

# Stock market momentum and drivers for metal industry

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## ABSTRACT

*The main aim of this paper is to study the existence of the momentum and to check the commonality that exists within the five NSE listed stocks. The monthly average closing prices of the listed companies that are of metal industry for the time horizon of 5 years are obtained for the analysis. This paper is of use to the investors formulating investment strategies and also to instigate their irrational decision making, which is not merely influenced by the market behavior. We have found a strong evidence of momentum which lasts for a period of two to nine months and shows commonality among the individual stocks regarding their presence and time horizon. Further we have looked at the major factors and events to understand the most common factors that drive momentum in the industry. This would help in choosing some stocks among all in a particular industry for the purpose of portfolio.*

**Keywords:** Momentum, time horizons, driving factors, upward and downward trend

**Short running head:** This article focuses the study on how stock prices of an industry, particularly in the context of the metal industry, follow the momentum trend and its dependency on similar firms. Also, the news or information impact on its time horizons. We found that most stocks have a similar moving trend that belongs to a similar industry, where few categories of information leave a long-term impact and few have a short-term impact on momentum.

## INTRODUCTION

Stock market is one of the important investment institutions and the most vital components of a free market economy, where the investor and corporate anticipate higher returns on their investments. Gaining from stock investment requires intense knowledge and study of the market. Most practitioners trade on the basis of technical assumptions that stock price moves in a pattern which is influenced by its past movement, however, later studies of market efficiency reveal that price movements are random and do not display any past movement pattern, it moves according to the information flow in the market. The continuous change in the stock price brings in the possibility to make money and at the same time they can lose money, therefore, to earn profits from the stocks the investors should have the knowledge about the movement of the stocks and what are the factors that will have an influence on the stock price. The thorough study of a stock movement will prepare investors to implement sound investment strategies, like Constrain and momentum investing. Constrain investing strategy believes that the herd behavior of the investor can lead to the mispricing in the securities market and misleading of stock price to a great extent from its intrinsic value. In such a situation investor should adopt the strategy which will help them not only to earn suitable profits but the strategy will help the investors to avoid the pit falls of the irrationality and the psychological biases, such investors are referred as "value investors". Under momentum investing the buyers get attracted to the raising prices and the sellers are attracted by the falling prices, they are mostly referred as "trend followers". Price Momentum is one of the most extensive and most confusing in the area of research in finance. Momentum is empirically observed tendency for raising assets prices to raise further and falling prices to keep falling. According to the observation made by the (Titman, 2001) stocks that perform best in the recent past continue to perform well in the future, which basically works on the phenomena of lagged return. This strongly presents the theory of **past movement** and states that stock prices are majorly influenced by its past moving trend. Studies say that to some extent stock momentum are influenced by the information flow about the particular company or industry. The paper by (James Scott, 2003) reports the stock momentum and its interlink with the investor's reaction to news about company's fundamentals. The paper reports that positive news about the company regarding its earnings will result in increase in the stock price and this will lead to price momentum. There are many other academic works which uphold the media as one of the powerful tool through which the information is transferred to the investors. So publicly available information will have some influence on the investors and study of (SOSYURA, 2014) also talks about the role of media in transmitting information. Our study majorly focuses on the existence of momentum and later for how it is continued and what are the factors that supports momentum to last long. It is of high importance, as investor trade according to the flow of information and its impact on company's performance which affect the movement of stock price. There are two main objectives of the paper, at first,

we examine the existence of the momentum in the stock returns for a certain period of time from 2013 to 2018 and the stock price of five metal companies are studied for the purpose, which are selected out of 15 listed companies sample in Nifty Metal index of NSE (National Stock Exchange), India. The sample is selected by considering its market capitalization and weight-age in the index, for the study.

### Literature review:

Varied research for stock momentum reports a number of reasons and driving factors for momentum like, work by (Karnik, 2000) explains the effect of technological changes in stock market and macroeconomic variable; however, the finding of this paper reports an insignificant effect of computerization and macroeconomic variable in long run stable relation. The author later drives a tentative conclusion that demand and supply theory drives momentum. This theory of demand and supply has also been reported by (Swaminathan, 2000), where the author tries to report interlink between past trading volume and past return, thus how it affects the prediction of cross sectional returns for various price momentum portfolios. Few more works like (Wahal, 2002), focuses on how institutional trader's acquiring new position (entry), termination of previous positions (exit) and adjustments to ongoing holdings impact the stock momentum and study the different types of institution and different investment strategies. In confirmation of volume trading and market influence on stock price (Grinblatt, 1999) study the momentum trading with industry-based strategies. Study concludes that industry momentum drives individual stock momentum that contributes substantially to the profitability of strategies, and, except for 12-month individual stock momentum. While comparing the stock return with the industry and market it is also important to analyze the risk associated with it, in line with the same topic (Wen, 2012) study how economic interpretation explains stock momentum clearly than, its past returns. The paper documents that stocks with high distress tend to go long and should earn positive returns as a consideration for extra risk taken. The three factors, risk, individuality and corporate bond risk, along with forecasted under-reaction to innovation can fully display the evidence of momentum, and his model estimates large profits associated with medium term momentum. So far literatures have provided ample evidence of momentum and numerous variables affecting the horizon and pattern, however in order to gain momentum profit an investor should trace the momentum and tracking momentum has some cost associated to it the study by (Louis K. C. Chan, 1999) defines the transaction cost associated with volume trading and momentum profits, which arises out of investors quick decision of buying winner stocks and selling loser stock which results in temporary price drifts.

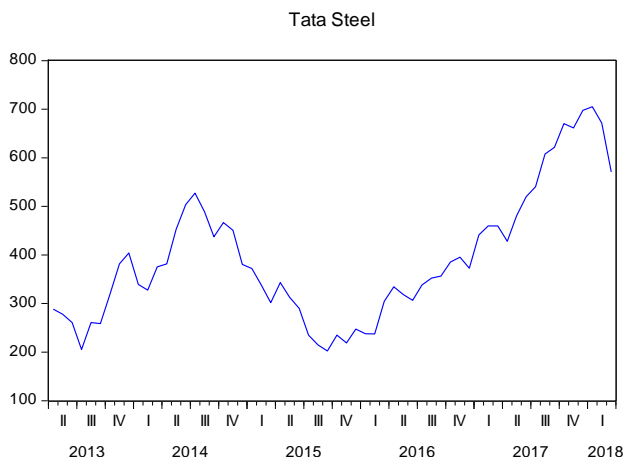
(Michael J. Cooper, 2004), believe that momentum profit critically depends on the market gains and it increases as lagged market return increases, however it starts diminishes at high rate of lagged return but do not eliminate. Momentum trading is highly influenced by information and performance of the company and industry like (Figelman, 2007), drives the concept of individual stock earning as the factor affecting the decision of investor to buy or sell and the author claims that Company's with poor past performance and higher ROE are likely to underperform in the future as they already reach to highest peak and has low future earning quality. Looking at the studies done on market gain and individual stock gain effect on stock momentum, the main area to focus is how does an investor analyses the future performance of a company or industry before investment, here comes the role of media and information, (Bing Han, 2009) contributes to the study the dispersed range of forecasted future cash flow of a company which is doubtful of its accuracy and reports that weights give to information with regards to its past error and accuracy affect the predictability of stock return and profitability of stocks. (Alexander Hillert, 2014), enters the debate by reporting why past winner outperform over past loser through media data. The study reveals that there exists a systematic link between the market price of the shares and the media coverage of the company. (James Scott, 2003), also revisits the same subject by considering the momentum-volume effects in US market, which talks against the phenomena of momentum lead by volume trading and states that momentum is largely affected by the fundamental news once the company's growth rate is controlled. Author also states that delayed reaction to company's news is the reason for volume trading. Thus, concludes saying momentum-volume effect is due to investor's under-reaction to fundamental news, and not a technical rule driven by volume or momentum. Although momentum is explained by many authors with There is only handful of studies related to momentum in Indian stock market particularly focusing on one industry, it also lacks in providing clarity on how momentum trend of a particular firm does is affected by the government policies and announcements made by the firm.

### Methodology and Data:

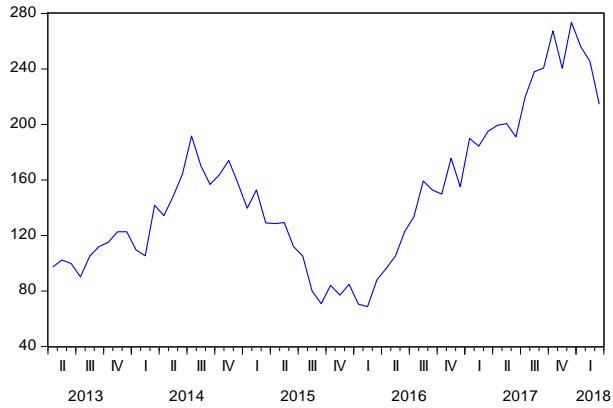
For the purpose of study of stock momentum we have used monthly average closing price of five metal companies, those are included in the nifty metal index. The reason behind choosing these stocks which are included in nifty metal index is to see whether, the momentum effect is found only at individual stock level or can they be driven by the industry momentum? The Index tracks the performance of the individual stock. It includes maximum of 15 of all the listed metal companies on the National Stock Exchange. The Index has been trading since 2011, and consider Jan 2004 as its base date and is well suited for benchmarking, index funds and index-based derivatives. The five stocks out of the total index are selected on random basis and collectively form 70% of the total weight of the index, thus can provide us clear and reliable results. The data obtained for the purpose of study is between the time periods of April 2013 to March 2018, thus the study is on the momentum for a period of five years. The monthly average closing price is obtained by calculating the average of daily closing price of the stocks. The monthly average price of stocks are further plotted on the graph individually for the study of momentum horizon and also to identify any commonality that exist between each individual stock, which is further extended by comparing the stock momentum horizon with the index (nifty metal) momentum. As mentioned in the previous section of the paper we have considered only a few metal companies for the purpose of study that are listed in the stock market. The study is carried with secondary data and data is sourced from [www.NSE](http://www.NSE), hence it is authentic and reliable.

**Data Analysis and Discussion:**

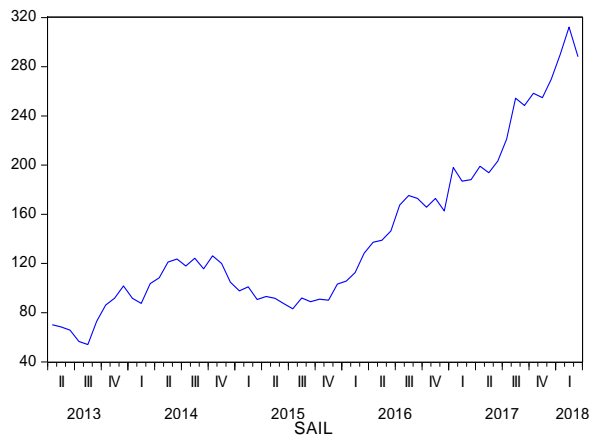
To trace the existence of momentum in individual stocks and their time horizon we have graphically represented (as shown in fig. 1) the average monthly stock price. At first we have analyzed the individual graphs where we can see if the stock prices have any momentum. After analyzing the existence of momentum, we have examined the time horizon of its continuity. Individual stocks provide evidence of momentum that lasts for a of minimum two months period and a maximum of nine months, all the stocks evidence the minimum of two months period and vary in their long lasting period between six to nine months period. However the average time period of momentum can be expected to be around four months obtained by taking the average of the entire observed time horizon. We have also compared the returns of individual stocks with the Nifty metal index. We have tracked the entire event and classified them in four parts, (1. Upward, 2. Downward, 3. Stable and 4. Fluctuating), where we noted that upward and downward trend of all individual stock resembles during most of the time that comes to approximately 70% of the time, however the stability and fluctuation period vary among the stocks. This pattern continues when compared the individual stocks with the nifty metal. If the stocks continued to generate positive/negative return with long lasting momentum, commonality among the reason for the same was observed, to meet the second objective of the study. For this purpose we have plotted two events from each stock, the shortest time for which the stocks hold momentum and the longest time. Then for each of these events we have obtained information and major announcements, these information's and announcements are further categorized according to their relevance (economic, political, legal, company/industry based) where we see that most announcements and information relating to political and legal environment leaves a long-term impact on the firm once it is **settled**. However, the upward or downward momentum depends on whether it is in favors of the company/industry or not. On the other hand, the short period momentum is largely influenced by foreign exchange fluctuation, companies earning and performance, dividend declarations and market behavior.



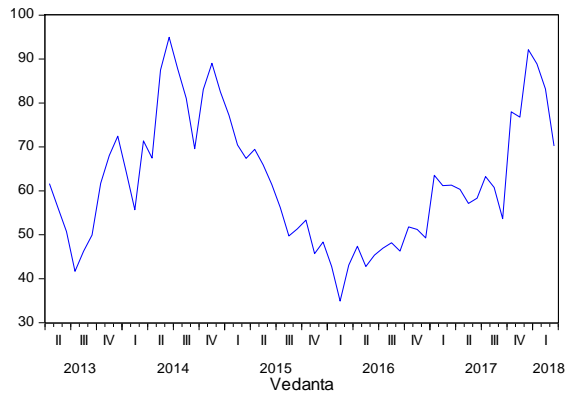
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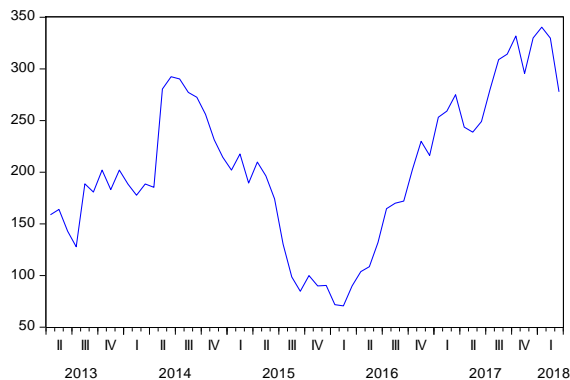
JSW Steel

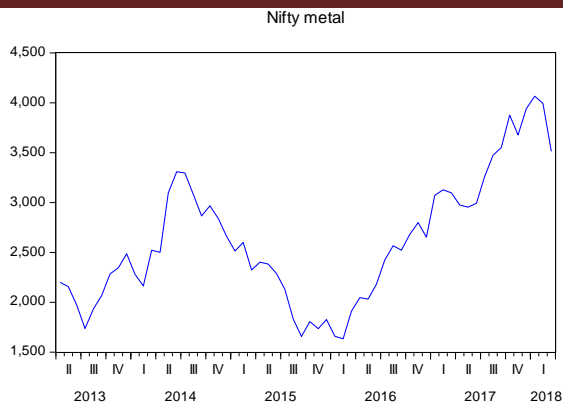


SAIL



Vedanta





**Fig 1: Graphs**

### Conclusion and key findings

This study has examined the presence of momentum and commonality among their existence of five metal company stocks that are a part of the Nifty metal index of NSE, India. The study is carried for a period of five years (1<sup>st</sup> April 2013-31<sup>st</sup> March 2018). The momentum trend among the individual stocks mostly appear in a common time frame and moves with similarity to a great extent. This is the same noticed when the individual stocks were compared with the nifty metal index, which shows clear evidence of industry based momentum to a great extent. In casual approach, most large cap stock returns showcase a momentum effect. This is further substantiated by the fact that all the stocks included for the study that constitute almost 70 % weight of the Nifty metal index, (Tata steel-18.27%, Vedanta Ltd- 17.98%, JSW steel-16.25%, Hindal co- 13.95%, Sail- 2.93%) have exhibited a momentum effect that lasts for a period of two to nine months. The analysis of momentum period and the factors that commonly affects the majority stocks needs to be conducted before adding the stocks of any industry to the portfolio. Use of momentum strategy can improve the returns on investment to the great extent as it suggests the existence and continuity of it. Despite all stocks having momentum effect the selection of investment pattern and stocks predominately depends on the investor's risk tolerance and time horizon. This paper can be further studied by making a mix portfolio of various industries to provide empirical evidence of industry driven momentum and the common driving factors.

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