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## Review

# Empirical study to evaluate various models for stock Investment for Indian Capital Markets

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**The objective of this paper is to have a broad understanding of various models for investment and stock selection for India Capital Markets. There are various models like Piotroski's F Score, CAMELS for Banking, CANSLIM for sectorial picks, Graham Harvey for Portfolio Performance Measurement, Kisor Whitebeck for Manufacturing stocks available as a tool for investors. We would like to understand and undertake a comparative study of these models with respect to Indian Capital Markets.**

**Keywords:** Mutual Funds, Investment Performance, Alpha, Beta, Standard Deviation, R Squared, Sharpe Ratio, Treynor Ratio and Jensen's Alpha.

## INTRODUCTION

The Indian Capital Market is booming with record investment from both Foreign Institutional Investors and Domestic Institutional Investors. There are multiple versions of the P/E ratio, depending on whether earnings are projected or realized, and the type of earnings. This is the most common meaning of "P/E" if no other qualifier is specified. Many call P/E Multiple a fools ratio. It is fairly complex to understand which of these models are actually workable especially from an investors perspective. To simplify this we would like to study work done in each of these models and understand how they fair against each other. In this attempt we are going to study body of work done from an Indian context in recent past.

## Literature Review

O'Neil, W. J., & Ryan, C. (1988); in this book, O'Neal

teaches the science behind growth investing. He introduces us to a new abbreviation CANSLIM which could be used for stock picking. He will also teach you the step by step approach that he and his company use to advise fund managers and other institutional money managers. Growth Investing basically advocates buying stable but fast-growing (earnings-wise) companies. This approach doesn't put much weight on valuation and financial ratios, it does, however, involve market and price chart analysis, and active trading. All of the principles that O'Neal teach in this book are backed by solid historical data and facts.

Bhatt, S. (2013) This paper examines one of the most popular method for gauging quality of select Indian Bank. In today's dynamic world trying to cope up with the aftermath of subprime crisis and the euro zone crisis we would like to revisit a technique known as CAMELS Rating System. This technique is applied on 8 listed Indian Banks SBI, Union Bank, IDBI Bank,

HDFC Bank, BOB, AXIS Bank, IndusInd Bank, PNB which is a mixture of public sector and private banks. This technique evaluates banks measures banks stability on capital adequacy ratio, asset quality ratio, management quality ratio, earning ratio, liquidity ratios and sensitivity ratio. The results of this study reveal that this technique is critical in not only evaluating stability of bank but could also be used for making preliminary investment decision.

Bhatt, S. (2013). This research paper examines performance of top twelve Indian mutual funds by Asset Under Management(AUM). We use seven portfolio performance measurement parameters like Alpha, Beta, Standard Deviation, R Squared, Sharpe Ratio, Treynor Ratio and Jensen's Alpha. The study reveals which amongst these mutual fund is the best performer based on all these parameters and the benchmark taken for this is NIFTY Index. The mutual funds selected are HDFC Top 200 Fund, Franklin India Bluechip Fund, ICICI Prudential Focused Bluechip Equity Fund, DSPBR Top 100 Equity Fund, Birla Sun Life Equity Fund, DSPBR Top 100 Equity Fund, UTI Mastershare Fund, Reliance Equity Opportunity Fund, SBI Magnum Equity, Reliance Top 200 Fund, SBI Bluechip Fund, ICICI Prudential Top 200 Fund, Principal Large Cap Fund. This study is primarily done to evaluate performance of the select mutual funds over a period of five years.

Bhatt, S. (2014). In this paper we validate use of Piotroski F-Score analysis for identifying value stocks. Piotroski F-Score analysis devised a scale according to specific criteria found in the financial statements which encompasses aspects like Profitability, Leverage, Liquidity, Operating Efficiency to give a holistic view of the performance and position of the company. This method proved successful in interpreting the strengths and weaknesses a company possesses and the opportunities available for the company to develop upon and the threats it faces in doing so. One aspect that is missing in this method of analysis is the time horizon applicable to the relevance of its results. Hence, this method could be made more effective if we add the time horizon applicable for the results to remain relevant. Therefore, the parameters are grouped in such a way that all the factors that are more sensitive to short term changes are made into one while the factors that are driven in long term are made into another. The sensitivities of parameters are different on the short and long term performance of the company and hence weights are assigned to each parameter in line with the effect it has on the company's performance. This exercise ensures that the factors that are more critical are given more weightage than the less critical ones. This research was applied to all the companies of Banking and Automobile sector that are a part of the Nifty Index for validating this model. Bhatt, S. (2014). In this paper we evaluate performance

of Indian Mutual Funds in ELSS(Equity Linked Savings Scheme) category. We have selected 28 out of 43 ELSS Plans available in Indian Market; the schemes that are left out are new and do not have a track record of more than 3 years at the time of study. We have attempted to measure the fund performance on Fama-French Model. We have tried to answer using this model as to whether the return generated by Fund is due to Fund Managers ability to pick stocks and diversify or due to common stock portfolio. This is demonstrated from four parameters to decode return using Fama & French Model. We have collected daily NAV for three years for the stated funds to arrive at the stated conclusion. Our study suggest that, Religare Tax Plan and Reliance Tax saver are the best performing ELSS funds on the basis of Fama-French Model, Jensen's Alpha and Sharpe Ratio over the rest of 28 funds. This is because majority of return is due to Compensation for Diversification and Net Selectivity. This is a benchmark study as it not only give reason for good return using Fama & French Model but also measures portfolio performance using Jensen's Alpha and Sharpe Ratio.

Bhatt, S. (2015). In this paper we want to validate Kisor-Whitebeck Model which uses the most fundamental parameter for valuing a company which is price earning multiple. This is a first of its kind application of Kisor-Whitebeck Model on Indian Capital Market. It uses three basic parameters i.e. Earnings growth rate, Pay-out ratio and Standard deviation of EPS. This model is applied on Indian Capital Market represented by SENSEX and its 30 stocks. We can categorise these stocks as undervalued stocks, overvalued stocks and appropriately valued stocks. This model has certain limitation like lack peer comparison, global liquidity scenario etc. which is discussed in our paper.

Bhatt, S. (2016) The objective of this paper is to have a broad understanding of the CANSLIM theory of investment and also to identify stocks using this theory and to use it as a tool for investment. The hypothesis of the study is to check if the identified stocks outperform or they are in line with the index Nifty 50 of the national stock exchange. The interpretation of the data, the values required for the seven abbreviations of the CANSLIM approach. The data collated in the excel sheet and accordingly the stocks that fulfill the CANSLIM criteria were identified. Hence the second best stocks i.e which fulfilled 5 out of 7 mandates for can slim are selected. The returns of the above selected stocks are then compared with the returns of the index nifty 50.

Bhatt, S. (2016). In this paper, we have calculated Graham Harvey Measures for top ten ELSS funds in India according to their Asset Under Management. ELSS fund are selected as they have more than 95% composition of equity component and lock in period of

five years. Graham and Harvey in their research paper "Market timing ability and volatility implied in investment newsletters' asset allocation recommendations"; discusses the methodology to predict market timing to alter their investments for portfolio managers. They introduced two new performance measures for a Fund/Portfolio. Both measures provide different relative performance valuation, with respect to Market Index's Return – Risk. Sharpe ratio, although a useful metric, suffers lack of benchmarking information. Sharpe Ratio is absolute measure of performance. Since the Graham-Harvey research is based on long-term prospect of the Portfolio investment, ELSS funds are taken for research. The performance of ELSS funds has been evaluated with the help of Graham and Harvey Measure and Sharpe Ratio. Our finding suggest that Graham and Harvey Measures are superior to Sharpe ratio for performance grading. Due to paucity of time and resources, the paper research is limited to evaluating performance of ELSS funds for period of April 2007 to December 2012 using Graham Harvey Measure.

## DATA ANALYSIS

There are various models in discussion, firstly we talk about Bhatt, S. (2014) study of Fama French Model we have selected 28 out of 43 ELSS Plans available in Indian Market; the schemes that are left out are new and do not have a track record of more than 3 years at the time of study. It was seen that Fama-French model is much superior in understanding fund performance as compared to traditional portfolio performance tools like Sharpe's ratio, Treynor's Ratio, R-square and beta. Finally we would like to conclude that Fama-French Model is better able to explain the performance and non-performance of a particular fund from an Indian context especially for ELSS. Second paper under discussion is on portfolio performance measurement by Bhatt, S.(2016) where the author has used seven portfolio performance measurement parameters like Alpha, Beta, Standard Deviation, R Squared, Sharpe Ratio, Treynor Ratio and Jensen's Alpha. The study reveals which amongst these mutual fund is the best performer based on all these parameters and the benchmark taken for this is NIFTY Index. The Alpha value is also very high as compared to other funds. Even though its Standard Deviation is very high its high Sharpe Ratio justifies that the high returns are risk adjusted. It also states that the risk taken to generate such high returns is very low. Treynor Ratio is 6.72043. Thus the fund has earned 6.72043% more than the risk free return. Jensen's alpha is 9.6259 which is a positive value. This study is an academic research undertaken for validating performance evaluation models and does not in any way advocate or otherwise any fund or fund

house. The third paper studies the famous O'Neil paper and paper by Bhatt, S.(2016) with an aim is to find out which stocks apply can slim and also to check if the stocks outperform the index nifty 50 which comprise of 50 stocks listed on the National Stock Exchange using CANSLIM. As stated earlier, there are no stocks that fulfill all the criterias of the can slim but there are 7 stocks that fulfill 6 criterias out of 7. The returns of these stocks are compared to the returns of the index Nifty 50 and its concluded that the following stocks outperform the index when data is analysed on a single year basis. Fourthly we discuss Bhatt, S. paper where he evaluated eight Indian Banks using CAMELS Rating System. We found that this is a very powerful tool to assess health of a bank. This technique is applied on 8 listed Indian Banks SBI, Union Bank, IDBI Bank, HDFC Bank, BOB, AXIS Bank, IndusInd Bank, PNB which is a mixture of public sector and private banks for a period of 2005 to 2010. It is observed from the analysis that we could predict possible stress developing in banks balance sheet. In 2008 all the banks were under pressure and their average NPA was on the rise putting banks profitability at risk. The current economic crisis has to a great extent stirred the fundamentals of the financial system and its future across the world. We are sure that the Basel III norm would make the banking system safer than before.

Fifthly we studied Bhatt, S (2015) paper on Kisor-Whitebeck Model. Here he applied this model on 30 stocks of SENSEX and we observe from that 24 out of 30 companies are overvalued according to this model. However, this method has its own limitation as it ignore two most prominent factors which affect equity markets globally i.e. Liquidity and Relative P/E Multiples in other Emerging Market. We are already working on developing a scale for the same and would be out with a detailed paper on the same. Finally to conclude it is to be noted that this analysis would work well as a complementary tool that could back the detailed research work to make the decision making process more effective. This concept could be extended for identifying value stocks especially from Small and Midcap Sector. The above analysis was applied to Banking and Automobile companies that are a part of Nifty Index to show the process of analysis in detail. Analysis is done using Long Term and Short term based on parameters using Piotroski F-Score. It is relevant for investors with different time horizons to look at tools or methods that are in conundrum with it. The rankings of the companies could also differ in short term and long term.

## CONCLUSION

We can summaries the study for various models to observe that it is very difficult to prioritize these models.

The reason being each of these models are unique and can be applied only on select few sectors. For example if we talk about CAMELS approach it can be applied only to banking sector, whereas if we talk about Kisor Whiteback it can be applied to capital intensive sectors only else the interpretation would be wrong. Similarly if we study the Piotroski F Score is a classic example of bottom up approach of investing and can be extended to any sector. The Graham Harvey method is much superior than Sharpe or Treynor or traditional portfolio performance measurement tools. Hence we conclude it is difficult to rank these in order of priority as each of them are unique and have their own significance.

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