A Study on Effect of Dividend Announcement on Popular Indices in India

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Abstract

The mark of important events in the company working is indirect signal for the present and potential investors. These are perceived differently by investors on their parameters of risk and return. These are indications of future course of action of a company and accordingly the investors adjust their strategies for investment. This study is particularly focusing on dividend announcements as a signal and how it is perceived by the investors in the market. In financial markets the objective of maximizing return can only be achieved by increasing risk. The risk-return trade-off, which generally emphasizes that higher risk, is associated with high return securities and lower risk is accompanied with lower return. While investing the investor views securities from risk involved and return potential angle. Variation in prices of securities is definitely a signal of riskiness of a security. To some extent risk can be measured by analysing variations in stock prices with some tools and techniques. Variation of a security from average price is a risky signal. There are many tools and techniques of measuring variability of security prices from its standard. The best among them is standard deviation. In this research paper we have endeavoured to measure the variations which take place in stock price due to dividend announcement by companies. Announcements definitely will lead to positive and negative outcome for investors, so efforts have been made to measure variability by taking in account 5 sectors of market and 5 companies in each sector over a period of 5 years from the data base of NSE.

Introduction

The whole gamut of finance revolves around trade-off between risk and return. In financial decisions making we see both positives and negatives of a security. The positive is return and negatives are associated with risk. There is always a deluge between expectancy and reality. This vide is known as a risk. Risk can said to be a situation that lies between certainty and uncertainty. In stock market at each and every stage an investor faces many types of risks that affect its decision making. As we discussed earlier both negatives and positives of a security affects the decision making. Risk generally gives variations from the return. Risk is caused by many factors which can be controlled and uncontrolled.

Many studies have been conducted on dividend policies earlier which explicate the relationship between dividend policy and stock prices. These studies help researchers to explore the dividend policy in a new way. Bali and Peng (2004) researched the risk-return trade off at a daily frequency, in contrast to much of the literature which uses lower frequency returns and the used intraday data and estimated the conditional variance. On the same theme we are also doing a stock market analysis on risk and return. Dasilas Apostolos (2008) investigated the stock market reaction of the Athens Stock Exchange to cash dividend announcements for the period 2000-2004. In particular, the study examined both the stock price and trading volume response to company announcements about dividend distributions. The dividend distribution in Greece featured remarkable differences from those of US, UK and other developed markets. Sameer Sindi (2013) investigated the increase in dividend announcements effects on stock prices by taking 50 companies listed on Toronto stock exchange over the period of 2001-2010 through the event window study of 3,7 and 11 days. His study found out that the increase in dividend announcements does not affect the stock prices. Bhatia (2010) in her study titled "A study of dividend

announcements on stock returns of popularly traded companies in India" randomly selected 28 companies of NSE India to study dividend announcement effects. The study concluded dividends do not impact the stock returns that means they do not have any abnormal bearing on stock prices. Sydney C. Ludvigson & Serena Ng (2005) in their working paper titled "The Empirical Risk-Return Relation: A Factor Analysis Approach" did an empirical work in U.S stock markets to estimate the relation between risk and return. Although theory typically says a positive relation, between risk and return, empirical findings are mixed and often suggest a negative relationship.

The question for which the answer is still evasive is that why markets fluctuate. The market fluctuates because of some real and imaginary factors/events. The reaction or sometimes overreactions cause instability in the markets and it leads to a snowballing effect. This instability caused by over reactions and emotional instability crashes the market. The   risks which need to be given special focus while investing is market risk/interest rate etc. As discussed above the systematic risk cannot be controlled but unsystematic risk can be controlled, so eliminating risk as such is not a possibility but reducing/ minimizing it by using certain strategies is an option available with the investors. The accurate measurement of risk is important and is half the job done in reduction of risk. Apt and accurate measurement of risk helps the decision matters to a great extent in making optimum portfolio choice.

Risk (variability in expectations) can be measured in number of ways and with many tools. In this research paper we have used tool of standard deviation to measure the risk factor associated with the securities. Standard deviation is a measure of spread of probability. It measures the dispersion/variation form the standard "the higher degree of risk, more will be the standard deviation, small or low level of risk will be represented by low standard deviation. In this research paper attempt has been made to measure the impact of an event on stock prices.

Research Methodology

Realizing the relevance to understand risk in evaluating any security this present study was initiated with following objectives:

- To study whether dividend announcements affect stock prices or not.

- To study the stock volatility in terms of rate of change before and after dividend announcements

- To compare the effect of stock price volatility due to dividend announcements among the different sectors.

In the study we have used the secondary data to fulfil our objectives. The study has been done in the segmented and sectoral form, so we took the different stocks representing the different sectors. The companies are selected from the popular sectoral indices of NSE. Five sectors were selected and in each sector, five companies were selected on the basis of market capitalization and free float. So in all 25 companies were chosen for the study and analysis. Further the selected companies are studied over a period of five years i.e. 2009, 2010, 2011, 2012, and 2013.

Conclusion

Maximization of return by taking minimum risk is the ultimate objective of every investor in stock markets. It's a universal truth with greater return the riskiness of investment increases. The above given tables are showing mix responses of standard deviation as a result of dividend announcement. Few sectors like pharmacy and finance sectors are showing high volatility in stock prices due to dividend announcement news in the markets.

Infosys, Hindalco, Wipro, HCL, Zee and DB Corp standard deviations figures are not very high and low as dividend announcements haven't affected them extremely. Announcement effect vary across sectors, in some sector volatility is high, in some it is of moderate level but one thing is for sure that dividend announcement are causing vibrations in the stock prices. It's very hard to say that in which direction prices will move, whether movement will be favourable or unfavourable, but studies on stock market do give some glimpses so that investor can have idea of calculated risk. It can't be said that whether these announcement will give any opportunity to have abnormal return but yes it can be more than expected return.

Results and Discussion

The above mentioned objectives have been achieved through the use of standard deviation technique. Standard deviation (σ) is a measure of the spread of the probability distribution. The larger the Standard deviation more will be the volatility or dispersion in the stock prices and for lower standard deviation it's just the opposite. The tool is usually used to measure variability in a distribution. The standard deviation in this paper has been computed with the following formula:

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2}$$

Table 1: IT sector

Indices	Companies	2009		2010		2011		2012		2013	
		Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period
IT	Infosys Ltd.	64.10	81.36	57.03	44.53	133.575	26.06	36.34	49.56	47.82	52.33
	Tata Consultancy Services Ltd.	32.05	42.85	15.76	13.49	51.00	23.34	40.37	30.02	32.06	40.18
	Wipro Ltd.	16.59	28.53	8.35	17.80	10.29	5.08	9.93	10.13	29.18	7.40
	HCL Technologies Ltd.	14.67	13.98	8.31	7.50	7.71	38.24	N/A	N/A	41.83	37.85
	Tech Mahindra Ltd.	N/A	N/A	26.75	43.98	11.96	13.23	34.78	10.94	65.06	50.05

Infosys ltd stock prices have shown more volatility to the dividend announcement during year 2013, otherwise during the period of 2009,2010,2011,2012 the stock volatility was not very high except during 2011 in post announcement period. As it can been seen in the above table, TCS standard deviation figures are surging and are consistently showing signs of more volatility than other stocks. The performance of Wipro is quite well during the period of 2009, 2010, 2011, and 2012 but in 2013 the pre and post announcement period figures are quite high at 41.83 and 37.85. In the above table figures, all the stocks of IT sector are showing high standard deviation but during the period of 2009, 2010, 2011, 2012 the standard deviation is quite low except in few cases.

Table 2: Metal Sector

Indices	Companies	2009		2010		2011		2012		2013	
	YEAR	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period
METAL	Tata Steel Ltd.	30.10	24.27	45.54	14.15	17.50	10.45	25.26	6.16	6.79	15.85
	Sesa Sterlite Ltd.	11.46	16.94	12.98	26.51	17.43	10.26	5.36	5.03	3.75	2.90
	Coal India Ltd.	N/A	N/A	N/A	N/A	N/A	N/A	18.35	9.66	8.59	9.8
	Hindalco Industries Ltd.	5.72	7.19	10.87	5.89	7.82	9.96	3.11	3.66	4.74	4.58
	JSW Steel Ltd.	32.60	62.36	29.84	69.03	37.34	24.06	37.71	19.65	13.79	18.64

JSW steel is the most volatile stock in this sector having high Standard deviation figures in both pre and post announcement period with maximum volatility in post announcement period in year 2009, 2010. Tata steel ltd Standard deviation figures are high in 2009, 2010, but afterwards these are quite low. Hindalco industries is the best stock, as it is most consistent with low level of standard deviation during five year analysis, in the table it can be seen that during pre and post announcement period standard deviation is less than 10 except pre announcement period in year 2010.

Table 3: Finance sector

Indices	Companies	2009		2010		2011		2012		2013	
	YEAR	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period
FINANCE	ICICI Bank Ltd.	34.88	93.07	22.90	40.29	10.69	30.05	18.77	28.77	57.36	28.27
	Housing Development Finance Corporation Ltd	117.06	212.33	59.37	55.18	23.69	16.37	7.24	11.19	42.56	21.34
	HDFC Bank Ltd.	71.82	111.75	16.51	55.24	89.88	57.61	9.87	19.63	24.09	13.15
	State Bank of India	72.45	220.16	98.66	47.89	111.87	139.20	144.63	109.33	62.17	157.69
	Axis Bank Ltd.	51.55	85.79	14.51	27.19	4.61	3.18	35.81	52.36	73.34	27.64

Finance sector is the most volatile sector among all the sectors of the study. HDFC bank stocks are having high standard deviation during the period of 2009, 2010, and 2011 but afterwards in year 2012, 2013 the standard deviation came down significantly. SBI is most volatile stock in the sector with standard deviation of 220.16 (highest in the sector) during post announcement session in year 2009 and in all the years standard deviation figures are at very high level except in year 2012. One thing to be mentioned here is that volatility figures of banks are very low during the year 2012 except in case of axis bank where these are 35.81 and 52.36 during pre and post dividend announcement period respectively.

Table 4: Media sector

Indices	Companies	2009		2010		2011		2012		2013	
	YEAR	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period
MEDIA	Zee Entertainment Enterprises Ltd.	10.69	8.31	5.02	12.49	2.97	5.62	1.68	4.46	9.14	7.87
	Sun TV Network Ltd.	12.71	9.04	11.05	6.55	14.34	35.66	16.94	17.58	15.64	23.79
	Hathway Cable & Datacom Ltd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TV18 Broadcast Ltd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	D.B.Corp Ltd.	N/A	N/A	N/A	N/A	7.41	4.00	4.72	7.05	8.41	8.58

The performance of media sector is quite satisfactory as it can be observed from the above mentioned figures the volatility factor is quite low as compared to other sectors. High volatility figures are very rare

to be noticed, Like in 2011 and 2013 in post announcement period of Sun TV network. The performance of Zee and DB corp is quite commendable as is being depicted by low level of standard deviation during the period of five years in post and pre dividend announcement period. Data regarding two companies Hathway cable Ltd and TV 18 broadcast Ltd of this sector was not available because no dividend was declared by them.

Table 5: Pharmacy sector

Indices	Companies	2009		2010		2011		2012		2013	
		Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period	Standard deviation pre announcement period	Standard deviation post announcement period
PHARMAs	Sun Pharmaceutical Industries Ltd.	71.82	65.68	24.34	43.44	9.23	8.39	18.29	8.41	20.92	40.33
	Dr. Reddy's Laboratories Ltd.	18.08	41.65	33.53	64.06	36.33	25.36	32.56	29.48	64.29	49.72
	Lupin Ltd.	38.47	32.28	44.07	25.39	9.25	9.24	7.58	8.06	31.61	19.51
	Cipla Ltd.	6.25	4.46	8.12	3.83	6.92	6.88	6.11	5.42	8.95	4.08
	Glaxosmithkline Pharmaceuticals Ltd.	12.81	46.96	19.31	59.43	36.93	40.18	48.77	16.18	28.21	17.80

Cipla ltd is the least volatile stock in the sector with all the figures under level of 9, indicating less volatility. Sun Pharma standard deviation is quite high during 2009 and 2010 but during 2011, 12 & 13 the volatility came down. Most of the stocks are having low level standard deviation figures during 2011 and 2012 period in both pre and post announcement period. But in year 2013 the standard deviation is high in all the five companies in comparison to last two year figures. Glaxosmithkline Ltd standard deviations are quite high during post announcement period in year 2009, 10, 11 and pre announcement period in 2012 &13.

References

➤ Dasilas Apostolos, "Stock Market Reaction to Dividend Announcements: Evidence from the Greek Stock Market", Working Paper Series at Social Science Research Network, 2008.

➤ Parul Bhatia, "A Study Of Dividend Announcements On Stock Returns Of Popularly Traded Companies In India", APJRBM Volume 1, Issue 3 ISSN 2229-4104, 2010.

➤ Miller, M.H. and Modigliani, F. "Dividend Policy, Growth and the Valuation of Shares." J. Business, 34(34): 411-433, (1961).

➤ Sameer Mohammed Sindi, "Dividend Increase Announcements and Stock Market Reaction (Evidence from Canadian Stock Market)" Research Report, Saint Mary's University Canada 2013.

➤ Sydney C. Ludvigson & Serena Ng, "The Empirical Risk-Return Relation: A Factor Analysis Approach" Working Paper 11477, National Bureau of Economic Research, June 2005.

➤ Bali, Turan, and Lin Peng, "Is there a risk-return tradeoff? Evidence from high-frequency data", Journal of Applied Econometrics, 2004

➤ www.nseindia.com.

➤ Pandey I M "Financial Management" Vikas Publishing House Pvt Ltd, 1999

➤ Bhole L.M "Financial Institutions and Markets," Tata McGraw Hill publications, 2004.

➤ Khan M.Y. "Financial Services" 3rd edition, Tata McGraw Hill publications, 2004.