stock price. In general, decline in the stock price is considered to be very negligible when compared with the dividend declared on a stock on dividend day. A drop of stock price on ex-dividend day is considered to be the same as amount of dividend paid on dividend day. Four hypotheses were tested in this study using raw price ratio (RPR), Market adjusted price ratio (MAPR), raw price drop ratio (RPD), and the Market adjusted price drop (MAPD). The experimental and theoretical values of mean and median for raw price ratio (RPR), Market adjusted price ratio (MAPR), raw price drop ratio (RPD), and the Market adjusted price drop (MAPD) were represented. T-test was used. The study reveals that in non-taxable observations, the share price will fall on the ex-dividend day exactly same as the amount of dividend that has been declared on it and for the taxable stock. It was concluded that the price of the stock drops as regard as the same amount of dividend that has been declared on a stock by the company.

Van Horne (2003) examined the effect of stock split on the value of stock price. When the stock split is done, it is observed that, it does not result in the increase of the ownership of an investor in the company. The stock split will not result in the increase of ownership in the company as the ownership is unaltered. Despite the fact that they will be getting more number of shares because of the stock split, the ownership of the investor in the company remains unaltered. The stock dividend may increase and hence the shareholders get additional money as dividend. But, the market price of a share should decline proportionately to maintain the same value of ownership in the company and thus the reputation of the company is protected from the increasing ownership of the investors.

Brigham and Houston (2004) observed that the primary and ultimate goal of an organization is to maximize the wealth of a shareholder. From the shareholders' point of view, earnings can be maximized in the form of dividends by investing in good yielding companies. It is good to know about the preference of the individual investor, in terms of dividends or the capital gains. More individual investors prefer the lesser taxed benefits so that they can enjoy the earnings with peace of mind. The individual investors will prefer the

dividends instead of the capital gains when the tax rate of dividends is higher than that of the capital gains. There are many numbers of theories that explain why the individual investors will be preferring the criterion dividend over the capital gains.

Jones (2006) observed that data available in the market is of traditional nature and this can be used to determine the value of the stock prices. In the weak form of efficient market hypothesis, the market prices of the stocks reflect the historical prices. Jones says that the three market hypothesis proposed by Fama in 1970 are the cumulates. In other words, the strong form of efficient market hypothesis, in this context, consists of both semi-strong and weak form of efficient market hypothesis. Similarly, the semi-strong form of efficient market hypothesis consists of weak form of efficient market hypothesis.

Kevin (2006), states that the rational investors are not influenced by the historical prices of the stocks. The new values of stock prices are completely arbitrary. In the weak form of efficient market hypothesis, the new pieces of information may be available and these could drastically impact the market trend. In other words, the price movements of the stocks are not just influenced by the historical movements of the stock. The efficient market theory says that the investors not always aware of the stock market price changes as the value of stock prices will be adjusted continuously. Hence the investors cannot decide whether to buy or sell immediately.

K. P. Balakrishnan (2016) analyses that many investors would be reacting differently to the EPS, DPS and PE ratios. Such reactions impact the demand and supply of the concerned stocks. In general, EPS, PE Ratio and dividend can be ranked as 1 to 3 as determinant factors of market price of a share. This study, however, rejects the hypothesis that the set of variables determining equity price behavior for two investment groups would be significantly different from each other due to the different in the nature and motive of investment. Finally, the investors are advised to take investment decisions based on the market price of the given share under consideration, company progress in term of financial and market parameters and general and specific conditions prevailing in the economy.

Research Gap From the above review of literature, it is evident that the impact of EPS, DPS, PE Ratio on various share price movements of various companies of various sectors of NIFTY stocks is not analysed in detail. This paper is intended to analyze how the market will be reacting against the decisions taken by the companies on the dividend policies.

Objectives of the Study

- To analyze the pattern in the share price movements of the selected companies
- To study the impact of Earnings per Share (EPS), Dividend Per Share (DPS) and Profit Earnings (P/E) Ratio on the market price movements of the share
- To measure the strength of association between the independent variables (namely EPS, DPS and P/E Ratio) and market price of share

Hypothesis

H₀ : The independent variables namely, Earnings per Share (EPS), Dividend Per Share (DPS) and Profit Earnings (P/E) Ratio have no impact on the share price movements.

Scope of the Study

This paper focuses on the investment patterns of investors relate to the price changes due to EPS, DPS and P/E Ratio of seven select companies in the Automobile sector for the years of 2012-16. These companies are as given below:

- Ashok Leyland Ltd.
- Bajaj Auto Ltd.
- Hero Moto Corp Ltd.
- Mahindra & Mahindra Ltd.
- Maruti Suzuki India Ltd.
- TVS Motor Company Ltd.
- Tata Motors Ltd.

The samples are chosen from the NSE India site, which are actively traded automobile industries. The data for the present study is collected through the NSE India, and websites of the above companies. And also through research articles are being published on the topic in various magazines. The information in the NSE India has helped to analyze the price changes.

Data Analysis and Discussion**Table 1: Correlation Analysis**

S. No.	Name of the Company	Price / EPS		Price / DPS		Price / P-E Ratio	
		r	r ²	r	r ²	r	r ²
1	Ashok Leyland Ltd.	0.4708	0.2216	0.6065	0.3678	-0.235	0.0552
2	Bajaj Auto Ltd.	-0.4243	0.1800	-0.8114	0.6583	0.9196	0.8456
3	Hero MotoCorp Ltd.	-0.3243	0.1052	-0.6139	0.3768	0.9097	0.8276
4	Mahindra & Mahindra Ltd.	-0.10995	0.0121	0.4544	0.2065	0.9193	0.8450
5	Maruti Suzuki India Ltd.	-0.8874	0.7874	-0.8476	0.7184	0.96	0.93
6	TVS Motor Company Ltd.	-0.7363	0.5421	-0.7548	0.5698	0.8567	0.7339
7	Tata Motors Ltd.	0.51196	0.2621	0.5113	0.2614	0.6848	0.4689

Source: Primary Data

- Ashok Leyland Ltd.:** Here, the market price of the Ashok Leyland shares has high correlation with DPS as revealed by the correlation (0.6065). 36.78% of the variations of the share price movements are determined by the Dividend per Share. Next comes the EPS that has positive correlation with the share market price movements as revealed by value of correlation (r) is (0.4709). In this case, 22.16% of the share market price movements are determined by the Earnings per Share. The Price Earnings Ratio shows negative correlation (r=-0.235). 5.52% of the share price movements are determined by the Price Earnings Ratio (Coefficient of determination r² is 0.0552).
- Bajaj Auto Ltd.:** Here, the market price of the Bajaj Auto shares has high correlation with Price Earnings Ratio as revealed by r (0.9196). 84.56% of the variations of the share price movements are determined by the Price Earnings Ratio. Dividend per Share is negatively correlated with the share market price (r =-0. 8114). 65.83% of the share market price movements are determined by the Dividend Per Share. The Price Earnings ratio has negative correlation (-0.4243). 18% of the share price movements are determined by the Earnings Per Share.
- Hero Moto Corp Ltd.:** Here, market price of Hero Moto Corp has high correlation with Price Earnings Ratio (r=0.9097). 82.76% of the variations of the share price movements are determined by the Price Earnings Ratio. DPS has negative correlation with the share market price movements (r=-0.6139). 65.83% of the share market price movements are determined by the Dividend per Share. The Earnings per Share has negative correlation (-0. 3243). 10.52% of the share price movements are determined by the Earnings per Share.
- Mahindra & Mahindra Ltd.:** Here, the market price of Mahindra & Mahindra share has high correlation with Price Earnings Ratio(r=0.9193).The Price Earnings Ratio is positively correlated with the market price of the share. 84.5% of the variations of the share price movements are determined by the Price Earnings Ratio. DPS is positively correlated with the share market price movements (r=0.4544). 20.65% of the share market price movements are determined by the Dividend per Share. The Earnings per Share is negatively correlated (but very low) (r=-0.10995).1.21% of the share price movements are determined by the Earnings per Share.
- Maruti Suzuki India Ltd.:** Here, the market price of Maruti Suzuki has high correlation with Price Earnings Ratio (r=0.96). 93% of the variations of the share price movements are determined by the Price Earnings Ratio. EPS is negatively correlated with the share market price movements (r=-0.8874). 78.74% of the share market price movements are determined by the Earnings per Share. DPS is negatively correlated (r=-0.8476). 71.84% of the share price movements are determined by the Dividend per Share.
- TVS Motors Ltd.:** Here, the market price of TVS Motors share is positively correlated with Price Earnings Ratio (r=0.8567). 73.39% of the variations of the share price movements are determined by the Price Earnings Ratio. DPS is negatively correlated with the share market price movements (r=-0.7548). 57% of the share market price movements are determined by the Dividend per Share. The EPS shows high negative correlation (r=-0.7363). 54.21% of the share price movements are determined by the Earnings per Share.
- TATA Motors Ltd.:** Here, the market price of Tata Motors share shows high correlation with Price Earnings Ratio (r=0.6848). 46.89% of the variations of the share price movements are determined by the Price Earnings Ratio. EPS is positively correlated with the share market price movements (r=0.512). 26.21% of the share market price movements are determined by the Earnings per Share. DPS reveals very low degree of correlation (r=0.5113). 26% of the share price movements are determined by the Dividend per Share.

Table 2: Multiple Regression and T-Test Analysis

Company	Variable	Coefficient	Std Error	T Value	P Value	At 5% LoS	At 10% LoS
Ashok Leyland Ltd.	Constant	21.9587	95.8664	0.2291	0.8567	Accept H ₀	Accept H ₀
	EPS	-104.3206	122.3521	-0.8526	0.5505	Accept H ₀	Accept H ₀
	DPS	305.4239	250.9076	1.2173	0.4378	Accept H ₀	Accept H ₀
	P-e ratio	0.0865	0.4836	0.1788	0.8873	Accept H ₀	Accept H ₀
Bajaj Auto Ltd.	Constant	-1567.033	860.2405	-1.8216	0.3196	Accept H ₀	Accept H ₀
	EPS	15.6069	2.8909	5.3985	0.1166	Reject H ₀	Reject H ₀
	DPS	-2.5185	11.6904	-0.2154	0.8649	Accept H ₀	Accept H ₀
	P-e ratio	107.1085	14.1284	7.5811	0.0835	Reject H ₀	Reject H ₀
Hero MotoCorp Ltd.	Constant	-1224.4904	240.8581	-5.0839	0.1236	Accept H ₀	Accept H ₀
	EPS	14.7804	1.0660	13.865	0.0458	Reject H ₀	Reject H ₀
	DPS	-6.7656	2.0897	-3.2375	0.1907	Accept H ₀	Accept H ₀
	P-e ratio	109.4603	4.0959	26.724	0.0238	Reject H ₀	Reject H ₀
Mahindra & Mahindra Ltd.	Constant	-900.8319	204.1433	-4.4127	0.1419	Accept H ₀	Accept H ₀
	EPS	21.9709	7.2629	3.0251	0.2032	Reject H ₀	Reject H ₀
	DPS	-25.7849	40.9972	-0.6289	0.6426	Accept H ₀	Accept H ₀
	P-e ratio	55.3764	5.7085	9.7007	0.0654	Reject H ₀	Reject H ₀
Maruti Suzuki India Ltd.	Constant	-3401.5865	999.3935	-3.4037	0.1819	Accept H ₀	Accept H ₀
	EPS	61.0804	12.1310	5.0351	0.1248	Reject H ₀	Reject H ₀
	DPS	-146.2734	26.9033	-5.4370	0.1158	Accept H ₀	Accept H ₀
	P-e ratio	72.6324	7.5641	9.6022	0.0661	Reject H ₀	Reject H ₀
TVS Motor Company Ltd.	Constant	-135.9917	69.9529	-1.9440	0.3025	Accept H ₀	Accept H ₀
	EPS	117.3089	17.1510	6.8398	0.0924	Reject H ₀	Reject H ₀
	DPS	-367.9864	50.9520	-7.2222	0.0876	Accept H ₀	Accept H ₀
	P-e ratio	5.2402	0.5692	9.2056	0.0689	Reject H ₀	Reject H ₀
Tata Motors Ltd.	Constant	-31.5960	32.9827	-0.9579	0.5137	Accept H ₀	Accept H ₀
	EPS	-20.7479	2.4711	-8.3962	0.0755	Accept H ₀	Accept H ₀
	DPS	106.2975	9.6014	11.071	0.0573	Reject H ₀	Reject H ₀
	P-e ratio	0.6521	0.0503	12.949	0.0491	Reject H ₀	Reject H ₀

Source: Primary Data

Multiple Regressions: From Table 2, the following regression equations are formulated:

Ashok Leyland

$$Y=21.9587-104.3206 \text{ EPS}+305.4239 \text{ DPS}+0.0865 \text{ P/E Ratio}$$

Bajaj Auto

$$Y= -1567.033+15.6069 \text{ EPS}-107.1085 \text{ DPS}+107.1085 \text{ P/E Ratio}$$

Hero Moto Corp

$$Y=-1224.4904+14.7804 \text{ EPS}-6.7656 \text{ DPS}+109.4603 \text{ P/E Ratio}$$

Mahindra & Mahindra

$$Y=-900.8319+21.9709 \text{ EPS}-25.7849 \text{ DPS}+55.3764 \text{ P/E Ratio}$$

Maruti Suzuki India

$$Y=-900.8319+21.9709 \text{ EPS}-25.7849 \text{ DPS}+55.3764 \text{ P/E Ratio}$$

TVS Motor Company

$$Y=-900.8319+21.9709 \text{ EPS}-25.7849 \text{ DPS}+55.3764 \text{ P/E Ratio}$$

Tata Motors

$$Y=-900.8319+21.9709 \text{ EPS}-25.7849 \text{ DPS}+55.3764 \text{ P/E Ratio}$$

T-Test: Analysis of Results

Given Degree of freedom= $n-1=5-1=4$, Level of Significance= $5\%=0.05$ and at 0.05 significance level and 4 degrees of freedom from t-distribution is 2.1318, the following is the analysis of T-Test results:

- **Ashok Leyland Ltd.:** DPS, EPS and PE Ratio have no influence on the market price changes, so the Null Hypothesis is accepted. The same holds good at 10% level of significance also.
- **Bajaj Auto Ltd.:** EPS and PE Ratio have a significant influence on the market price changes. But DPS did not show significant influence on market price. Hence, Null Hypothesis is rejected (H₀) in case of Earnings per Share & Price Earnings Ratio. The same is accepted in respect of Dividend per share. The same holds good even at 10% level of significance

- **Hero Moto Corp Ltd.:** EPS and PE ratio, here, have a significant influence on the market price changes where as DPS did not show any influence on market price. Hence, the Null Hypothesis is rejected (H_0) in case of Earnings per Share & Price Earnings Ratio Where as it is accepted in respect of Dividend per share. The same holds good at 10% level of significance.
- **Mahindra & Mahindra Ltd.:** Here, EPS and PE ratio had a significant influence on the market price changes. But, DPS did not show has not show any significant influence on market price. Hence, the Null Hypothesis is rejected in case of EPS and PE ratio. The null hypotheses are accepted in case of Dividend per share. The same holds good at 10% level of significance.
- **Maruti Suzuki India Ltd.:** EPS and PE Ratio have a significant influence on the market price changes but not DPS. Here, the Null Hypothesis is rejected in case of EPS and PE ratio. However, it is accepted in case of DPS. The same holds good at 10% level of significance
- **TVS Motor Company Ltd.:** EPS and DPS showed up a significant influence on the market price changes whereas DPS did not show significant influence on market price. Hence, the null hypothesis is rejected in case of Earnings per Share & Price Earnings Ratio. The same is accepted in case of Dividend per share. The same results hold good at 10% level of significance.
- **Tata Motors Ltd.:** Here, DPS and PE Ratio have a significant influence on the market price changes whereas EPS have no significant influence on market price. Hence, the null hypothesis is rejected DPS and PE Ratio. The Null Hypothesis (H_0) is accepted in case of EPS. The same holds good at 10% level of significance.

Global T-Test

Null Hypothesis (H_0): EPS, DPS and P/E Ratio do not affect market price.

Global T-Test Interpretation

- **Ashok Leland Ltd.:** Here, the null hypothesis is accepted at 5% significance level i.e., the market price of a share is not significantly influenced by the independent variables. It holds same when we opt for 10% significance level.
- **Bajaj Auto Ltd.:** In case of Bajaj Auto the Null Hypothesis (H_0) is rejected at 5% significance level i.e., the market price of a share is significantly influenced by the independent variables. It holds same when we opt for 10% significance level.
- **Hero Moto Corp Ltd.:** In case of Hero Moto Corp the Null Hypothesis (H_0) is rejected at 5% significance level i.e., the market price of a share is significantly influenced by the independent variables. It holds same when we opt for 10% significance level.
- **Mahindra & Mahindra Ltd.:** In case of Mahindra & Mahindra the Null Hypothesis (H_0) is rejected at 5% significance level i.e., the market price of a share is significantly influenced by the independent variables. It holds same when we opt for 10% significance level.
- **Maruti Suzuki India Ltd.:** In case of Maruti Suzuki India the Null Hypothesis (H_0) is rejected at 5% significance level i.e., the market price of a share is significantly influenced by the independent variables. It holds same when we opt for 10% significance level.
- **TVS Motor Company Ltd.:** In case of TVS Motors the Null Hypothesis (H_0) is rejected at 5% significance level i.e., the market price of a share is significantly influenced by the independent variables. It holds same when we opt for 10% significance level.
- **Tata Motors Ltd.:** In case of Tata Motors the Null Hypothesis (H_0) is rejected at 5% significance level i.e., the market price of a share is significantly influenced by the independent variables. It holds same when we opt for 10% significance level.

Regression Analysis

Table 3: Regression Analysis

Name of the Company	Multiple R	R Square	Adjusted R Square	Standard Error
Ashok Leyland Ltd.	0.847146591	0.717657347	-0.129370612	41.27682314
Bajaj Auto Ltd.	0.997458375	0.99492321	0.979692838	42.30101368
Hero MotoCorp Ltd.	0.99956587	0.999131928	0.996527713	32.5931814
Mahindra & Mahindra Ltd.	0.99809266	0.996188958	0.984755832	26.56337326
Maruti Suzuki India Ltd.	0.998878389	0.997758036	0.991032145	115.5256267
TVS Motor Company Ltd.	0.997555161	0.995116299	0.980465197	18.47291354
Tata Motors Ltd.	0.997932932	0.995870136	0.983480545	15.25951503

Source: Primary Data

ANOVA

Table 4: ANOVA Results

Company	Source	df	Sum of Squares	Mean Sum of Squares	F	Significant F
Ashok Leyland	Regression	3	4330.650871	1443.5503	0.8473	0.643205
	Residual	1	1703.776129	1703.7761		
Bajaj Auto	Regression	3	350672.6322	116890.877	65.3249	0.090644
	Residual	1	1789.375758	1789.3758		
Hero MotoCorp	Regression	3	1222702.22	407567.407	383.6595	0.037508
	Residual	1	1062.315474	1062.3155		
Mahindra & Mahindra	Regression	3	184443.9652	61481.3217	87.1318	0.078552
	Residual	1	705.6127988	705.612799		
Maruti Suzuki India	Regression	3	5939547.043	1979849.01	148.3459	0.060265
	Residual	1	13346.17043	13346.1704		
TVS Motor Company Ltd.	Regression	3	69533.73847	23177.9128	67.9209	0.088906
	Residual	1	341.2485346	341.2485		
Tata Motors Ltd.	Regression	3	56149.8292	18716.6097	80.3796	0.081767
	Residual	1	232.8527989	232.8528		

Source: Primary Data, here Level of significance = 0.05; $F_{0.05} = 1.645$

ANOVA Results: From table 4, it can be observed that

- **Ashok Leyland:** Here, p-value is less than 0.05 significance alpha () i.e., 1.645. Hence the null hypothesis is rejected i.e., the variables EPS, DPS and P-E Ratio will not show significant effect on the market price of a share.
- **Bajaj Auto Company:** Here, p-value is greater than 0.05 significance alpha () i.e., 1.645. Hence the null hypothesis is accepted, i.e., the variables EPS, DPS and P-E Ratio will show a significant effect on the market price of a share.
- **Hero Moto Corp:** Here, p-value is greater than 0.05 significance alpha () i.e., 1.645. Hence the null hypothesis is accepted, i.e., the variables EPS, DPS and P-E Ratio will show a significant effect on the market price of a share.
- **Mahindra & Mahindra:** Here, the p-value is greater than 0.05 significance alpha () i.e., 1.645. Hence the null hypothesis is accepted, i.e., the variables EPS, DPS and P-E Ratio will show a significant effect on the market price of a share.
- **Maruti Suzuki:** Here, p-value is greater than 0.05 significance alpha () i.e., 1.645. Hence, the null hypothesis is accepted, i.e., the variables EPS, DPS and P-E Ratio will show a significant effect on the market price of a share.
- **TVS Motors:** Here, the p-value is greater than 0.05 significance alpha () i.e., 1.645. Hence, the null hypothesis is accepted, i.e., the variables EPS, DPS and P-E Ratio will show a significant effect on the market price of a share.
- **Tata Motors:** Here, p-value is greater than 0.05 significance alpha () i.e., 1.645. Hence, the null hypothesis is accepted, i.e., the variables EPS, DPS and P-E Ratio will show a significant effect on the market price of a share.

Findings

Relationship Patterns

- There is positive correlation between dividend per share and market price in respect of Ashok Leyland. The P-E Ratio is highly correlated with the market price of share in case of the other companies namely Bajaj Auto, Hero Moto Corp, Mahindra & Mahindra, Maruti Suzuki India, TVS Motor Company and Tata Motors Ltd.
- Dividend per Share is having negative correlation with Market price in respect of Bajaj Auto (-0.811354496), Hero Moto Corp (-0.613862292), Maruti Suzuki India (-0.847557812), TVS Motors (-0.75481957) and positive correlation with Ashok Leyland (0.45442952), Mahindra & Mahindra (0.606457234), Tata Motors Ltd (0.511255146).
- Earnings per Share is having negative correlation with Bajaj Auto (-0.424302156), Hero Moto Corp (-0.32434306), Mahindra & Mahindra (-0.109954669), Maruti Suzuki India (-0.88737603), TVS Motors (-0.736295594) and is positively correlated with Ashok Leyland (0.470757468) and Tata Motors (0.511958525).
- It is found that in global test at 5% level of significance the Null hypothesis is rejected in case of Bajaj Auto, Hero Moto Corp, Mahindra & Mahindra, Maruti Suzuki India, TVS Motors and Tata Motors

- companies i.e., the market price of a share is significantly influenced by the independent variables. Even at 10% significance level also, the result is same.
- In individual test it is found that at 5% significance level the Null hypothesis is rejected for Bajaj Auto, Hero Moto Corp, Mahindra & Mahindra, Maruti Suzuki India, TVS Motors and Tata Motors companies. In other words, the market price of a share is significantly influenced by the variables (EPS and P-E Ratio), whereas the Null hypothesis of DPS is accepted for all the companies i.e., the market price of a share is significantly not influenced by the variable.
 - In case of Ashok Leyland, the Null hypothesis is accepted for all independent variables i.e., the market price of a share is significantly not influenced by the independent variables. It holds same at 10% significance level also.
 - In global test the Null Hypothesis is rejected at 5% significance level for Bajaj Auto, Hero Moto Corp, Mahindra & Mahindra, Maruti Suzuki India, TVS Motor Company and Tata Motors Ltd. i.e., the market price of a share is significantly influenced by the independent variables and is accepted for Ashok Leyland Ltd. i.e., the market price of a share is significantly not influenced by the independent variables. It holds same when we opt for 10% significance level also.

Conclusion

The following are the conclusions drawn from the findings done in this work:

- The Price Earnings Ratio is the more correlated variable with the market price of the share. It is the main variable that the automobile companies must concentrate on.
- Next to Price Earnings Ratio Dividend per Share is the more correlated variable with the market price and sometimes it is negative also for some companies. So the companies must clearly understand the direction of correlation and proceed.
- The least influencing variable is the Earnings per Share.
- To say out of the three variables price earnings ratio and the dividend per share has a very good influence on the market price of the equity shares. So according to the previous researchers' finding the independent variables do show a significant impact on the market price of a share on the ex-dividend day. The other conditions and/or variables also may show influence on the market price of the share. But finally the investors should also consider these variables during the time of buying or selling of the equity shares.

Suggestions

- The companies must take care while the dividend decisions, because the company's equity share market price is influenced significantly by these decisions.
- The investors must be aware of these variables before buying and/or selling the equity shares in the stock market on the ex-dividend day.

References

- ⇒ Burgstahler, D., & I., Dichev, (1997), 'Earnings, adaptation & equity value' *The Accounting Review* 73: 187-215.
- ⇒ Chen, P., and G., Zhang, (2007), 'How do accounting variables explain stock price movement-Theory and Evidence', *Journal of Accounting and Economics* 43 (2-3): 219-244.
- ⇒ Dhanani, A. (2005). "Corporate dividend policy: The views of British financial managers". Wiley, *Journal of Business Finance & Accounting*, 37 (7 & 8) 1625-1672. [9].
- ⇒ Farsio, F., Geary, A., & Moser, J. (2004). "The Relationship between dividends and earnings". *American Society of Business and Behavioral Science Journal for Economic Educators*, 4 (4). 1-5.
- ⇒ Frankfurter, G. M. & Mc Goun, E. G (2000), "Thought Contagion & Financial Economics: The Dividend Puzzle as a case Study". *The Journal of Psychology & Financial Markets*,1 (2): 145-153. [13].
- ⇒ K.P. Balakrishnan (2016), A Study On Impact Of Earnings Per Share, Dividend Per Share Price Earning Ratio on Behavior Of Share Market Price Movements (Pharma Sector) with reference to NSE, *International Journal Of Advance Research And Innovative Ideas In Education*,, Volume-2 (1), 2016. IJARIIIE-ISSN (O)-2395-4396.
- ⇒ Khaled, H., Awuriwo, M. and Chijoke, O. M. (2011) "Dividend Policy and Share Price Volatility: UK evidence" *The Journal of Risk Finance*. Vol. 12 No. 1, pp. 57-68. United Kingdom, Emerald Group Publishing Ltd. [18].

- ⇒ Khemaies, B. (2010) "How Do Dividend Payments Affect Stock Prices? The Case of Tunisian Firms" The Journal of Commerce, Vol. 3, No. 2 Hailey College of Commerce, University of the Punjab, Pakistan 21-25 [19].
- ⇒ Kothari, S., P., (2001), 'Capital Markets Research in Accounting', Journal of Accounting and Economics 31(1-3) 105-231.
- ⇒ Miller, M. H and Modigliani, F. (1961). "Dividend policy Growth and the valuation of Shares", University of Chicago Press, The Journal of Business, 34:4: 411-433. <http://dx.doi.org/10.1086/294442> [22].
- ⇒ Ohlson, J., (1995), 'Earnings, book value and dividends in equity valuation' Contemporary Accounting Research 11 (@) 661-687.
- ⇒ Ohlson, J., and B., Juettner-Nauroth, (2005), 'Expected EPS and EPS growth as determinants of value', Review of Accounting Studies 10(2-3) 349-365.
- ⇒ Pushpa Bhatt, Sumangala JK (2012) Impact of Earnings per share on Market Value of an equity share: An Empirical study in Indian Capital Market, Journal of Finance, Accounting and Management, 3(2), p.1-14, July.
- ⇒ www.ashokleyland.com
- ⇒ www.bajajauto.com
- ⇒ www.heromotocorp.com
- ⇒ www.ibef.org
- ⇒ www.investopedia.com
- ⇒ www.marutisuzuki.com
- ⇒ www.mahindra.com
- ⇒ www.moneycontrol.com
- ⇒ www.nseindia.com
- ⇒ www.tatamotors.com
- ⇒ www.tvsmotor.com

Annexure-1

Company Names	Variables	Mar-16	Mar-15	Mar-14	Mar-13	Mar-12
Ashok Leyland	EPS	2.54	1.2	0.11	1.63	2.13
	DPS	0.95	0.45	0	0.6	1
	Profit-earnings ratio	12.5984252	18.45833333	205.4545455	45.42944785	51.76056338
	Market Price	32	22.15	22.6	74.05	110.25
Bajaj Auto	EPS	126.2	97.2	112.1	105.2	103.8
	DPS	55	50	50	45	45
	Profit-earnings ratio	13.05071315	18.32613169	18.42283675	19.19961977	23.31262042
	Market Price	1647	1781.3	2065.2	2019.8	2419.85
Hero Motocorp	EPS	156.86	119.46	105.61	106.07	119.09
	DPS	72	60	65.05	60	45
	Profit-earnings ratio	12.80504909	12.83484011	21.30480068	25.03865372	24.77999832
	Market Price	2008.6	1533.25	2250	2655.85	2951.05
Mahindra and Mahindra	EPS	53.51	56.23	63.67	56.85	48.97
	DPS	12	12	14	13	12.5
	Profit-earnings ratio	13.20500841	15.24275298	15.70833988	21.14511873	24.40677966
	Market Price	706.6	857.1	1000.15	1202.1	1195.2
Maruti Suzuki India	EPS	151.33	122.85	92.13	79.19	56.6
	DPS	35	25	12	8	7.5
	Profit-earnings ratio	8.653604705	10.45014245	20.9578856	46.0247506	65.78091873
	Market Price	1,309.55	1,283.80	1,930.85	3,644.70	3,723.20
TVS Motor Company	EPS	9.1	7.32	5.51	2.44	5.24
	DPS	2.5	1.9	1.4	1.2	1.3
	Profit-earnings ratio	4.637362637	4.364754098	17.50453721	104.4262295	61.9370229
	Market Price	42.2	31.95	96.45	254.8	324.55
Tata Motors	EPS	0.68	-14.72	1.03	0.93	3.9
	DPS	0.5	0	2	2	4
	Profit-earnings ratio	409.2205882	-17.8457880	387.2621359	600.9784946	97.34615385
	Market Price	278.27	262.69	398.88	558.91	379.65