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INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

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ACKNOWLEDGMENTS

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APPENDIX/ANNEXURE

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- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

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WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

AN EMPIRICAL STUDY ON WEAK-FORM OF MARKET EFFICIENCY OF NATIONAL STOCK EXCHANGE

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ABSTRACT

The purpose of present study is to investigate the weak form of market efficiency of National Stock Exchange of India. Using sample data spanning the period of January 2001 to March 2013 of daily closing price of the selected Indices of National Stock Exchange (NSE): CNX NIFTY, CNX IT, CNX FINANCE, CNX FMCG and CNX ENERGY. The random walk hypothesis is examined using runs test, unit root rest (ADF) and Autoregressive Integrated Moving Average (ARIMA) model. The results provide sufficient evidence from the runs test of the week form of efficiency of National Stock Exchange is weak form inefficient. The result also supported with the ADF test and ARIMA model that successive price are changes in the market, it means that investor put strategy to maintain return based on past price and trends of stock market.

KEYWORDS

ARIMA, Market Efficiency, NSE, Runs Test.

INTRODUCTION

The efficient market hypothesis (EMH) asserts that financial market are influence on the basis of relevant market information, if market is efficient, trying to pickup winners will be a waste of time.

The term market efficiency is used to explain the relationship between information and share prices in the capital market literature. A capital market is said to be efficient if it fully and correctly reflects all relevant market information or previous price in determining security prices.

There are three types of efficient market hypothesis: Weak, Semi-strong and Strong forms. Weak form of efficiency suggested that all past prices of a stock are reflected in today's stock price. It means that technical analysis cannot be used to predict the market. Semi strong form of efficiency claims that all publically information reflected on current stock price. It means that neither fundamental nor technical analysis can be used to predict the market. In Strong from of efficiency all information in a market, whether public or private, is reflect in a current stock price. Not only internal information could give an investor an advantage but external also reflect on the stock price.

According to Fama (1970), suggested that the primary role of the capital market is allocation of ownership of the economy's capital stock. In general terms, the ideal is a market in which prices provide accurate signals for resource allocation: i.e., a market in which firms can make productive-investment decisions, and investors can choose among the securities that represent ownership of firms' activities under the assumption that securities prices at any time 'fully reflect' all available information.

Dyckman and Morse (1986) suggested that "a security market is generally defined as efficient if (1) the price of the security traded in the market fully reflect all available information and (2) these prices react instantaneously or nearly so, and in unbiased fashion to new information".

LITERATURE REVIEW

Many studies have been conducted nationally and internationally which have focused on the weak form of market effieicncy. Following the theoretical literature, empirical studies on the weak form efficient market hypothesis in emerging markets have been intensively investigated, especially in recent years.

TABLE: 1 REVIEW OF LITERATURE

Sr. No.	Author(s)	Area/Market under Study	Period of Study	Methodology	Result
1.	Nikunj R. Patel, Nitesh Radadia and Juhi Dhawan	Asian four selected stock markets	1st January 2000 to 31st March 2011	Runs Test, Unit Root Test, Variance Ratio, Auto Correlation and Kolmogorov-Smirnov test	The study indicates that the Asian stock markets under study are not found weak- form efficiency.
2.	Gagan Deep Sharma, Mandeep Mahendru	Indian Securities Market	30th June 2007 to 27th October 2007	Runs Test and Autocorrelation Test	The study indicates that the BSE is found weak form efficient. Author also, suggested that market needs to strengthen its regulatory capacity to boost investors' confidence as well as stringent in enforcing financial regulations, performing regular market.
3.	Anand Pandey	Indian Stock Market	January 1996 to June 2002	Runs Test and Autocorrelation Test	Author finds sufficient evidence from the Indian stock market that market is not efficient. Because of there are number of undervalued securities in the market and the investors can always excess returns by correctly picking them.
4.	Philip Ifeakachukwu and Isiaq Olasunkanmi	Nigerian Stock Market	1986 and 2010	Serial auto-correlation and regression method	Study revealed that the Nigeria stock market is informational inefficient, that is stock price does not exhibit random walk. Also, suggested that enhanced regulatory market and developed adequate supervision
5.	Sunil Poshakwale	Indian Stock Market (BSE)	1987-1994	Runs Test, Kolmogorov Smirnov Goodness of Fit Test, Serial Correlation Coefficients Test,	The results give sufficient evidence of day of the week effect and that the stock market is not weak form efficient. The weekend effect is evident as the returns achieved on Fridays are significantly higher compared to rest of the days of the week. The implication of this result for investors is that they cannot adopt a 'fair return for risk' strategy, by holding a well diversified portfolio while investing in the Indian stock market.
6.	Amalendu Bhunia	Indian Stock Market (NSE)	January 2010 to June 2011	CAPM, Beta	The author suggested that there is no strong efficiency found in the Indian market.
7.	Divyang J Joshi	Indian Stock Market (BSE)	1st January 2001 to 31st December 2010	Runs Test	The study identified that the Indian stock market is inefficient in long run while efficient in short term.
8.	Mirah Putu Nikita and Subiakto Soekarno	Indonesia Stock Market	2008-2011	Runs test, Autocorrelation, and Regression Analysis,	The result suggested that the non-randomness behavior and significant result on autocorrelation value have confirmed the weak form market inefficiency.
9.	Rakesh Gupta and Junhao Yang	Indian Capital Market (NSE and BSE)	1997 to 2011	ADF, PP and KPSS	Study suggested that the rejection of weak form efficiency during all sample periods.
10.	Uttam Sapate and Valeed Ansari	Bombay Stock Exchange (India)	April 2000 to March 2010	Autocorrelation Test & Ljung – Box Q (LBQ) Statistics, Runs Test,	The result shows that BSE has not find sufficient evidence as a efficient market. It signifies that trading strategies based on historic prices cannot be used to gain abnormal profits consistently because market is weak form efficient.
11.	Xiaofeng LI	China and Japan	November 2000 to November 2011	Runs test, Unit root test (ADF), and Variance ratio test	Result shows that Shanghai and Shenzhen market has absence of random walk characteristics as well as Tokyo stock market, the indices cannot said to be pure efficient.

OBJECTIVES OF THE STUDY

The main objective of study is to examine whether the major indices of national stock exchange (NSE) is weak form efficient over the period 2001-2013. Present study applies a classical theory of testing market efficiency, to determine whether or not the time series predictability in NSE indices returns violate the random walk model, which maintains that past stock price cannot be used to predict future stock returns.

METHODOLOGY

Examining the efficiency through efficient market hypothesis in its weak from being the objective of leading stock exchange in India, NSE was selected because NSE has maintained its slot as the world's largest bourse in terms of volumes in equity segment (number of equity traders) for the January-March quarter of 2013, with a total of 36.6 crore trades, as per latest data compiled by World Federation of Exchanges (WFE)[1]. Under the NSE four top indices were selected viz., CNX IT, CNX FINANCE, CNX FMCG and CNX ENERGY. These indices were selected keeping in the mind that highest weightage in CNX NIFTY as per given in following table.

TABLE: 2 SECTOR REPRESENTATION

Sector	Weight (%)	Sample Period	Observations
NIFTY	--	01.01.2001 to 31.03.2013	3058
Financial Services	28.53	01.01.2004 to 31.03.2013	2305
Energy	15.71	01.01.2001 to 31.03.2013	3058
IT	14.45	01.01.2001 to 31.03.2013	3058
Consumer Goods (FMCG)	13.14	01.01.2001 to 31.03.2013	3058

(Source: Indian Index Services & Product Limited, CNX NIFTY dated 28.03.2013)

[1] http://www.rediff.com/money/slide-show/slide-show-1-worlds-top-bourses-nse-is-no-1/20130420.htm?pos=13&src=NL20130420 accessed on 22/4/2013

The data obtained from web portal of National Stock Exchange (www.nseindia.com), on the basis of the daily closing prices from 1st Jan. 2001 to 31st March 2013of the selected Indices of National Stock Exchange (NSE): CNX NIFTY, CNX IT, CNX FINANCE, CNX FMCG and CNX ENERGY.

DATA ANALYSIS WITH HYPOTHESES

The data which was collected in order to find out the weak form efficiency or market followed random walk pattern of NSE with selected indices. The tests which were used in the time series analysis includes the Runs test, Unit root test (ADF) and Auto regressive test. For the data analysis GRETL version 1.7.3 and E-views 4 were used. The hypothesis of the study is:

H_0: The National Stock Exchange is a weak form efficient.

H_1: The National Stock Exchange is weak form inefficient.

RUNS TEST

To test for weak form efficiency 'runs test' is widely used as it does not require return to be normally distributed. The runs test is to determine whether successive price changes are independent or not, if not independent it must not follow random walk characteristics, i.e. if the positive and negative value comes out with equal or lies within an efficient scope then the market can be called to be efficient.

The null hypothesis Ho is accepted if the value of Z is less than 1.96 and it is rejected if the value of Z exceeds 1.96.

$$Z = \frac{r-\mu_r}{\sigma_r} \qquad \mu_r = 1 + \frac{2n1n2}{n1+n2} \qquad \sigma_r = \sqrt{\frac{2n1n2\,(2n1n2-n1-n2)}{(n1+n2)^2(n1+n2-1)}}$$

r = Number of runs

n1 = total number of returns equal and more than the mean value

n2 = total number of returns less than the mean value

UNIT ROOT TEST- AUGMENTED DICKEY-FULLER TEST

Most time series data are non-stationary i.e., they tend to exhibit a deterministic and stochastic trend. Before apply any statistical test researcher need to be check whether the series is stationary or not. A more formal method of detecting non-stationarity is often described as testing for unit roots, for reasons that need not concern us here. The standard test, pioneered by Dicey and Fuller (1979), is based on the model

$X_t = \beta_1 + \beta_2 X_{t-1} + \gamma_t + \varepsilon_t$

Rewritten as:

$\Delta X_t = \beta_1 + (\beta_2 - 1)X_{t-1} + \gamma_t + \varepsilon_t$

Where $\Delta X_t = X_t - X_{t-1}$, the series will be non-stationary if either the coefficient of X_{t-1} is zero or the coefficient of *t* is non zero.

AUTOREGRESSIVE INTEGRATED MOVING AVERAGE (ARIMA (p, d, q))

Model for non-seasonal series are called Autoregressive integrated moving average model, denoted by ARIMA (p, d, q). Here p indicates the order of the autoregressive part, d indicates the amount of differencing, and q indicates the order of the moving average part. If the original series is stationary, d = 0 and the ARIMA models reduce to the ARMA models. The deference linear operator (Δ), defined by

$\Delta Yt = Yt - Yt{-}1 = Yt - BYt = (1 - B)Yt$

The stationary series Wt obtained as the dth difference (Δ^d) of Yt,

$Wt = \Delta^d Yt = (1 - B)^d Yt$

ARIMA (p, d, q) has the general form:

$\phi_p(B)\,(1 - B)^d Yt = \mu + \theta_q(B)\varepsilon t$ or $\phi_p(B)\,Wt = \mu + \theta_q(B)\varepsilon t$

EMPIRICAL EVIDENCE

RUNS TESTS

A random stock price behaviour supported weak from market efficiency. This can be studied though the runs test is given in Table 3.

HYPOTHESIS

H_0 = Series of each index return are random

TABLE: 3 SUMMARY OF RUNS TEST

	CNX NIFTY	CNX Finance	CNX IT	CNX FMCG	CNX Energy
Test Value[a]	3460.00	2862.42	5862.50	5076.74	5724.06
Cases < Test Value	1529	1152	1529	1529	1529
Cases >= Test Value	1529	1153	1529	1529	1529
Total Case	3058	2305	3058	3058	3058
Number of Runs	22	28	39	50	32
Z	-54.549	-46.896	-53.934	-53.536	-54.187
Asymp. Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000

a. Median

Runs test revels that, the resulting p-value of all indices (0.000) are smaller than the alpha level of 0.05, there is sufficient evidence to conclude that the null hypothesis is rejected i.e., indices are not followed random pattern and market is inefficient. It means that the help of past prices and trend an investor can predict the future market.

UNIT ROOT TEST

This empirical work commenced its analysis by testing the stationarity status of the times series used in this study.

H_0 = There is a presence of unit root in the series. (non-stationary)

TABLE: 4 SUMMARY OF UNIT ROOT TEST

	ADF Test		ARIMA Model	R^2	DW
	With intercept	With intercept and trend			
CNX NIFTY	t static =-40.654 p-value = 0.000	t static = -40.648 p-value = 0.000	(3,1,3)	0.7859	2.05
CNXIT	t static = -43.834 p-value = 0.000	t static = -43.827 p-value = 0.000	(3,2,3)	0.7953	2.04
CNX Finance	t static = -34.825 p-value = 0.000	t static = -34.818 p-value = 0.000	(3,2,3)	0.7625	2.06
CNX Energy	t static = -41.116 p-value = 0.000	t static = -41.109 p-value = 0.000	(3,1,3)	0.7831	2.08
CNX FMCG	t static = -43.130 p-value = 0.000	t static = -43.123 p-value = 0.000	(0,2,1)	0.8031	2.05

Table 4 clearly shows that all five series are statistical significant as seen in the result of ADF test, the times series was non stationary at level but became stationary after first difference and second difference with leg length 4, implying that the variables are of order one (CNX nifty and CNX Energy) and order two

(CNX IT, CNX Finance and CNX FMCG). Hence, the null hypothesis on stationarity was rejected in the series. It suggested that all indices are weak forms inefficient. DW statistics shows that the error series is free from autocorrelation.

ARIMA MODEL CHECKING

In CNX Nifty, can be applied ARIMA (3, 1, 3) model. Model parameter were shown as following:

Type	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.2004	0.0667	3.0063	0.0027
AR(2)	0.3526	0.0567	6.2213	0.0000
AR(3)	-0.8441	0.0589	-14.3368	0.0000
MA(1)	-0.1514	0.0714	-2.1207	0.0340
MA(2)	-0.3301	0.0641	-5.1504	0.0000
MA(3)	0.8095	0.0640	12.645	0.0000

We obtained the model in the form

$\hat{Y}t = Yt-1 + 0.200448(Yt-1) + 0.3526\ (Yt-2) - 0.8441(Yt-3) - 0.1514\ (\varepsilon t-1) - 0.3301\ (\varepsilon t-2) + 0.8095\ (\varepsilon t-3)$

In CNX IT, can be applied ARIMA (3, 2, 3) model. Model parameter were shown as following:

Type	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.4124	0.0669	-6.1626	0.0000
AR(2)	-0.7287	0.0549	-13.275	0.0000
AR(3)	0.0407	0.0180	2.2511	0.0245
MA(1)	-0.5510	0.0660	-8.3434	0.0000
MA(2)	0.3065	0.0650	4.7142	0.0000
MA(3)	-0.7501	0.0552	-13.5993	0.0000

We obtained the model in the form

$\hat{Y}t = Yt-1 - 0.4124(Yt-1) - 0.7287\ (Yt-2) + 0.0406(Yt-3) - 0.5509\ (\varepsilon t-1) + 0.3066\ (\varepsilon t-2) - 0.7501\ (\varepsilon t-3)$

In CNX FMCG, can be applied ARIMA (0, 2, 1) model. Model parameter were shown as following:

Type	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.0088	0.0182	0.4850	0.6277
MA(1)	-0.9975	0.0017	-562.6614	0.0000

We obtained the model in the form

$\hat{Y}t = Yt-1 - 0.9974\ (\varepsilon t-1)$

In CNX Finance, can be applied ARIMA (3, 2, 3) model. Model parameter were shown as following:

Type	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.7736	0.0220	-35.1449	0.0000
AR(2)	-0.8685	0.0198	-43.7830	0.0000
AR(3)	0.1098	0.0211	5.21006	0.0000
MA(1)	-0.0920	0.0072	-12.706	0.0000
MA(2)	0.0764	0.0075	10.1586	0.0000
MA(3)	-0.9836	0.0072	-136.6882	0.0000

We obtained the model in the form

$\hat{Y}t = Yt-1 - 0.7736\ (Yt-1) - 0.8685\ (Yt-2) + 0.1098(Yt-3) - 0.\ 0920\ (\varepsilon t-1) + 0.0764\ (\varepsilon t-2) - 0.9834\ (\varepsilon t-3)$

In CNX Energy, can be applied ARIMA (3, 1, 3) model. Model parameter were shown as following:

Type	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.2074	0.0305	6.8003	0.0000
AR(2)	0.2986	0.0263	11.3495	0.0000
AR(3)	-0.9006	0.0281	-32.083	0.0000
MA(1)	-0.1482	0.0352	-4.2054	0.0000
MA(2)	-0.2720	0.0324	-8.4011	0.0000
MA(3)	0.8573	0.0331	25.8657	0.0000

We obtained the model in the form

$\hat{Y}t = Yt-1 + 0.2074(Yt-1) + 0.2986\ (Yt-2) - 0.9006(Yt-3) - 0.1482\ (\varepsilon t-1) - 0.2720\ (\varepsilon t-2) + 0.8573\ (\varepsilon t-3)$

Based on the ARIMA model, investor can put their strategies to earn profit based on past price trend because one order or two order successive price interval will help them to make decisions on their investment.

CONCLUSIONS & IMPLICATIONS

Based on the theoretical and empirical literature that is reviewed in this study, the weak from market efficiency in the context of an emerging market, like National Stock Exchange is investigated. The national stock exchange has experienced significant positive developments as reflected in its market capitalization, liquidity, turnover and increase in value of stock prices.

This paper primarily examines the weak form efficiency of the Indian stock exchanges (NSE). We employ different tests like, Runs Test, ADF, and model building for forecasting future market value and find similar results.

The results of Runs test and ADF test supported that weak form market inefficiency and abnormal returns can be generated based on past price trends / information. That can be viewed with the help of ARIMA model i.e. autoregressive integrated average moving model in integrated with one order or two order integrated successive change in price depending on the movement of stock price.

REFERENCES

1. Amalendu Bhunia (2012). "Stock market efficiency in India: Evidence from NSE". Universal Journal of Marketing and Business Research Vol. 1(2) pp. 072-78.
2. Anand Pandey (2003). "Efficiency of Indian Stock Market". The paper was a part of project for the Time Series Course at IGIDR, Mumbai.
3. Divyang J Joshi (2012). "Testing Market Efficiency of Indian Stock Market". International Journal of Scientific and Research Publications, Volume 2, Issue 6, pp- 1-4 (www.ijsrp.org)

4. Dyckman, Thomas R. and Dale Morse. (1986). "Efficient Capital Markets and Accounting: A Critical Analysis". Contemporary topics in accounting series, Prentice-Hall Contemporary Topics in Accounting Series.
5. Fama, E. F. (1970). Efficient Capital Markets: a Review of Theory and Empirical Work. The Journal of Finance, Vol. 25, Issue 2, pp 383–417.
6. Gagan Deep Sharma and Mandeep Mahendru (2009). "Efficiency Hypothesis of the Stock Markets: A Case of Indian Securities". International Journal of Business and Management, vol. 4, No. 3, pp. - 136-144.
7. Mirah Putu Nikita, Subiakto Soekarno (2012). "Testing on Weak Form Market Efficiency: The Evidence from Indonesia Stock Market Year 2008-2011". 2nd International Conference on Business, Economics, Management and Behavioral Sciences (BEMBS'2012) Oct. 13-14, Bali (Indonesia).
8. Nikunj R. Patel, Nitesh Radadia and Juhi Dhawan (2012). "An Empirical Study on Weak-Form of Market Efficiency of Selected Asian Stock Markets" Journal of Applied Finance & Banking, vol.2, no.2, pp. 99-148.
9. Philip Ifeakachukwu and Isiaq Olasunkanmi (2011). "Efficient Market Hypothesis and Nigerian Stock Market". Research Journal of Finance and Accounting, Vol 2, No 12, pp. 38-46.
10. Rakesh Gupta and Junhao Yang (2011). "Testing Weak form Efficiency in the Indian Capital Market". International Research Journal of Finance and Economics, Issue 75, pp- 108-119 (ISSN 1450-2887).
11. Sunil Poshakwale (1996). "Evidence on Weak Form Efficiency and Day of the Week Effect in the Indian Stock Market". Finance India, Vol. X No. 3, Pages— 605-616.
12. Uttam Sapate and Valeed Ansari (2011). "Testing Weak Form Stock Market Efficiency on Bombay Stock Exchange of India". 10th International Conference on Operations and Quantitative Management (ICOQM-10), June 28-30, 2011, Nashik, Maharashtra, India.
13. Xiaofeng LI (2008). "Tests of Stock Market Efficiency in China and Japan". Master's Thesis in Economics of Innovation and Growth in KTH Stockholm.

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