The Dynamics of Market Index Returns and Shareholder's Wealth in India: Volatility Strength

Dr. Madhvi Kush, Assistant Professor, Tilak Raj Chadha Institute of Management and Technology, Yamuna Nagar, Haryana, 130001
Madhviverma904@gmail.com, Mob. +91 9896998422

Rajat Kush, Investment Banker, UAE bank, r.aryankush@gmail.com .
9729183810

Abstract:

Market index return is always gets influenced by number of external factors like market risk, interest rate risk, exchange rate risk, government policy etc. Relationship between market return and shareholder's wealth has been always a topic for research among researchers. The objective of the current study is to analyse the reaction of market index return on the individual stock return in Indian stock market. 6 organizations on the basis of market capital have been selected and data has been derived for the period of 2017-2020 from the website of national stock exchange (NSE). Data has been analysed in SPSS software using correlation and regression tool. In the case of Bank of Baroda and LIC, significant correlation and regression was found among market index return and individual stock return. This means that market return has significant impact on shareholder's wealth whereas other result indicates insignificant relation between both of the variables.

Keywords: *Market return, Indian economy, Indian stock market, Shareholder's wealth, Stock market, Stock return.*

Introduction:

In the Era of financial literacy and globalization, specifically after the financial crisis effect on the countries, financial market especially stock market has practiced exceptional volatility. The trend of volatility has increase the ambiguity in the stock market which has led to the deviations in expected return from the stock market. To shrink the deviations from stock market, it becomes very prudential to measure precision of volatility in return of market index in the financial market. As a result, the understanding of literature and related information of these deviations are required to observe the stock index returns. In research deviations in returns is always a researchable topic. Volatility has direct impact on the market uncertainty and investor's decisions. It becomes the reason of inefficiency for the experts and analysts to forecast the volatility in the stock market. The traditional approach of econometric model believes in behavioural aspect of variability in index return. Preciseness in measuring the fluctuations in individual stock return is directly connected with the right choice of securities in the portfolio, efficacy in managing risk, asset pricing parameters. Conversely, with the more in-depth empirical research and financial theory development, this assumption was found unreasonable. Now days it has become more challenging for the shareholders to have the correct understanding of volatility in the market.

A review of literature plays a substantial role in all research activities. There may be number of reasons which impact on the movement of stock prices in stock market but effect of market index return is a most famous topic among the researchers studying financial market. Stock market index is influenced by many factors involving rate of interest, market risk, monetary policy, international market etc.

Literature Review

Campbell (2002), analysed the variations between stock market by observing deviations between the movements on market portfolio on daily basis. That was further more explored by Yang (2000) who added into the research by changing the shift to high and low price from the market deviations and surprisingly that was found successful in measuring excess return from the market but that did not change the result in qualitative elements. Rani (2015) examined the influence of corporate actions on the stock return and market return positively or negatively and studied the effect with pre and post-merger. Mishra (2014) raised the issues on unanswered and untouched question in the same area in his study which can be studied further. Khanall (2014) discussed impact on open market position through mergers and actions announcements by the corporates and related t to the normal return (AR) and Cumulative abnormal return (CAR). Study concluded the result of more wealth generation through merger and acquisition decisions and its impact on shareholder's return. Bhardwaj (2014) analysed the performance of bank of Punjab and centurion Bank after post-merger and found the enhancement in productivity as compare to pre-merger whereas Chatterjee (2011) stated negative correlation between market return and corporate announcement. Khan (2012) examined the efficiency of Indian stock market with its relation to the corporates. Ashok (2012) examined the impact of impact of market return on the individual stock return which was found positively correlated. Repousis (2011) analysed the influence of market return on shareholder's wealth and its impact on Greek bank's financial activities which was found completely uncorrelated in the stock market. Joshua (2011) did comparative analysis of Nigerian banks to analyse the effectiveness of mergers and acquisitions events. Organizations were found more efficient in post-merger as compared to premerger situation. Saboo (2009) observed that future returns are totally dependent on the stock market environment some of them are controllable whereas others are uncontrollable. Anand (2008) discussed the positive impact of market return on individual stock return.

Research questions:

Relationship between market return and shareholder's wealth is always being a question of research among scholar. This study has worked on the same area. Study started with basic question like impact of volatility in market index return on individual share return. Market index always surrounds with external environment like business policy, govt. policy, market risk, economic reforms etc. so, current study is conducted in order to know the impact of the same on individual stock return.

Methodology

Secondary data has been used for the current study, which has been derived from the official websites of National Stock Exchange (NSE). 6 organizations public and private on the basis of market size has been selected for the study and time period from 2017-2020 has been confirmed. SPSS software has been used in the study with use of correlation and regression methodology.

Table I.

List of organizations considered for the study

Sr. No.	Organization	Sector	Market Size (in crores)
1.	Axis Bank	Banking	9,96,118
2.	Tata Steel	Steel Industry	149,284
3.	LIC and	Insurance	21,488
4.	Bank of Baroda	Banking	58,720
5.	IndusInd Bank	Banking	75,113
6.	ITC	FMCG	286,442

DaData AnaData Analysis

To study the relationship between market return and individual stock return in Indian stock market 6 organization's data have been studied for the time period of 2017-2020. Correlation and regression is always found a promising tool to study the bond between two variables. This study has also used the same tool using SPSS software. Where few researches have been in favour of positive reaction of market return on individual stock return and others believe totally opposite of this approach. This study also attempts to focus on behaviour of market return and shareholder's return. Following tables are given to support the current study which helps in to reach more into the result.

Bank of Baroda**:**

Table II

Model summary of variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.772a	.595	.562	.0169324

a. Predictors: (Constant), Market Return

Source: Author's calculation

Table III
Anova statistics

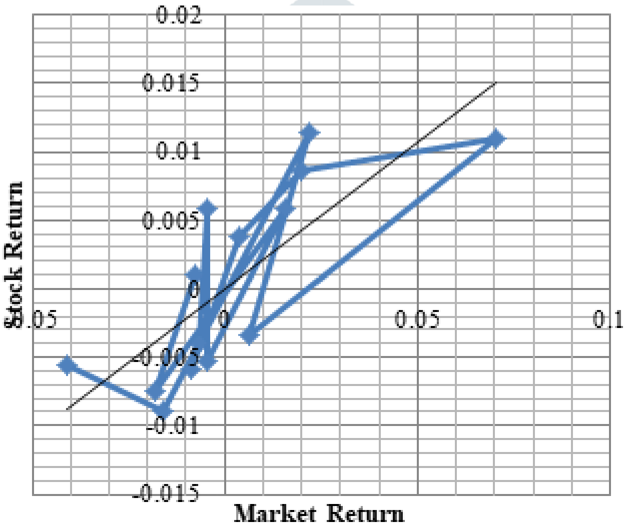
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.005	1	.005	17.662	.001a
	Residual	.003	12	.000		
	Total	.009	13			

a. Predictors: (Constant), Market Return

b. Dependent Variable: Stock Return

Source: Author’s calculation

Graph 1
Linear relationship between market return and stock return



Source: Author’s calculation

Above table explains the relationship between market return and individual stock return of Bank of Baroda which shows strong positive correlation between both of the variables. In model summary, R is .77 whereas regression level is found significant (.001) which clearly specify that in the case of Bank of Baroda market return impact on the shareholder’s wealth in Indian stock market. That means there are more chances of deviations in abnormal return in the stock market in this case.

Axis Bank
Table IV
Model summary of variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.397a	.157	.101	.0152529

a. Predictors: (Constant), Market Return

Source: Author’s calculation

Table V

Anova statistics

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	2.803	.115[a]
	Residual	.003	15	.000		
	Total	.004	16			

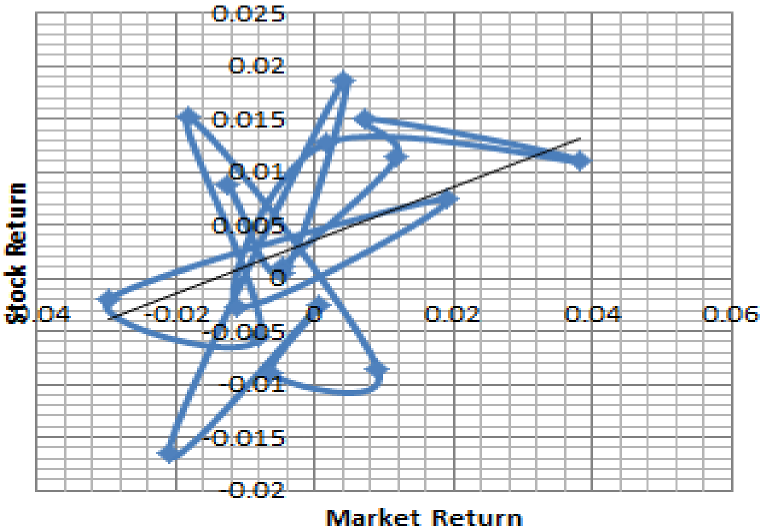
a. Predictors: (Constant), Market Return

b. Dependent Variable: Stock Return

Source: Author's calculation

Graph 2

Linear relationship between market return and stock return



Source: Author's calculation

Above table explains the relationship between market return and individual stock return of Axis Bank which shows weak correlation between both of the variables. In model summary, R is .39 whereas regression level is also found insignificant (.115) which clearly specify that in the case of Axis Bank market return does not having impact on the shareholder's wealth in Indian stock market. That means any change in market return in case of Axis Bank does not give any reaction to individual stock return.

Indisind Bank

Table VI

Model summary of variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.343[a]	.118	.059	.023

a. Predictors: (Constant), Market Return

Source: Author's calculation

Table VII
Anova statistics

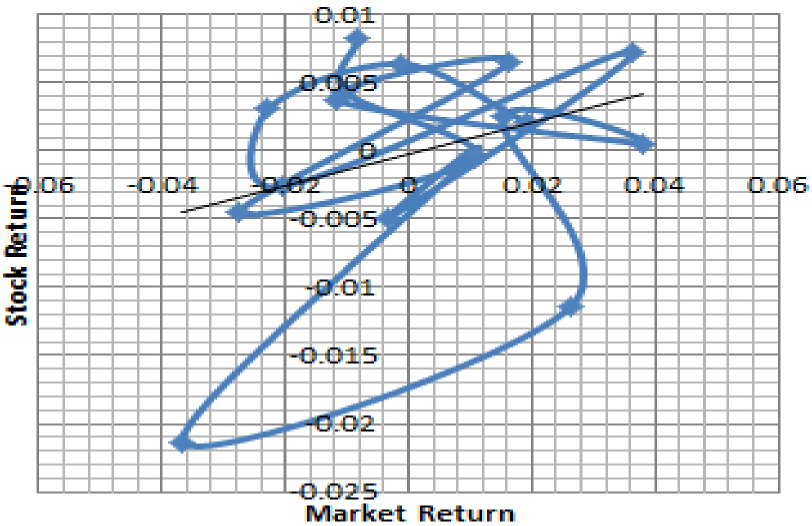
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	2.001	.178ᵃ
	Residual	.008	15	.001		
	Total	.009	16			

a. Predictors: (Constant), Market Return

b. Dependent Variable: Stock Return

Source: Author's calculation

Graph 3
Linear relationship between market return and stock return



Source: Author's calculation

Above table explains the relationship between market return and individual stock return of Indusind Bank which shows weak correlation between both of the variables. In model summary, R is .34 whereas regression level is also found insignificant (.178) which clearly specify that in the case of Indusind Bank market return does not having impact on the shareholder's wealth in Indian stock market. That means any change in market return in case of Indusind Bank does not give any reaction to individual stock return.

ITC
Table VIII
Model summary of variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.251ᵃ	.063	.001	.0115298

a. Predictors: (Constant), Market Return

Source: Author's calculation

Table lX
Anova statistics

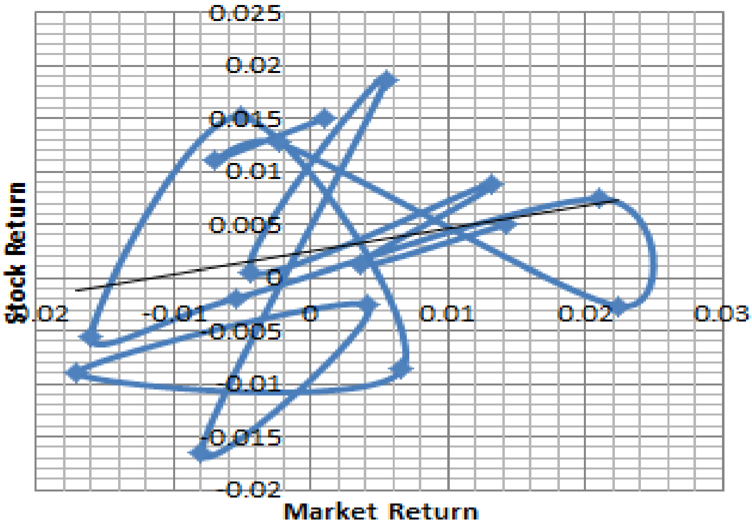
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	1	.000	1.011	.331a
	Residual	.002	15	.000		
	Total	.002	16			

a. Predictors: (Constant), Market Return

b. Dependent Variable: Stock Return

Source: Author's calculation

Graph 4
Linear relationship between market return and stock return



Source: Author's calculation

Above table explains the relationship between market return and individual stock return of ITC which shows weak correlation between both of the variables. In model summary, R is .25 whereas regression level is also found insignificant (.331) which clearly specify that in the case of ITC market return does not having impact on the shareholder's wealth in Indian stock market. That means any change in market return in case of ITC does not give any reaction to individual stock return.

LIC
Table X
Model summary of variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624a	.390	.346	.0176335

a. Predictors: (Constant), Market Return

Source: Author's calculation

Table XI

Anova statistics

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.003	1	.003	8.949	.010ᵃ
	Residual	.004	14	.000		
	Total	.007	15			

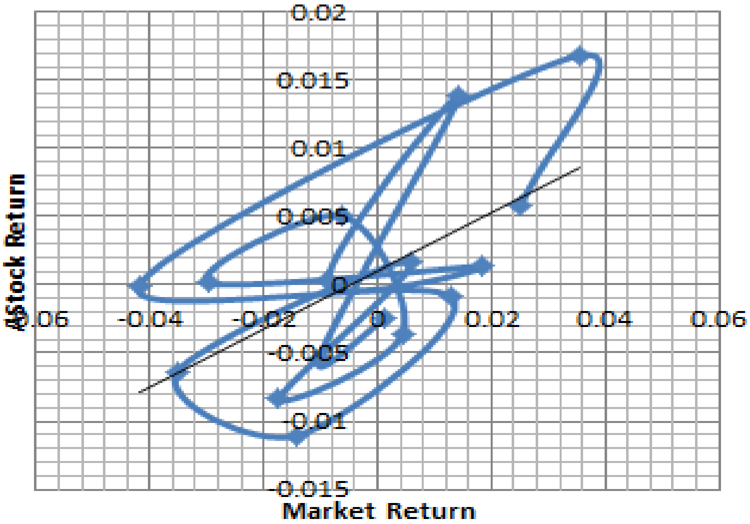
a. Predictors: (Constant), Market Return

b. Dependent Variable: Stock Return

Source: Author's calculation

Graph 5

Linear relationship between market return and stock return



Source: Author's calculation

Above table explains the relationship between market return and individual stock return of LIC which shows average correlation between both of the variables. In model summary, R is .62 whereas regression level is also found insignificant (.010) which clearly specify that in the case of LIC market return does not have any significant impact on the shareholder's wealth in Indian stock market. That means any change in market return in case of LIC does not give any reaction to individual stock return.

Tata Steel

Table XII

Model Summary between market return and stock return

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.590ᵃ	.348	.305	.0127882

a. Predictors: (Constant), Market Return

Source: Author's calculation

Table XIII
Anova statistics

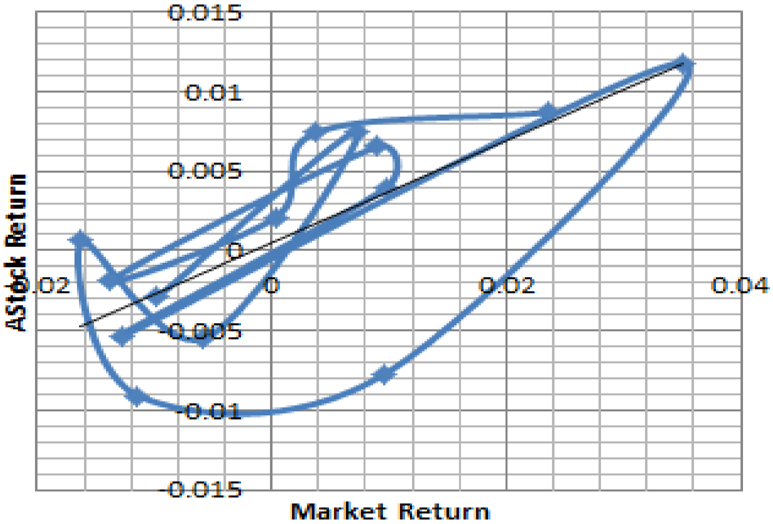
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	8.010	.013[a]
	Residual	.002	15	.000		
	Total	.004	16			

a. Predictors: (Constant), Market Return

b. Dependent Variable: Stock Return

Source: Author's calculation

Graph 6
Linear relationship between market return and stock return



Source: Author's calculation

Above table explains the relationship between market return and individual stock return of Tata Steel which shows average correlation between both of the variables. In model summary, R is .590 whereas regression level is also found insignificant (.013) which clearly specify that in the case of Tata Steel market return does not have any significant impact on the shareholder's wealth in Indian stock market. That means any change in market return in case of Tata Steel does not give any reaction to individual stock return.

Discussions

Stock market is always being an unpredicted and volatile market. It has been a matter of discussion and research among investors to catch the level of investment in such a volatile market. Study worked on the impact and relation between market return stock return in which 6 Indian firms were selected and data was picked from the year of 2017-2020. The study revealed mix return in which Bank of Baroda and LIC showed significant relation between market return and stock return which clearly state that in case of both of the firms market return has direct influence on stock return. Whereas other organizations like Tata steel, ITC, axis bank, Indusind bank showed insignificant relation between these variables.

Implications

Current study examines the reaction of changes in market return on individual stock return in the Indian stock market for the time period of 2017-2020. The study discovered mix return in which Bank of Baroda and LIC showed significant relation between market return and stock return which clearly state that in case of both of the firms market return has direct influence on stock return. Whereas other organizations like Tata steel, ITC, axis bank, Indusind bank showed insignificant relation between these variables. It may conclude at last that changes and deviations in market index and its return is always influenced by external environment like market risk, international market, interest rate risk, government policy, currency risk etc. its impact on shareholder's return on individual stock return can be control up to a certain level by changes in investment pattern and diversify the portfolio. Result of the study can further be applied for the use of investment opportunity in Indian stock market when market is more volatile and risky.

Conclusion

It may conclude at last that changes and deviations in market index and its return is always influenced by external environment like market risk, international market, interest rate risk, government policy, currency risk etc. its impact on shareholder's return on individual stock return can be control up to a certain level by changes in investment pattern and diversify the portfolio. Conditions and situations of stock market always vary according to the economic and investment environment so, this will always be a concentric topic for the research and further more study can be done on the other areas connected with the market return like portfolio structure, corporate actions, different investment decisions etc.

References:

- Amir, M., (2014), "On the Relationship between Stock Returns and Trading Volume: A Case Study", European Online Journal of Natural and Social Sciences.
- Joshua, O., (2011), "Comparative Analysis of the Impact of Mergers and Acquisitions on Financial Efficiency of Banks in Nigeria", Journal of Accounting and Taxation, 1-7.
- Calipha, R., (2010), "Mergers and Acquisitions: A Review of Phases, Motives, and Success Factors", Advances in Mergers and Acquisitions, 1-24
- Repousis, P., (2010), "The Impact of Mergers and Acquisitions on the performance of the Greek banking sector: An Event Study Approach", Journal of Decision Management
- Panagiotis, E., (2009), "The Relationship between Earnings and Stock Returns: Empirical Evidence from the Greek Capital Market" International Journal of Economics and Finance.
- Jagandeep, S., (2008), "Impact of Merger Announcements on Shareholder's wealth: Evidence from Indian Private Sector Banks", Journal for Decision Makers, 35-54.
- Bowman, R., (2006), "Understanding and Conducting Event Studies", Journal of Business Finance & Accounting, India.

- Hui, J., (2002), "Stock Market Returns, Volatility, and Future Output", The Federal Reserve Bank of St. Louis.
- Dwyer, G., (2001), "The Use of Event Studies in Finance and Economics", University of Rome at Tor Vergata, India.
- Roni, B., (2000), "Stock Market Volatility and Return Analysis: A Systematic Literature Review", Entropy.
- Fred, J., (2000), "Mergers, Restructuring and Corporate Control", Prentice-Hall of India, New Delhi
- Rafael, L., (1996), "Expectations and the Cross-Section of Stock", The Journal Of Finance.