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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, 19–23

UNPUBLISHED DISSERTATIONS

- 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 Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

SECTORAL INDICES: ANALYSIS AND IMPACT ON NATIONAL STOCK INDEX

DR. JAGDEEP SINGH
PROFESSOR
INSTITUTE OF MANAGEMENT STUDIES
BHADDAL TECHNICAL CAMPUS
ROPAR

HERPREET KAUR
RESEARCH SCHOLAR
PUNJAB TECHNICAL UNIVERSITY
KAPURTHALA

NITU GUPTA
ASST. PROFESSOR & RESEARCH SCHOLAR
SDJ INTERNATIONAL COLLEGE
VESU

ABSTRACT

Sentiments are most powerful tool and top pick in Indian Stock Market. Sentiments of the investors believe that few sectors are always better to invest than other sectors. This study aims to explore the empirical sectoral impact on the CNX Nifty index. All the sectoral indices are studied, correlation-regression-ANOVA-t statistics are conducted to test which sectors have major impact and less impact on the Nifty. Auto sector has highest correlation with Nifty, while PSU Bank least. Almost 99% variation in Nifty can be explained by sectoral indices variation. Metal and Energy are negatively correlated with Nifty. This study thus attempts to guide investors to invest empirically as well.

KEYWORDS

CNX Nifty, sectoral indices, correlation, regression, t-test.

INTRODUCTION

National stock exchange (NSE) is leading indicator of financial health of the country. Stock market is considered to be the best and most convenient investment option these days. But where to invest is always a question with ambiguous answer for investors and traders as well. Some sectors overpower the other for some investors, but traders might under power the same sector. Thus sectoral indices play a unique and important role in stock market. This study has analyzed all the sectoral indices of the CNX Nifty and its relation with the same. The indices taken into consideration are FMCG, Auto, Bank, Energy, IT, Media, Metal, Pharma, PSUBank and CNX Nifty. The data of all indices is taken from NSE website.

NEED OF THE STUDY

It does not need to mention that stock market in India plays on the psychology of the people. Many a times its observed that stock market move in particular direction whereas few sectors move in opposite direction. This is where sectoral indices come to play its role. The Sectoral indices are designed to provide a single value for the aggregate performance of a number of companies representing a sector of the economy. It is most important investment decision to study sectoral indices before investing. Thus need arises to study sectoral indices and its impact on CNX Nifty. This paper is one such attempt.

STATEMENT OF THE PROBLEM

Sectoral Indices: Analysis and impact on National Stock Index.

OBJECTIVES

1. To analyse the impact of sectoral indices on CNX Nifty
2. To study correlation between all indices.
3. To study which sectors have major contributions in Nifty and how much contribution.

LITERATURE REVIEW

A study by **Madhavi. M. & Radhika Ravi (2010)** to understand the performance of sectoral indices with performance of Sensex, and it was found that there is a high range of positive correlation between the Sensex and the six selected sectoral indices of BSE. An attempt was made by **Piyush Kumar Singh &Venkata Vijay Kumar (2011)** to understand the movement of sectoral returns and their contributions towards the Sensex returns. The study could find that the Sensex returns could be explained with the help of selected sectoral index returns only and there is significant relationship between the different sectors' contribution to the final Sensex returns.

Kallberg & Pasquariello (2008) have done analysis on the 81 sectoral indices of the US market and had found that there has been large correlation between the excess movement in the sectoral indices and there is significance between each other in the movement in a single direction.

Philipp Fasnacht & Henri Loeberge (2007) Studied International stock market correlations: A sectorial approach and they found that sectorial correlations between markets are more stable over time than correlation at the market level as well as sectorial correlations within countries. Sectors such as Industry, Financials and Consumer services present however a rather high proportion of inconsistent correlation coefficients.

A study for testing the market efficiency of the sample companies listed on the BSE PSU Index of Bombay Stock Exchange found that the PSU Index performed well during the study period and the investors of PSU companies earned maximum return through stock market operations **(Selvam and Ramkumar,2010).**

Meric et al. (2008) studied the portfolio diversification implications of the co-movements of sector indexes in the US, UK,German, French, and Japanese stock markets in bull and bear markets, and found the difference between investing in the same industry in different countries and investing in different industries within the same country.

An Efficient Stock Market provides the vehicle for mobilizing savings and investment resources for developmental purposes **(Fama, 1991).** Moreover, the analysis of different sectoral indices facilitates the investors to use it as innovative investment opportunity in their portfolio management.

In a study titled "Long run and Short run relationship between the main stock indexes: Evidence from Athens Stock Exchange" by **Patra&Poshakwale(2008)**, it was found that there has been lower relation in the sectoral returns in the long run. However there was significant impact of the banking sector on the other sector indices return and variance. This research paper suggested that the changes and information of the banking sector could be used in order to predict the returns of the other sectoral indices in short term.

METHODOLOGY

This paper reviews annual data of 244 days from 1-july-2014 to 30-jun-2015. Closing price of all the sectoral indices and closing price of nifty is taken into consideration. All the indices namely FMCG, Auto, Metal, IT, Pharma, Energy, Media, PSU bank and their concentration in Nifty is studied.

Model Formulated is:

Nifty = α_0 + β_1FMCG+ β_2Auto+ β_3Bank+ β_4Energy+ β_5IT+ β_6Media+ β_7Metal+ β_8Pharma+ β_9 PSUBank+ μ

Where Nifty,FMCG,Auto,Bank,Energy,IT,Media,Metal,Pharma,PSUBank are sectoral indices closing price,

α_0 = constant of the model

$\beta_{1\ldots}$ β_9 = coefficients of the model

μ = error terms

The data is analyzed(Regression and correlation) using SPSS, students' t test was used to test significance at 5% significance level.

DISCUSSIONS AND FINDINGS

FIG. 1

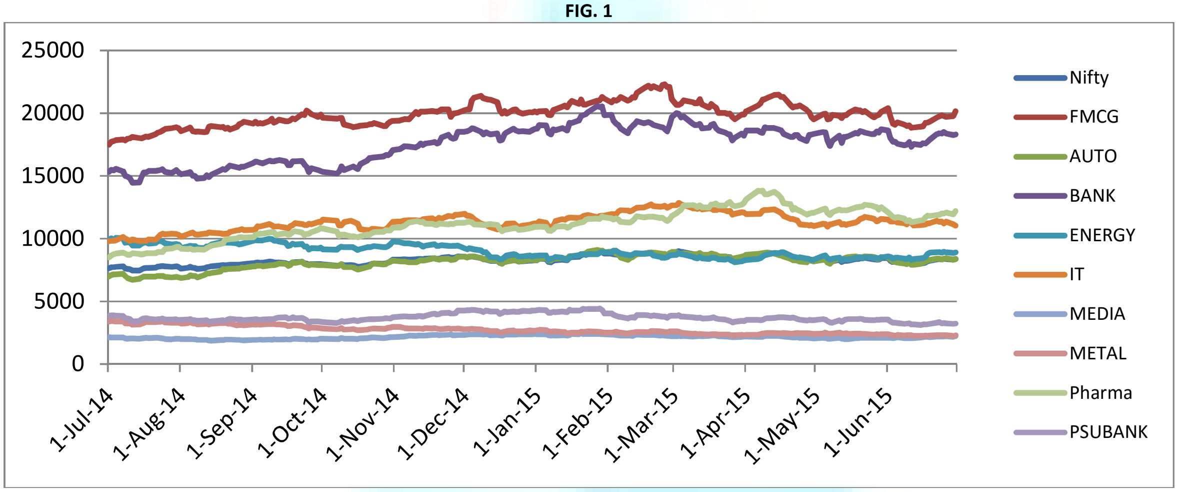

Figure 1 shows the volatility of CNX Nifty and sectoral indices. It can be noted that Energy and Metal does not follow the trend with Nifty and other sectoral indices.

TABLE 1: REGRESSION ANALYSIS

Variables	Coefficients
R	0.997
Adjusted R2	0.994
Durbin-Watson	0.358
N	244
Constant	-523.539

As per Table 1: Value of R is 0.997, which states that 99.7% variation in CNX Nifty index is caused by changes in the value of sectoral indices. The value of Durbin-Watson is 0.358, thus autocorrelation exists in the study and variables are correlated(as d is less than 2).

TABLE 2: COEFFIECIENTS OF REGRESSION ANALYSIS

Variable	B value	t-statistics	Sig
FMCG	.046	10.377	.000
AUTO	.066	4.021	.000
BANK	.181	35.401	.000
ENERGY	.113	10.840	.000
IT	.163	23.743	.000
MEDIA	.128	3.580	.000
METAL	.393	15.166	.000
Pharma	.057	12.313	.000
PSUBANK	-.186	-10.465	.000

Except PSUBank index, all other sectoral indices have positive β coefficients, which shows that is it follows reverse pattern with Nifty trend. Bank, IT and Metal Indices provide major contribution to the Nifty. Also Sig. value of all the indices are 0.000, which shows that all sectoral indices are significant with CNX Nifty index.

The deduced regression equation is,

Nifty = -523.539 + (0.046)FMCG+ (0.066)Auto+ (0.181)Bank+ (0.113)Energy+ (0.163)IT+ (0.128)Media+ (0.393)Metal+ (0.057)Pharma-(0.186) PSUBank

CORRELATION ANALYSIS

Karl Pearson Coefficient of Correlation was applied to study the relationship between CNX Nifty and the Sectoral Indices of Nifty.

TABLE 3: CORRELATION ANALYSIS

	Nifty	FMCG	AUTO	BANK	ENERGY	IT	MEDIA	Pharma	PSUBANK	METAL
Nifty	1	.891	.946	.916	-.519	.923	.704	.799	.416	-.650
FMCG	.891	1	.868	.820	-.541	.845	.668	.687	.456	-.591
AUTO	.946	.868	1	.924	-.638	.892	.665	.862	.359	-.777
BANK	.916	.820	.924	1	-.713	.795	.795	.784	.482	-.783
ENERGY	-.519	-.541	-.638	-.713	1	-.559	-.404	-.740	-.019	.896
IT	.923	.845	.892	.795	-.559	1	.562	.801	.216	-.683
MEDIA	.704	.668	.665	.795	-.404	.562	1	.399	.749	-.460
Pharma	.799	.687	.862	.784	-.740	.801	.399	1	-.025	-.870
PSUBANK	.416	.456	.359	.482	-.019	.216	.749	-.025	1	.053
METAL	-.650	-.591	-.777	-.783	.896	-.683	-.460	-.870	.053	1

As per the table, it can be conferred that, all sectoral indices are highly positively correlated with Nifty index excluding Energy and Metal Index. Energy and Metal Index are negatively correlated with Nifty index. It can be noted that Energy and PSUBank index have least correlation and Nifty with Auto Index have highest correlation. Also Bank and Metal index are strongly negatively correlated.

CONCLUSION

Regression analysis is used to formulate the model to measure sectoral indices' impact on CNX Nifty. It is seen that 99.7% of the variation in Nifty can be explained by changes in sectoral indices. Also all sectoral indices, except Energy and Metal index are positively correlated with Nifty. Energy and Metal are negatively correlated with CNX Nifty in the considered time period. Using Durbin-Watson it is found that autocorrelation exist among indices. Bank, Metal,IT and Media are major contributors of CNX Nifty index. Thus investors can study study the pattern of sectoral indices before investing to gain maximum profits and minimize risk.

LIMITATIONS

- The research is conducted for particular time period, which may not be applied for other time period.
- Less number of research paper were available on sectoral indices and thus review is based on them only.
- The study is based on the analysis of the secondary data therefore error and inconsistencies of such data will be applicable to the study.

FUTURE SCOPE

The research is done on CNX Nifty index, further studies can be carried out on BSE Index, cross countries index. Also different time zone can be considered for further studies. Econometric modeling can be applied to study cointegration between sectoral indices.

REFERENCES

1. Fama, E. (1991). Efficient Capital Markets: II. *Journal of Finance*, 46, 1575-1617.
2. Kallberg,J,& Pasquariello,P.(2008), " Time series and cross sectional excess co-movement in stock indexes". Journal of Emprical Finance, vol. 15 (3), p.p. 481-502.
3. Madhavi,M., & Radhika Ravi (2010), "BSE and Sectoral Indices: A Comparative study". International Journal of Research in Commerce and Management, vol. 1 (6), p.p. 71-75.
4. Meric, I., Ratner, M., & Meric, G., 2008. "The co-movements of sector index returns in the world's major stock markets during bull and bear markets: Portfolio diversification implications," *International Review of Financial Analysis*, 17(1) , p. 156-177.
5. Patra,T. &Poshakwale, S.S.(2008), "Long run and short run relationship between the main stock indexes: Evidence from Athens stock exchange". Applied Financial Economics, vol 18 (17), p.p. 1401-1410.
6. Philipp Fasnacht & Henri Loeberge (2007), International Stock Market correlations: A Sectorial Approach, Finance International Meeting AFFI-EUROFIDAI, Paris, December' 2007 Paper.
7. Piyush Kumar Singh &VenkataVijayaKumar(2011), "A Study of Return, Liquidity of Sectoral Indices, Market Index Return of Indian Financial Market (BSE)". International Journal of Research in Commerce and Management, vol. 2 (6), p.p. 01-08.
8. Selvam M.; Indhumathi G. and; Rajesh Ramkumar, R (2010). Analysis of Market Efficiency of BSE- PSU Index. ***SNS Journal of Finance,*** **1**(3), 1-10

WEBSITE

9. http://www.nseindia.com/products/content/equities/indices/historical_index_data.htm (Assessed on 13/8/2015)

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