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**Factors that Determine the Market Prices of NIFTY 200
Manufacturing Companies: A Literature Review**

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Abstract

This is a paper to determine which factors have an impact on equity share prices of NIFTY 200 manufacturing companies and also to study the effects of such factors on equity share prices. This paper attempts to determine which factors play a significant role in equity share price determination. These factors will be analysed from a company, industry and macroeconomic perspective. A wide variety of databases and journals in fields such as business management, finance and economics were surveyed to acquire the desired literature for the current study. The conceptual paper findings identify the various factors that have an influence on perceptions (values, environmental factors, and media) and also whether investor's unique characteristics has bearing on their investment decisions towards equity shares. Conclusions from the literature state that certain factors play a key role in how prices of equity shares are determined and that the investor's understanding of the currently available information should be considered. The final sections provide the methodology to be used for carrying out the present study on the effects of fundamental variables on equity share price determination and the investor's attitudes and perceptions towards equity investments are provided.

Keywords: NIFTY 200; Firm Specific Factors; Industry Specific Factors; Macroeconomic Factors; Investor Perception

INTRODUCTION

The questions of what drives stock market movement constitutes a significant subject matter for a large body of research literature.

Given that volatility of investments is a serious concern for many budding and seasoned investors, a thorough understanding of what factors influence market fluctuations is critical for such individuals in order to make sound investment decisions. The fluctuations to market prices have been attributed to various internal and external factors by researchers (Srivastava 1968; Bhole 1980; Mahapatra and Sahu 1993; Balke and Wohar 2006; Sharma 2011; Jadhav and Badade 2012; Malhotra and Tandon 2013). A major interest for both researchers and investors is to determine how emerging capital markets function and which factors play a role in driving their performance. It is generally acknowledged that financial markets in different economies perform differently and a wide range of variables exist that can help explain the underlying differences.

Macroeconomic variables play a crucial role in shaping how a financial system for a particular country is setup. The study of these variables and their association with stock market returns can help uncover long-term and short-term economic relationships. Given this significance, various researchers have studied these relationships using a plethora of models (Bilson, Brailsford, and Hooper, 2001; Flannery and Protopapadakis, 2001). But nevertheless, many ambiguities regarding which macroeconomic indicators have the greatest impact on stock prices continue to persist to this day.

Traditionally, financial theory has centred on the premise that the goals and expectations of investors are always rational and that efficient financial markets always exist. In recent times, behavioural finance has come about as an alternative to traditional finance theory. It highlights the imperfections that exist in investment decision making and the inefficiencies in financial markets (Thaler 1993; Shefrin and Statman, 2000). Researchers of behavioural finance, however, provide an abundance of empirical evidence highlighting how investor sentiment and stock returns are related (Baker and Wurgler 2006, 2007; Brown and Cliff 2004).

The present study attempts to study the stock prices of manufacturing companies belonging to the NIFTY 200. The study uses various financial variables in order to explain the variance that occurs in stock market returns using a variety of econometric tests.

The remainder of the article is structured as follows - the second section presents the rationale for undertaking the current topic. The third section provides a discussion and analysis of the literature reviewed for the study. The fourth section presents the methods for collecting and analysing literature. The fifth section focuses on the data collection methods and data sources for proposed study. The strategies for data analysis are laid out in the sixth section. The final section presents the conclusion of the study.

SIGNIFICANCE OF THE RESEARCH

The present study attempts to not only evaluate the plethora of internal and external factors that could influence the pricing of equity shares of NIFTY 200 manufacturing companies. It also explores how the investor's background and risk attitude towards risky assets could have a bearing on their investment decisions. This conceptual paper attempts to integrate the fundamental factors that help determine the pricing of equity shares with the investor frame of reference. Thus, the findings of this conceptual paper can be significant for investors in the capital markets and researchers, who are carrying out research in this area of finance.

ANALYSIS AND DISCUSSION OF THE LITERATURE

The following section is dedicated to analyzing the literature concerning the factors that will impact the market prices of equity shares. The factors identified from the literature can be classified as follows: -

Literature on Firm-Specific and Industry Related Factors

Firm specific factors refer to those factors that uniquely impact the equity price of a particular firm. The definite set of firm-specific factors that influence the market price of equity shares is still debated to this day. Mukherji, Dhatt and Kim

(1997) suggest that sales to price (S/P), debt–equity (D/E), and book value to market (B/M) show a positive association with market prices. Beta and earnings–price (E/P) ratio have no significant impact on prices. In contrast to this, Pandey and Chee (2002) have determined that beta and E/P ratio along with Dividend Yield, firm size and Book to Market ratio have a major role in stock return prediction. Their findings are corroborated by Das and Pattanayak (2007), who suggest that EPS, ROCE, Return on Networth (RONW), P/E ratio, Debt to Equity ratio (D/E), Price to Book Value ratio (P/B), Beta, Dividend Yield and market capitalization play a crucial role in influencing the stock prices of Sensex companies. There appears to be differences in opinion, when it comes to which variables can explain market price of firms belonging to different industries and sectors. The study shows that volatility (Beta), profit, and size (market capitalization) significantly influence the stock prices of Indian manufacturing firms (Raithatha and Bapat, 2007). Price-to-book, price-to-earnings, sales growth, price-to-sales and dividend yield are highly significant when it comes to predicting future expected returns of companies listed on NYSE (Shapovalova and Subbotin, 2009). Price-to-cash flow is statistically significant and reliable in revealing the return differences in test portfolio across industry and country (Hou, Karolyi, and Kho, 2011). Market betas, market capitalization, volatility of stock returns, high debt ratios, lower asset profitability and decreased liquid assets, have greater impact on stock prices during market crashes (Fauzi and Wahyudi, 2016). Dividends and earnings show a positive association with market prices. On the other hand, capital employed and retained earnings have a statistically insignificant relationship when it comes to stock prices on the Karachi Stock Exchange (Chughtai, Azeem and Ali, 2014). While studying Indian iron and steel firms, Banerjee and De (2014) discover that dividends, assets growth rate, business risk, operating leverage, age and size of the firm have no visible influence on firm profitability. On the other hand, debt service ratio, financial leverage and asset size have significant impact on firm profitability. Dividends, earnings, Economic value added (EVA), yield and debt-to-equity show a significant association with stock performance of 30 selected

companies belonging to the NIFTY 50 index (Nautiyal and Kavidayal, 2018). Size and liquidity enhance the profitability of Indian manufacturing firms, while leverage discourages it (Nanda and Panda, 2018). There are also disagreements regarding which factors have a significant impact on market prices, when industries are taken into consideration. In their study about the link between industry concentration and market performance, Hou and Robinson (2006) indicate that after adjusting for book-to-market (B/M), firm size and momentum, firms in competitive industries continue to earn higher stock returns. The findings of their study also reveal that the returns are higher for low B/M stocks than high B/M stocks. Book to Market Value (B/M) is a robustly significant measure of firm efficiency and the level of firm efficiency is a major determining factor of stock returns (Nguyen and Swanson, 2009). Investment growth, profitability, valuation ratios, market betas, and idiosyncratic volatility play a major role in the growth opportunities to firm value of technology stocks (Kogan and Papanikolaou, 2013). Butt et.al (2010) suggest that economic exposure is more pronounced at industry level returns compared to firm level returns for the Karachi Stock Exchange. This means that industry stock returns experience greater variation from economic variables when comparing to firm level. The findings of their study indicate that rising inflation adversely affects the stock returns of the firms as does increase in interest rates. Also, the financial sector stock returns are more influenced by changes in economic variables compared to manufacturing industries. Simlai (2014) studied NYSE, AMEX and NASDAQ stocks and suggested that risk premium and time-variation of returns tend to have a negative relationship with distress, when it comes to low-distressed portfolios and this may be explained by momentum. Prombutr and Phengpis (2019) suggest that behavioural-related firm characteristics with regards to size, investment growth and market value are significant determinants of stock returns and return premiums.

Literature on Macroeconomic Factors

There is also a lot of ambiguity in academic research with regards to selecting the optimum set of macroeconomic variables, which affect share

prices in various markets. Domestic inflation shares a negative correlation with market performance. Whereas, industrial production has positive correlation with Indian stock prices (Naka, Mukherjee and Tufte, 1998). Humpe and Macmillan (2007) studied the Japanese and US stock prices to determine if macroeconomic variables had any impact on them. The macroeconomic factors included in the study were money supply, industrial production, interest rates and inflation. The study found that industrial production has a positive relationship and consumer price index and interest rates have a negative relationship with stock prices of US companies. There exists a negative correlation for money supply and a positive correlation for industrial production and equity share prices for Japanese companies. Ahmed (2008) suggests that stock prices of BSE Sensex and several macroeconomic variables display causal relationships. The results of the study revealed that exchange rate (USD/INR), exports, Index of Industrial production (IIP) does not influence the BSE Sensex, however, movement in BSE Sensex does cause change in the above variables. The results revealed that interest rates cause BSE Sensex while there is no causality from BSE Sensex to Interest Rate. Hussain, Lal, and Mubin (2009) studied the Karachi Stock Exchange to uncover any long-run association between macroeconomic factors and stock prices. The variables chosen for the study included wholesale price index, foreign exchange reserve (FER), money supply, exchange rate, gross fixed capital formation (GFCF) and industrial production index. The results indicate that the stock market is significantly influenced by exchange rates and exchange reserves. (Rasiah, 2010). Inflation rate affects both the S&P CNX Nifty and BSE Sensex. Interest rates display a significant association with S&P CNX Nifty but not with BSE Sensex and the reverse result is true for Exchange rates. Gross Domestic Savings do not display any significant effect on Indian capital markets (Pal and Mittal, 2011). Tripathi and Seth (2014) examined monthly data of Indian stock prices and select macroeconomic variables to determine whether causal relationships exist between them. The results of the study demonstrated that long-run causal relationships existed between stock prices and

variables such as money supply, oil prices, IIP and inflation indicating a long-run direct equilibrium between the stock prices and the macroeconomic variables. Keswani and Wadhwa (2018) revealed a strong long-term relationship between disposable income, government policies (taxes), inflation rate, exchange rates and interest rates on the BSE listed stock prices. They also found a negative but significant relationship in the short run between inflation rates and the monthly stock returns. They concluded that inflation is a significant factor in predicting the stock return movement, while prediction from other variables is minimal. Maji, Laha and Sur (2020) used monthly data from September 2005 to November 2016 to determine the short-run and long-run relationships between macroeconomic factors belonging to specific sectors and the BSE listed manufacturing companies which are categorised into five sector specific manufacturing indices. The empirical results obtained from the study suggested that foreign portfolio investment ratio, economic policy uncertainty and prices are the most significant determinants for the selected sectoral indices.

Literature on Investor Perception:

Behavioural finance has become an attractive area of financial research since the past two decades. Its purpose is to determine why individuals take certain decisions with their finances and also to investigate how those decisions could ultimately affect the various markets. Behavioural finance advocates the notion that the investing behaviour of investors is greatly influenced by certain psychological traits and biases. The literature reviewed in this section, covers various aspects of behavioural finance. Nagy and Obenberger (1994) in their study of investment decision making of retail investors observe that recommendations from brokerage houses, fellow retail investors, family members and close friends had no bearing on the investors' decision making. It is also revealed that the benefits of using valuation models for picking appropriate stocks from the undesired ones was not considered necessary by many investors. Fisher and Statman (2000) studied the sentiment of small or individual investors, medium investors (in this case newsletter writers), and large investors (mainly consisting of Wall Street strategists). The study

highlighted that there is much variation in the sentiments of the three groups. The correlation with regards to sentiments of small and medium investors is revealed to be high. However, there is no correlation with regards to the sentiment of large investors and sentiment changes in the other two groups. In addition, the study also revealed that the sentiments of these three groups have a negative relationship with the future stock returns. Schmeling (2009) shows that the predictive power of sentiment is most effective when time horizons of one to six months (short and medium-term) and declines over the course of 12 to 24 months (long term). The findings of the study also revealed that sentiment has a strong impact on country stock returns with weak market integration and which are susceptible to herd behaviour. When the economy is in the expansion state, investor sentiment has predictive power when it comes to portfolio returns. In a state of economic recession, however, the predictive power of sentiment is shown to be insignificant (Chung et al., 2012). When book-to-market equity, size, momentum and liquidity characteristics are considered, sentiment risk plays a non-uniform role in the determination of stock returns (Dash and Mahakud, 2013). Hoffmann, Post and Pennings (2013) observe that perceptions of individual investors fluctuate significantly during a financial crisis. For instance, when the crisis was in its worst months, the return expectations and risk tolerance of investors tended to decrease and their risk perceptions would increase. The investor perceptions appeared to recover towards the final months of the crisis. The findings suggest that risk tolerance and risk perceptions are less volatile compared to return expectations during the crisis. Kim and Park (2015) revealed that individual investor sentiment is not significant when it comes to explaining cross-sectional stock returns. In fact, certain stock prices move in such a way that market participants benefit from improved liquidity when contrarian behaviour is followed during trading. He, He and Wen (2019) explore how investor risk compensation (IRC) and investor sentiment had an influence on returns from the stock market. They reveal that stock returns and current risk compensation are positively correlated, while stock returns and past risk compensation share a negative relationship. They also suggest that risk

compensation influences stock returns even with differing investor sentiments. Stock prices and trading behaviours are influenced by individual risk perception namely the perception of an impending loss while trading assets. Assets which are perceived as being less risky on average tend to trade at significantly higher prices (Huber, Palan and Zeisberger, 2019). In their study, Ryu et al. (2020) suggest that product market competition and financial crises affect the dynamics between investor sentiment, market competition and stock market returns. The findings reveal that under high market competition, a positive relationship exists between investor sentiment and market returns. This relationship ceases to exist once low market competition is introduced. During the period of crisis, the relationships between sentiment and returns continues to be significant regardless of the market competition. Liu et al., (2020) investigated different market state returns and how they are influenced by investor sentiment. The study revealed that investor sentiment significantly and positively impacts the stock returns for the entire study period for both neutral and bull markets. Also, most industries in the bull market have a more significant impact compared to the neutral, and the bear markets for all time periods. Ikizlerli et al., (2019) investigated local institutions, foreign institutional and retail investors' responses to macroeconomic shocks using daily buy-sell volumes. The findings reveal that less experienced investors tended to follow contrarian strategies, while the more sophisticated investors tended to follow momentum trading strategies. Also, the less sophisticated investors tended to be affected by sentiment more than the other investor types. Institutional investor sentiment proves to be a statistically significant predictor of aggregate stock returns. Institutional investors can forecast future cash flow levels for the stock market thereby contributing to the predictability of institutional stock returns (Gao et al., 2020). Frydman, Manglee and Stillwagon, (2020) examined how market sentiment influenced stock return forecasting. The findings of their study revealed that investor sentiment plays a key role in how investors approach their investment decision making. The study revealed that when news about dividends and interest rates was positive or negative and coincided

with the investment sentiment towards stocks, it had a significant impact on the ability of investor to forecast future stock returns. When the market sentiment was neutral or contradicted the views of investor towards dividends and/or interest rates, the results did not show any significant effect on stock returns.

RESEARCH GAPS

Determining the factors that affect the prices of company stock in a significant way is a critical consideration for many internal and external users of company information including investors, stockholders, and management. Research in this area, however, has not yielded certainty regarding which determinants are more significant than others, when it comes to influencing stock prices. The present study attempts to help investors mitigate the losses from investments by providing them with enough information to be able to determine what the expected stock market prices

will be in the future. The study attempts to solve the investor's investment dilemma towards equity share investments by looking at the following questions:

What are the fundamental factors (external and internal) that have the most impact on the market prices of NIFTY 200 manufacturing companies' equity shares?

Does the investor's unique characteristics play a role on their decision-making process, when it comes to investing in equity stocks?

By addressing the above two questions, the researcher attempts to help investors find the best investments for their given capital. Prior studies have lent a considerable amount of time determining the type of relationship between fundamental variables and the prices of equity shares in emerging economies. However, not much research has taken into account both financial variables and investor expectations simultaneously and their effect on investing in equity shares.

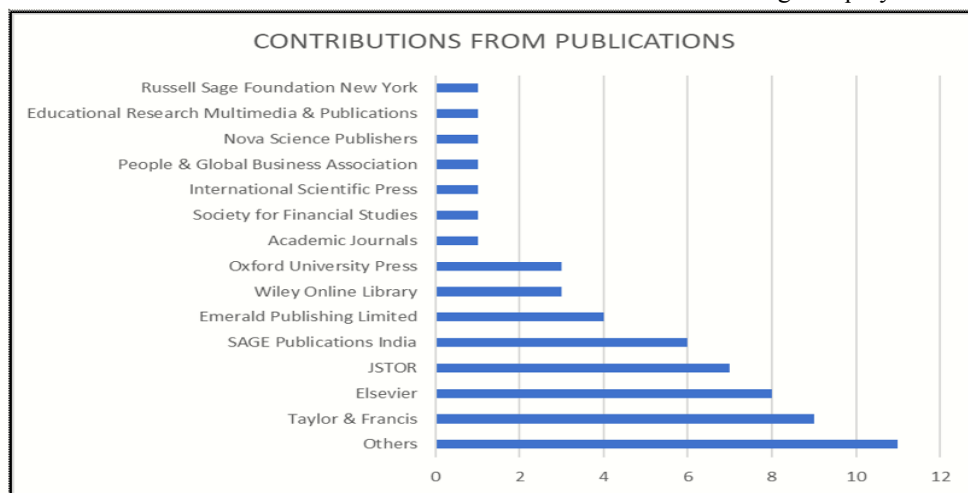


Fig 1. Contributions from Publication

METHODS FOR COLLECTING AND ANALYSING LITERATURE

The present paper came about based on reviewing prior literature concerning the different factors that affect the stock prices in different markets. A variety of methods were implemented to collect the desired literature for research and analysis. First, the Google Scholar website was used to gather information about the relevant articles. Terms such as

'fundamental analysis', 'macroeconomic factors' and 'investor perception' were used, and a variety of articles addressing these terms were collected. Second, four databases pertaining to business management and accounting were used for further research on the topic. The databases were SAGE Journals (Management), Emerald Management, Science Direct (Management) and JSTOR. When 'fundamental analysis', 'macroeconomic factors' and

'investor perception' was searched in the databases, the journals/articles deemed to be relevant to the topic at hand were shortlisted and reviewed.

The contributions made by various publishers were extracted by using the Bib Excel tool. Smaller local publications account for the majority of the publications, with eleven papers, followed by Taylor & Francis with nine papers. Fig. 1 shows that the study covers across a variety of publishers both local and international.

DATA COLLECTION AND DATA SOURCES FOR FUTURE RESEARCH

The answers to the questions raised in this conceptual paper relies on both quantitative and qualitative data, which were identified based on a thorough review of literature on various factors affecting stock prices. For research going forward, a quantitative study will be conducted to obtain data pertaining to the relevant factors that affect the share prices of NIFTY 200 manufacturing companies. Also, the qualitative aspect of research will focus on the role of an investor's risk perception and socioeconomic profile in their investment decision making process towards risky assets in this case equity shares will be examined. The sample population for the study will consist of the manufacturing firms belonging to the NIFTY 200 index.

The NIFTY 200 Index is chosen for this study because it accounts for about 86.7% of the free float market capitalization of all NSE listed stocks and the total traded value of all index constituents is approximately 84.6% of all traded value on NSE as on March 29, 2019. The NIFTY 200 index consists of 113 manufacturing companies and 87 non-manufacturing companies. Among the manufacturing companies, the consumer goods sector is the most represented with 32 companies, followed by pharmaceutical sector and automobile sector with 19 and 17 companies respectively. For the purposes of this study, the companies constituting the NIFTY 200 index will be segregated into various sectors.

The company and industry related variables will be collected from sources such as Centre for Monitoring Indian Economy (CMIE) (Prowess

Database. External economic variables will be collected from the official websites of Ministry of Commerce and Industry, RBI and Economic Intelligence Service provided by CMIE.

The qualitative aspect of the study consists of the investor sample collection that will be collected by means of a structured questionnaire sent to individuals, who are registered with the depository participants in and around Hyderabad city. The investor sample would consist of individuals with varying levels of investing experience with regards to equity markets and index investing. The sample will also include those individuals, who with little to no exposure to the equity markets. To address the ethical concerns pertaining to this study, the participants will be requested to sign a consent form stating that any responses recorded during the course of the research period, will be used strictly as data in this study. They will also be notified that their participation in the study is voluntary and will be completely confidential.

DATA ANALYSIS STRATEGIES FOR FUTURE RESEARCH

The research for the study will consist of employing Factor Analysis namely the Principal Component Analysis method to determine the most relevant variables for the study. To test the stationarity of data in a time series, the Augmented Dickey - Fuller (ADF) (Dickey and Fuller 1979, 1981) (test and the Phillips-Perron (PP) (test of stationarity will be used. The Johansen's Cointegration test (Johansen and Juselius, 1990) will be used to verify whether any equilibrium relationship for the long run exists between the selected variables.

The study will perform Multiple Regression Analysis in a stepwise manner to determine those factors that have a significant relationship with the dependent variable, which is the market price of NIFTY 200 manufacturing company shares. Granger Causality Test (Engle and Granger 1987) will be utilized to examine the cause-and-effect relationship between the underlying factors and the market price. Auto Regressive Conditional Heteroskedasticity (ARCH) model will be considered for the study, in order to model the given time series data and characterize it to handle

the time-varying volatility coming from variables such as stock prices, exchange rates, inflation, etc.

The relevance of investor's risk perception towards equity shares and their socio-economic profile will be examined using Cronbach Alpha method. From the responses, conclusions will be made about whether investor characteristics and attitudes towards risky assets had an impact on their decision making.

CONCLUSION

The findings from the paper will allow me to determine which factors have more influential than others, when it comes to affecting the market price of NIFTY 200 manufacturing companies. In reality, a single factor alone cannot be accountable for market price determination, since there is always new information being added to the market constantly and the opinions of investors shift according to this new information. Through the use of statistical analysis including regression analysis, the relationship between the different variables under consideration and the dependent variable, which is the market price of NIFTY 200 manufacturing companies, can be determined. Apart from the nature of the relationship, the cause-and-effect relations between the dependent variable and the explanatory variables for both short term and long term can also be evaluated. The factors, which are qualitative in nature such as risk perceptions and investment attitudes of retail investors towards risky assets will also be uncovered during the course of the study. The findings of the study could prove significant and have implications for further research because there is not much literature available currently in the field of investment management that combines both economic factors and investor characteristics.

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