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A Conceptual study on Impact of Ex- Dividend Date at the Share Prices of the Stocks Listed under the Indian Tyre Industry

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I. CHAPTER 1

A. *Introduction*

This chapter gives us a brief understanding of how the researches have gone about their study in reference to this topic (helping us understand their findings, analysis, conclusion and methodology). My research on the ex date and its impact on share price volatility sees twenty literature reviews all of which are based out of secondary sources, revolving around the time frames of dividend and price fluctuations.

B. *Review Of Research Articles*

Ngoc and Cuong (2016) identified that Ex Dividend date has a significant impact on the stock returns around the announcement date. The stock price follows an uptrend as long as the ex-dividend date approaches and then starts decreasing from this date onwards. The purpose of this study was to determine the impact of dividend policy on the stock return by investigating reaction of the stock price on the dividend announcement date and the ex-dividend date. This secondary research has 1962 observations from 432 companies listed on the Vietnam stock exchange as its sample size: ranging from a period of 2008 to 2015. Cumulative average abnormal return and T-test are the statistical tool used for the conceptual research. The conclusion of the study was: the effects of dividend announcement on the stock return of the companies are positive around the announcement date.

Campbell and Beranak (1955) revealed that the fall in the stock prices on the Ex dividend date is approximately about 90% of the dividend declared in a stable market scenario. The purpose of the conceptual research was to understand the stock price behavior on the ex-dividend date. The source to this study was the New York Stock Exchange (NYSE), having differently categorized stocks pertaining to varying time periods. The conclusion of the study was: The drop in a stock price on the date was on an average of 90% to the dividend declared, the stock exchange practice of marking down open bids and stop orders to sell by the full amount of the dividend tends to cause the ex dividend drop off to be larger than otherwise it would be. As a corollary the ex dividend sales would be more equitable if the stock exchanges rues allowed for a reduction of open bids and stop orders to sell by an amount substantially less than the full amount of dividend.

Tauseef and Nishat (2010) identifies the existence of significant abnormal positive returns in the pre event and a negative excess returns in the post event widow with reference to the ex dividend date. The objective of this secondary research was to scrutinize the ex-dividend day price behavior of the listed stocks in Karachi Stock Exchange, Pakistan. The time frame of this study stretched from 2009 to 2010 i.e. 1 year having all the companies that paid cash dividends the year 2009-2010 as its sample size (N = 236 companies). All the information relating to the dividend, Share price and volume have been sourced from the website of Karachi Stock Exchange and Daily Business Recorder, standard event study is the methodological approach to this conceptual research. The conclusion of this study was: the price drops on the ex dividend date was significantly lower when compare to the tax adjusted dividend declared, a significant uptrend was turned around into a downtrend (on an average) post the dividend date.

Joshi and Mayur (2017) revealed that that there is a significant difference in the impact of dividend announcements in pre and post announcement period on the share prices of the companies. The aim to this study was to understand the impact of dividend announcement on stock prices. The study to this conceptual research has been divided into two trading windows i.e. a pre and post-trading announcements, having duration of 10 days on each side, were by T test is the statistical tool used for the analysis. The sample size being concentrated around the top PSU by their market capitalization stands to be 20, were in BSE India and money control are the sources from were the data has been extracted. The conclusion of this study was: that stock dividends induces an increase in the wealth of the shareholders in India. The change of positive reaction prior to the announcement day to negative reaction after the announcement day indicates that the investors overreact initially to these announcements, but a correction to this overreaction by the investors takes place quickly.

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Isaksson and Islam (2013) revealed that different stock exchanges have a different behavioral adaptation (fluctuation) with regards to the ex dividend date. The objective of this conceptual research was to understand the ex date price behavior of the blue chip stocks on an international platform.

The geographically penetrated locations for the highly liquid blue chip stocks are the US, the UK, Japan, and China. New York Stock Exchange, Tokyo Stock Exchange and London Stock Exchange are sources to the numerical data used for analyzing the results to this study. Using the Z test and T Test, the authors conclude that New York and Shanghai do not have any abnormal (positive or negative) returns and the fall in the share prices on the dividend date is on an average equal to the dividend declared. However Tokyo and London show a significant abnormal returns and the dip in the share prices are observed to be greater than the amount of dividend declared. 2005 – 2009 (Time line of the study) and choice of only blue chip companies are the major limitations to the research.

Yang and Wu (2014) discovered that an investor could turn in an abnormal return of healthy 2.13% return, following the trading technique of cash dividends pay out. The objective of this conceptual work was to understand the price and volume reactions to the announcement of cash dividend.

The data to the study was sourced from Taiwan Economic Journal Database, extending from a period of 1990 to 2011. With the help of the abnormal average return analysis and t test the authors consider a total time window of 21 days, being 10 days before the Ex date and 10 days post the Ex date. Thus a trend of abnormality exists in the trend of price directions on an average of 20 day window, were in a uptrend is noticed in most of the stocks paying dividends until their Ex dates. The volumes also show an upsurge of 255.93% on the day before and on the Ex dividend date, making a fact significant that investors in Taiwan are inclined towards this behavior of trading style.

Trung and Dat (2015) identified that markets react with positivity to the share prices and volume around the dividend announcement date. The objective of this secondary work was to identify the impact on dividend announcement dates on the respective share prices and volumes.

The stocks selected for the study are listed at the Vietnamese's Stock Exchange, a total of 979 dividend events of 233 listed companies were examined, from a time period extending from 2008 – 2014. Using the Statistical tool, regression the authors found out an abnormal sentimental behavior pushing the share prices up after the announcements with sudden spike in the volume, being about 3 times greater than the volume moving average.

Yilmaz and Gulay (2006) revealed that there is a significant increase in the trading volumes before the Ex dividend date, however there is a degree of stability in the volumes even after the Ex date. The objective of the secondary research was to understand the Dividend Policies and Price-Volume Reactions to Cash Dividends on the Stock Market. The data for this study was extracted from Istanbul Stock Exchange (ISC), having a time line of 9 years i.e. 1995 to 2003. A total of 200 shares having 948 observations are scrutinized with the help of CMAR's having a 20-day trading frame. An uptrend is significantly visible before the date, due to the buying pressure for the payouts of dividend, however the fall in the share price is lesser when compared to the amount of dividend declared. Thus dividends provide some unique trading opportunities in all pre, at and post ex date scenarios with the highest volatility being on the Ex Dividend date.

Batchelor and Orakcioglu (1995) revealed that there does not exist a systematic rhythmic movement in the share prices before the Ex dividend date. However an improved dividend payment helps the share price rise gradually post the date and the price of the shares that pay a lower dividend falls. The objective of the conceptual paper analyzed using the GARCH model is to relate the impact of stock dividend in reference to the stocks listed in turkey. Istanbul Stock Exchange is the source to the data used for the purpose of analysis which reveals that This suggests that the ISE is information ally inefficient, in that news about cash dividends - which are announced from one to three months earlier - is absorbed only partially in advance of their actual payment.

II. CHAPTER 2

This chapter gives us a summary of the paper aimed at identifying the relationship between share price and dividend date. It consists of Title Introduction to topic, Objectives of the research, hypothesis, Research gap and methodology (were in the sample size of the study is 5 companies, comprising of MRF Tyres, Apollo Tyres, JK Tyre, Ceat tyres and Balkrishna Tyres.).

A. Title

The title for this conceptual study is "The Impact of ex dividend date on the market price volatility of the companies listed under the tyre industry in India".

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B. Introduction

Ex dividend date is an important factor which investors take into consideration while undertaking investment decision (especially in case of swing trading). The dates i.e. pre, post and at Ex dividend sees huge volumes in terms of buying and selling pressure being derived by the urge of receiving dividend. In order to understand the correlation between the Ex dividend date and the fluctuations in the spot prices of the stocks; if there exists any, this conceptual research would thus help investors in timing their investment both in cash as well as the derivatives segment.

The aim of this secondary work is to identify the relation between the Ex date and share price fluctuations and as well help the investors (retail, mutual funds banks, corporates) time their investments in an appropriate manner. MRF, Apollo Tyres, Jk Tyres, Ceat Ltd and Balkrishna Tyres are the stocks pertaining to the study. The time frame for which extends from 2008 to 2017 (i.e. 10 years) were in National Stock Exchange and Bombay Stock Exchange are the source to the data extracted.

C. Research Objectives

The main aim of this study is to:

1) Determine the correlation that exists between the Ex Dividend date and fluctuations of share prices
2) To Understand and analyze the importance of timing an investment from the perspective of a Swing Trader

D. Hypothesis

1) *Null Hypothesis:* Ex dividend date does not impact the Share prices volatility of the stocks, listed under the Tyre Industry in India.
2) *Alternative Hypothesis:* Ex dividend date does impact the share price volatility of the stocks, listed under the Tyre Industry in India.

E. Research GAP

My topic of research is– "impact of ex dividend date on the market price volatility of the companies listed under the tyre industry in India". By reading various articles and doing a total of 10 review of literatures I have come to a conclusion that studies regarding the influence of ex date on share prices have been undertaken by several researchers however the domain of tyre industry in specific has been unexplored. Therefore I plan on conduction a conceptual research on the impact of ex date on share prices of stocks, specifically in reference to the tyre industry. My study would be base on the following companies i.e. MRF, Apollo Tyres, Jk Tyres, Ceat Ltd and Balkrishna Tyres.

F. Methodology

1) *Sample Size:* 5
2) *Companies Selected:* MRF Tyres, Apollo Tyres, JK Tyre, Ceat tyres and Balkrishna Tyres.
3) *Sources Of Data:* Bombay Stock Exchange, National Stock Exchange and Money control.
4) *Statistical Tool:* T Test and Correlation.

The sample would consist of 5 companies i.e. MRF, Apollo Tyres, Jk Tyres, Ceat Ltd and Balkrishna Tyres. The data extracted would be spread over a time line of 10 years from 2008 to 2017. The numerical data has the record of all the Ex dates along with their respective dividends and fluctuating in the share prices of the stocks being divided into the pre and post windows containing data points of closing prices 10 days prior, 10 days post the ex dividend date. The main objective of this conceptual study is to determine the correlation that exists between ex date and fluctuation in share prices. The primary sources of the data collected are National Stock Exchange, Bombay Stock Exchange and Money Control were in T test and correlation are the statistical tools used for the purpose of drawing inferences.

III. CHAPTER 3

A. Correlation Between Dividend And Share Price

	Dividend	*Share price*
Dividend	1	
Shareprice	0.797603	1

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- *Ho:* There is no relation between the dividend and share price
- *H1:* there is a relation between dividend and share price

Inference: since the p value is less than the level of significance at 0.01 levels, there is no sample evidence to accept Ho. i.e. there is a relation between the dividend and the share prices.

Correlations

		DIVIDENDS	SHARES
DIVIDENDS	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	40	
SHARES	Pearson Correlation	.798**	1
	Sig. (2-tailed)	.000	
	N	40	40

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

1) *Interpretation:* The existence of a relationship between the share prices momentum and declaration of dividend under this conceptual research has been studied by drawing a correlation between the two variables. In the test undertaken the were in the null hypothesis is: no existence of a relationship between the two variables and the alternative hypothesis is an existence of a relationship between the two variables, the first row has dividend followed by share price in the second row.

The number 1 in both the rows shows the correlation of dividend and share prices with itself, as the result of which a perfect positive correlation exists between the two variables. The correlation between the share prices and the Ex date is found to be +0.798 (being in the second row) indicating the existence of a high positive correlation between the two variables. The level of significance in the output is 0.000 (p value), which is lesser than the significance level at 0.01 levels this indicates that there is enough of evidence to show that there exists a highly positive correlation between the two variables.

On the basis of the above inferences the null hypothesis is rejected and therefore accepting the alternative hypothesis i.e. ex dividend date does impact the share price volatility of the stocks, listed under the Tyre Industry in India

B. T-Test: Two-Sample Assuming Unequal Variances

	Dividend	*share price*
Mean	9.4675	5610.441705
Variance	317.9221	214217821.8
Observations	40	40
Hypothesized Mean Difference	0	
df	39	
t Stat	-2.42028	
P(T<=t) one-tail	0.010133	
t Critical one-tail	1.684875	
P(T<=t) two-tail	0.020267	
t Critical two-tail	2.022691	

1) *Interpretation:* T test – Two sample assuming unequal variances, was used as another mean of analyzing the relation, were in the output consisting of degree of freedom stands to be 39.

The p value (for two tail) is 0.206 being lesser that the stated value of 0.50 as the result of which we reject the null hypothesis, accepting the alterative hypothesis i.e. ex dividend date does impact the share price volatility of the stocks, listed under the Tyre Industry in India

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Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
DIVIDENDS	Ceat	8	6.7500	4.42396	1.56411	3.0515	10.4485	1.00	11.50
	MRF	8	34.5000	28.86916	10.20679	10.3648	58.6352	3.00	94.00
	JKT	8	3.0000	1.03510	.36596	2.1346	3.8654	1.50	5.00
	APPOLLO	8	1.2500	.95431	.33740	.4522	2.0478	.50	3.00
	BALAKRISHNA	8	1.8375	.45020	.15917	1.4611	2.2139	1.40	2.50
	Total	40	9.4675	17.83037	2.81923	3.7651	15.1699	.50	94.00
SHARES	Ceat	8	634.84545	643.079595	227.362971	97.21746	1172.47345	90.619	1856.673
	MRF	8	26469.96381	2.389477E4	8448.078385	6493.43278	46446.49484	5846.834	69248.619
	JKT	8	157.07175	104.896146	37.086388	69.37638	244.76712	93.846	406.965
	APPOLLO	8	133.73628	70.432117	24.901514	74.85355	192.61900	65.919	251.558
	BALAKRISHNA	8	656.59123	472.628366	167.099361	261.46403	1051.71843	166.865	1627.846
	Total	40	5610.44171	1.463618E4	2314.183559	929.56363	10291.31978	65.919	69248.619

C. Anova

		Sum of Squares	df	Mean Square	F	Sig.
DIVIDENDS	Between Groups	6412.669	4	1603.167	9.373	.000
	Within Groups	5986.294	35	171.037		
	Total	12398.963	39			
SHARES	Between Groups	4.353E9	4	1.088E9	9.520	.000
	Within Groups	4.001E9	35	1.143E8		
	Total	8.354E9	39			

1) *Interpretation:* The above-presented analysis, carried out using anova consists of two rows having the variables dividend and shares respectively. The variables are further bifurcated into two categories i.e. between and within groups. The F value derived in case of dividend is 9.373 (being the division of the mean squares i.e. 1603.167/171.037). The figure of 9.373 indicates that the variance of between groups is 9.373 times greater when compared to the within groups. In case of shares the F value stands to be 9.520, indicating the variance of between groups is 9.520 times greater than the within groups. The level of significance (P value) is 0.000 for both the variables, being lesser than the level of significance i.e. 0.05 as the result of which we reject the null hypothesis. Thus the Ex date dose impact the share market volatility of the stocks under the tyre industry in India.

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Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
DIVIDENDS	2010	5	5.7300	7.54334	3.37348	-3.6363	15.0963	.75	19.00
	2011	5	5.1800	7.77895	3.47885	-4.4788	14.8388	.50	19.00
	2012	5	4.9000	7.91675	3.54048	-4.9299	14.7299	.50	19.00
	2013	5	6.7000	9.77625	4.37207	-5.4388	18.8388	.50	24.00
	2014	5	12.3500	18.04820	8.07140	-10.0598	34.7598	.75	44.00
	2015	5	3.7800	3.52023	1.57429	-.5909	8.1509	1.50	10.00
	2016	5	22.4000	40.22965	17.99125	-27.5517	72.3517	2.00	94.00
	2017	5	14.7000	22.30078	9.97321	-12.9901	42.3901	2.50	54.00
	Total	40	9.4675	17.83037	2.81923	3.7651	15.1699	.50	94.00
SHARES	2010	5	1368.74781	2513.242198	1123.956080	-1751.85455	4489.35016	65.919	5846.834
	2011	5	1343.05524	2757.604969	1233.238433	-2080.96357	4767.07405	75.523	6275.619
	2012	5	1655.94836	3397.565476	1519.437472	-2562.68637	5874.58309	79.996	7732.000
	2013	5	2741.95680	5845.653327	2614.255642	-4516.38048	10000.29408	67.858	13198.389
	2014	5	4295.17760	8419.617480	3765.367406	-6159.15830	14749.51351	181.827	19350.000
	2015	5	8253.27574	1.739126E4	7777.606798	-13340.82258	29847.37406	102.957	39357.581
	2016	5	10595.71749	2.245123E4	1.004050E4	-17281.17180	38472.60678	123.646	50750.669
	2017	5	14629.65460	3.054269E4	1.365911E4	-23294.10791	52553.41710	163.577	69248.619
	Total	40	5610.44171	1.463618E4	2314.183559	929.56363	10291.31978	65.919	69248.619

D. Multiple Comparisons

LSD

Dependent Variable	(I) types of tyres	(J) types of tyres	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
DIVIDENDS	Ceat	MRF	-27.75000*	6.53906	.000	-41.0250	-14.4750
		JKT	3.75000	6.53906	.570	-9.5250	17.0250
		APPOLLO	5.50000	6.53906	.406	-7.7750	18.7750
		BALAKRISHNA	4.91250	6.53906	.458	-8.3625	18.1875
	MRF	Ceat	27.75000*	6.53906	.000	14.4750	41.0250
		JKT	31.50000*	6.53906	.000	18.2250	44.7750
		APPOLLO	33.25000*	6.53906	.000	19.9750	46.5250
		BALAKRISHNA	32.66250*	6.53906	.000	19.3875	45.9375

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	JKT	Ceat	-3.75000	6.53906	.570	-17.0250	9.5250
		MRF	-31.50000*	6.53906	.000	-44.7750	-18.2250
		APPOLLO	1.75000	6.53906	.791	-11.5250	15.0250
		BALAKRISHNA	1.16250	6.53906	.860	-12.1125	14.4375
	APPOLLO	Ceat	-5.50000	6.53906	.406	-18.7750	7.7750
		MRF	-33.25000*	6.53906	.000	-46.5250	-19.9750
		JKT	-1.75000	6.53906	.791	-15.0250	11.5250
		BALAKRISHNA	-.58750	6.53906	.929	-13.8625	12.6875
	BALAKRISHNA	ceat	-4.91250	6.53906	.458	-18.1875	8.3625
		MRF	-32.66250*	6.53906	.000	-45.9375	-19.3875
		JKT	-1.16250	6.53906	.860	-14.4375	12.1125
		APPOLLO	.58750	6.53906	.929	-12.6875	13.8625
SHARES	Ceat	MRF	-2.583512E4	5346.087916	.000	-36688.25382	-14981.98290
		JKT	477.773704	5346.087916	.929	-10375.36176	11330.90917
		APPOLLO	501.109177	5346.087916	.926	-10352.02629	11354.24464
		BALAKRISHNA	-21.745779	5346.087916	.997	-10874.88124	10831.38968
	MRF	ceat	2.583512E4	5346.087916	.000	14981.98290	36688.25382
		JKT	2.631289E4	5346.087916	.000	15459.75660	37166.02752
		APPOLLO	2.633623E4	5346.087916	.000	15483.09207	37189.36300
		BALAKRISHNA	2.581337E4	5346.087916	.000	14960.23712	36666.50804
	JKT	Ceat	-477.773704	5346.087916	.929	-11330.90917	10375.36176
		MRF	-2.631289E4	5346.087916	.000	-37166.02752	-15459.75660
		APPOLLO	23.335473	5346.087916	.997	-10829.79999	10876.47094
		BALAKRISHNA	-499.519482	5346.087916	.926	-11352.65494	10353.61598
	APPOLLO	Ceat	-501.109177	5346.087916	.926	-11354.24464	10352.02629
		MRF	-2.633623E4	5346.087916	.000	-37189.36300	-15483.09207
		JKT	-23.335473	5346.087916	.997	-10876.47094	10829.79999
		BALAKRISHNA	-522.854956	5346.087916	.923	-11375.99042	10330.28051
	BALAKRISHNA	Ceat	21.745779	5346.087916	.997	-10831.38968	10874.88124
		MRF	-2.581337E4	5346.087916	.000	-36666.50804	-14960.23712
		JKT	499.519482	5346.087916	.926	-10353.61598	11352.65494
		APPOLLO	522.854956	5346.087916	.923	-10330.28051	11375.99042

*. The mean difference is significant at the 0.05 level.

1) *Interpretation:* The above test i.e. Anova with fishers least significant difference states that with respect to dividend, being the dependent variable Ceat Tyres is has a statistical relationship with MRF tyres as the p value of the same is less the 0.05.

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MRF Tyres has a statistical relationship with all the companies being Ceat, JKT, Apollo and Balkrishna as their p values are lesser than the level of significance i.e. 0.05.

JKT has a relationship with MRF tyres were in the p value is .000 (.000<. 05).

Apollo and Balkrishna tyres has a relationship with MRF were in the P value stands to be 0.000.

This it is clear than out of the stocks chosen MRF is the company, which seems to have a significant statistical relationship with the other companies in the industry, when dividend is taken into consideration.

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
DIVIDENDS	Between Groups	1480.789	7	211.541	.620	.735
	Within Groups	10918.174	32	341.193		
	Total	12398.963	39			
SHARES	Between Groups	8.749E8	7	1.250E8	.535	.802
	Within Groups	7.480E9	32	2.337E8		
	Total	8.354E9	39			

Multiple Comparisons

LSD

Dependent Variable	(I) YEAR	(J) YEAR	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
DIVIDENDS	2010	2011	.55000	11.68234	.963	-23.2462	24.3462
		2012	.83000	11.68234	.944	-22.9662	24.6262
		2013	-.97000	11.68234	.934	-24.7662	22.8262
		2014	-6.62000	11.68234	.575	-30.4162	17.1762
		2015	1.95000	11.68234	.868	-21.8462	25.7462
		2016	-16.67000	11.68234	.163	-40.4662	7.1262
		2017	-8.97000	11.68234	.448	-32.7662	14.8262
	2011	2010	-.55000	11.68234	.963	-24.3462	23.2462
		2012	.28000	11.68234	.981	-23.5162	24.0762
		2013	-1.52000	11.68234	.897	-25.3162	22.2762
		2014	-7.17000	11.68234	.544	-30.9662	16.6262
		2015	1.40000	11.68234	.905	-22.3962	25.1962
		2016	-17.22000	11.68234	.150	-41.0162	6.5762
		2017	-9.52000	11.68234	.421	-33.3162	14.2762
	2012	2010	-.83000	11.68234	.944	-24.6262	22.9662
		2011	-.28000	11.68234	.981	-24.0762	23.5162
		2013	-1.80000	11.68234	.879	-25.5962	21.9962

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	2014	-7.45000	11.68234	.528	-31.2462	16.3462
	2015	1.12000	11.68234	.924	-22.6762	24.9162
	2016	-17.50000	11.68234	.144	-41.2962	6.2962
	2017	-9.80000	11.68234	.408	-33.5962	13.9962
2013	2010	.97000	11.68234	.934	-22.8262	24.7662
	2011	1.52000	11.68234	.897	-22.2762	25.3162
	2012	1.80000	11.68234	.879	-21.9962	25.5962
	2014	-5.65000	11.68234	.632	-29.4462	18.1462
	2015	2.92000	11.68234	.804	-20.8762	26.7162
	2016	-15.70000	11.68234	.188	-39.4962	8.0962
	2017	-8.00000	11.68234	.498	-31.7962	15.7962
2014	2010	6.62000	11.68234	.575	-17.1762	30.4162
	2011	7.17000	11.68234	.544	-16.6262	30.9662
	2012	7.45000	11.68234	.528	-16.3462	31.2462
	2013	5.65000	11.68234	.632	-18.1462	29.4462
	2015	8.57000	11.68234	.469	-15.2262	32.3662
	2016	-10.05000	11.68234	.396	-33.8462	13.7462
	2017	-2.35000	11.68234	.842	-26.1462	21.4462
2015	2010	-1.95000	11.68234	.868	-25.7462	21.8462
	2011	-1.40000	11.68234	.905	-25.1962	22.3962
	2012	-1.12000	11.68234	.924	-24.9162	22.6762
	2013	-2.92000	11.68234	.804	-26.7162	20.8762
	2014	-8.57000	11.68234	.469	-32.3662	15.2262
	2016	-18.62000	11.68234	.121	-42.4162	5.1762
	2017	-10.92000	11.68234	.357	-34.7162	12.8762
2016	2010	16.67000	11.68234	.163	-7.1262	40.4662
	2011	17.22000	11.68234	.150	-6.5762	41.0162
	2012	17.50000	11.68234	.144	-6.2962	41.2962
	2013	15.70000	11.68234	.188	-8.0962	39.4962
	2014	10.05000	11.68234	.396	-13.7462	33.8462
	2015	18.62000	11.68234	.121	-5.1762	42.4162
	2017	7.70000	11.68234	.515	-16.0962	31.4962
2017	2010	8.97000	11.68234	.448	-14.8262	32.7662
	2011	9.52000	11.68234	.421	-14.2762	33.3162
	2012	9.80000	11.68234	.408	-13.9962	33.5962
	2013	8.00000	11.68234	.498	-15.7962	31.7962

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		2014	2.35000	11.68234	.842	-21.4462	26.1462
		2015	10.92000	11.68234	.357	-12.8762	34.7162
		2016	-7.70000	11.68234	.515	-31.4962	16.0962
SHARES	2010	2011	25.692566	9669.270155	.998	-19669.96622	19721.35135
		2012	-287.200554	9669.270155	.976	-19982.85934	19408.45823
		2013	-1373.208994	9669.270155	.888	-21068.86778	18322.44979
		2014	-2926.429798	9669.270155	.764	-22622.08858	16769.22899
		2015	-6884.527934	9669.270155	.482	-26580.18672	12811.13085
		2016	-9226.969686	9669.270155	.347	-28922.62847	10468.68910
		2017	-1.326091E4	9669.270155	.180	-32956.56558	6434.75199
	2011	2010	-25.692566	9669.270155	.998	-19721.35135	19669.96622
		2012	-312.893120	9669.270155	.974	-20008.55191	19382.76567
		2013	-1398.901560	9669.270155	.886	-21094.56035	18296.75723
		2014	-2952.122364	9669.270155	.762	-22647.78115	16743.53642
		2015	-6910.220500	9669.270155	.480	-26605.87929	12785.43829
		2016	-9252.662252	9669.270155	.346	-28948.32104	10442.99653
		2017	-1.328660E4	9669.270155	.179	-32982.25814	6409.05943
	2012	2010	287.200554	9669.270155	.976	-19408.45823	19982.85934
		2011	312.893120	9669.270155	.974	-19382.76567	20008.55191
		2013	-1086.008440	9669.270155	.911	-20781.66723	18609.65035
		2014	-2639.229244	9669.270155	.787	-22334.88803	17056.42954
		2015	-6597.327380	9669.270155	.500	-26292.98617	13098.33141
		2016	-8939.769132	9669.270155	.362	-28635.42792	10755.88965
		2017	-1.297371E4	9669.270155	.189	-32669.36502	6721.95255
	2013	2010	1373.208994	9669.270155	.888	-18322.44979	21068.86778
		2011	1398.901560	9669.270155	.886	-18296.75723	21094.56035
		2012	1086.008440	9669.270155	.911	-18609.65035	20781.66723
		2014	-1553.220804	9669.270155	.873	-21248.87959	18142.43798
		2015	-5511.318940	9669.270155	.573	-25206.97773	14184.33985
		2016	-7853.760692	9669.270155	.423	-27549.41948	11841.89809
		2017	-1.188770E4	9669.270155	.228	-31583.35658	7807.96099
	2014	2010	2926.429798	9669.270155	.764	-16769.22899	22622.08858
		2011	2952.122364	9669.270155	.762	-16743.53642	22647.78115
		2012	2639.229244	9669.270155	.787	-17056.42954	22334.88803
		2013	1553.220804	9669.270155	.873	-18142.43798	21248.87959
		2015	-3958.098136	9669.270155	.685	-23653.75692	15737.56065
		2016	-6300.539888	9669.270155	.519	-25996.19867	13395.11890
		2017	-1.033448E4	9669.270155	.293	-30030.13578	9361.18179

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2015	2010	6884.527934	9669.270155	.482	-12811.13085	26580.18672
	2011	6910.220500	9669.270155	.480	-12785.43829	26605.87929
	2012	6597.327380	9669.270155	.500	-13098.33141	26292.98617
	2013	5511.318940	9669.270155	.573	-14184.33985	25206.97773
	2014	3958.098136	9669.270155	.685	-15737.56065	23653.75692
	2016	-2342.441752	9669.270155	.810	-22038.10054	17353.21703
	2017	-6376.378858	9669.270155	.514	-26072.03764	13319.27993
2016	2010	9226.969686	9669.270155	.347	-10468.68910	28922.62847
	2011	9252.662252	9669.270155	.346	-10442.99653	28948.32104
	2012	8939.769132	9669.270155	.362	-10755.88965	28635.42792
	2013	7853.760692	9669.270155	.423	-11841.89809	27549.41948
	2014	6300.539888	9669.270155	.519	-13395.11890	25996.19867
	2015	2342.441752	9669.270155	.810	-17353.21703	22038.10054
	2017	-4033.937106	9669.270155	.679	-23729.59589	15661.72168
2017	2010	1.326091E4	9669.270155	.180	-6434.75199	32956.56558
	2011	1.328660E4	9669.270155	.179	-6409.05943	32982.25814
	2012	1.297371E4	9669.270155	.189	-6721.95255	32669.36502
	2013	1.188770E4	9669.270155	.228	-7807.96099	31583.35658
	2014	1.033448E4	9669.270155	.293	-9361.18179	30030.13578
	2015	6376.378858	9669.270155	.514	-13319.27993	26072.03764
	2016	4033.937106	9669.270155	.679	-15661.72168	23729.59589

IV. CHAPTER 4

A. *Findings*

1) The Ex date does impact the share price volatility in the Indian tyre industry.
2) There exists an uptrend during the pre window (before ex date) followed by a downtrend (after ex date).
3) The percentage fall in the share price on the ex date is on an average 90% of the amount of dividend declared.

B. *Suggestions*

1) Investors should buy a stock in the equity or the FnO segment about 6 days before the ex date.
2) A short-term investor should book his profits on the ex date by clearing of his position.
3) A investor could go short on the ex date and book profits when the fall in the share price on that day equals about 90% of the dividend declared.
4) The stocks in the tyre industry could be further purchased after the 6^{th} day of the declaration of ex date, depending on individual analysis and interpretations.

C. *Conclusion*

Ex dividend is an important date for the investors that cause the share prices to react in secondary trends. I conclude that ex dividend date has two sets of trends associated with it, i.e. an upward trend before the date and a downward trend after the date. On an average a time frame of 5 days both in the pre and the post window sees the fluctuation in the share prices brought about by the reaction of the investors as the result of the date.

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This study establishes the existence of a high relationship between the two variables being dividend and share prices. Both the test undertaken i.e. Pearson's Correlation and T test accept the alternative hypothesis, concluding the existence of a strong relationship between the share price volatility and dividend announcement.

Therefore the study concludes that in reference to the tyre industry in India, the investors would definitely get a boon if they purchase the stocks of the listed tyre companies, 6 days on an average before the ex dividend date and square off their positions on or the day following the dividend date. There exists a abnormal share price momentum for a period of 10 days in average and the profit booking in the market tends to show up from the 6th day. This strategy of booking profits would pertain to both the Equity and the FnO segment.

D. Limitation Of The Study

The study encountered the following imitations:

1) The study pertained itself only to a particular industry (Tyre industry), thus the remarks of profit booking would be specific only to the tyre industry in India.

2) The study was confined to the stocks listed in India, thus lacking a global outlook on the relationship of the variables chosen.

The study has a sample size of 5 companies spread over a tenure of 8 years

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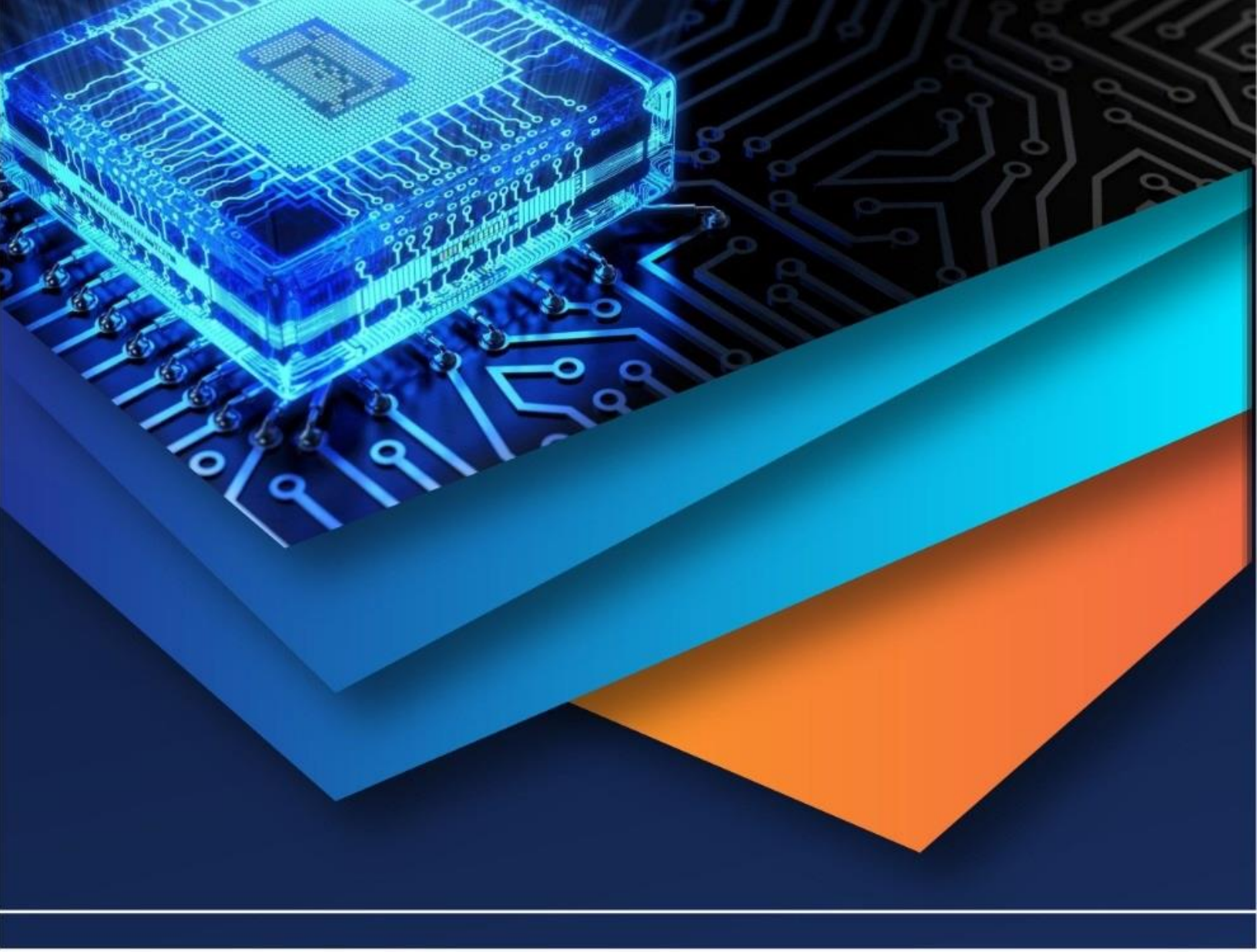
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