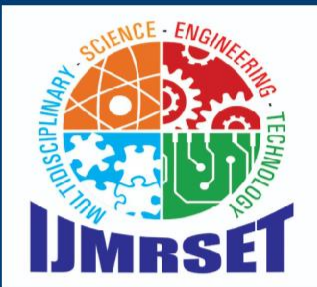

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Impact of Macroeconomic Determinants on the Indian Stock Market

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ABSTRACT: Stock markets serve as an indication of a nation's economy, whereas macroeconomic determinants show the state of a nation's economy overall as well as its patterns and trends. Considering that India's economy is among the largest and most rapidly expanding in the world, it is critical to understand the manner in which macroeconomic determinants impact the performance of the stock market in this era of globalisation. The purpose of this article is to review the available research on the relationship between macroeconomic determinants and the Indian stock market to determine the way they affect the performance of the stock market based on numerous research studies. This will assist investors in making decisions regarding investments, policymakers in developing policies, and researchers in concentrating on their forthcoming works.

KEYWORDS: Impact, Macroeconomic Determinants, Indian Stock Market, Performance

I. INTRODUCTION

The Indian stock market, which is essential to the country's financial and economic development, has experienced significant transformation since the country's implementation of globalisation policies. Macroeconomic parameters show the wellness of an economy based on its current status and the prevailing trends or patterns of the overall economic scenario. Macroeconomic determinants can also be referred to as macroeconomic factors, variables, or indicators. The impact of macroeconomic issues on the stock market has drawn attention from academics, investors, and policymakers over the past few decades, and researchers have been attempting to objectively evaluate this function. Over recent years, both industrialised and emerging nations have widened their efforts to undertake studies on the causal connection between macroeconomic determinants and the stock market (A.K. & Pooja, 2017). Examining the impact of macroeconomic factors on the performance of the Indian stock market is crucial, as India is the most rapidly evolving emergent economy and plays an important function in the economies of the world. This essay therefore makes an effort to present an overview of the research on the causal connection among macroeconomic determinants and the Indian stock market.

II. MACROECONOMIC DETERMINANTS AND INDIAN STOCK MARKET

Reviewing the impact of macroeconomic determinants on the performance of the Indian stock market on the basis of multiple research studies is the key objective of the current work. Therefore, the research concerning the causal connection that exists between macroeconomic determinants and the Indian stock market is discussed here.

The investigation conducted by (Dasgupta, 2012) explored the empirical connection that exists between selected macroeconomic variables, including WPI, IPI, EXR, and CMR, and the Indian stock market (BSE Sensex). ADF, Granger Causality, Johansen and Juselius's (JJ) Co-integration, and descriptive statistics were used to analyse the monthly data series covering the months of April 2007 through March 2012. The results show that while there is no short-term unilateral or bilateral causal relationship between Sensex and the macroeconomic variables, there is a long-term relationship between IPI, CMR, and Sensex.

In similar to this, the association between the Indian stock market index (BSE Sensex) and macroeconomic variables—IPI, WPI, EXR, M3, and T-Bills (91 days)—was examined by (Naik & Padhi, 2012) using monthly data covering the period from April 1994 to June 2011. The tests used are the ADF, PP, KPSS, Johansen Co-integration, and VECM. It demonstrates that the Sensex and variables have a long-run equilibrium relationship, with the stock prices

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having a negative relationship with the WPI but a positive association with the M3 and IPI. Moreover, there is bidirectional correlation between IPI and stock prices, whereas there is unidirectional causality between M3 and stock price, stock price to WPI and T-Bill and market price to macroeconomic factors in the long run but not the short run.

In order to support these studies, (Ray, 2012) analysed the effect between macroeconomic variables namely BoT, Call Money Rate (CMR), CPI, FDI, Forex Reserve (FR), GDP, Gross Fixed Capita Formation (GFCF), Gold Price (GP), IPI, Money Supply M3, Oil Price (OP), ER, WPI and Sensex (proxy for Indian stock market) for the period of 1990-91 to 2010-11 using multiple regression analysis and granger causality test which results that there is no causal association between stock price and CMR, IPI but unidirectional causality exist between stock price and CPI, FDI, GDP, ER, GFCF also bidirectional causality exist between stock price and FR, M3, OP, WPI. The study also indicates that OP and GP have a significant negative effect on stock price while BoT, CMR, FR, GDP, IPI, M3 positively influence stock price whereas CMR, FDI, ER, and WPI do not have any significant effect on Indian stock price.

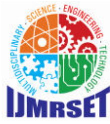
The research conducted by (Subburayan & Srinivasan, 2014) investigated how macroeconomic factors affected the Indian stock market's CNX Bank Index. This study makes use of the WPI, interest rate, and exchange rate. Monthly observations were collected between January 2003 and December 2013, and several statistical tests were performed, including descriptive analysis, ADF, regression modelling, Granger causality, and Johansen co-integration. It shows that there is a long-term relationship between the variables and the stock index as well as a positive correlation between ER and IR and stock returns. However, there is a unidirectional causal influence of ER on Bankex and no causal relationship between IR, WPI, and Bankex. Then, (Singh, 2014) looked into the empirical links between Indian stock market indices (BSE 100 and CNX 100) and the chosen macroeconomic variables, which included IPI, CPI, M3, IR, Trade Deficit (TD), Foreign Institutional Investment (FII), ER, OP, and GP. The study utilised monthly data series spanning from January 2011 to December 2012, and three distinct tests were conducted: Granger Causality, Multiples Stepwise Regression, and Correlation. The results indicate that macroeconomic factors have a notable impact on the Indian stock market and also point to long-term equilibrium relationships between the variables. While there is no direct association between any of the variables, it does demonstrate a causal relationship between FII and stock indexes.

In similar to these studies, using monthly time series data, (P. & T., 2014) investigated the relationship between the macroeconomic variable and the Indian stock market (using the BSE Sensex as a proxy) for the months of April through July 2013. Descriptive statistics, Pearson correlation, ADF, Granger causality tests, and the macroeconomic variables WPI, IPI, EXR, FII, CMR, and money supply were selected. The findings indicate that whilst EXR and FII are not significant, WPI, Money Supply, and IPI are positively significant to the Sensex. Furthermore, Granger Causality demonstrates that WPI and IPI have a larger impact on the Sensex.

Similarly, an empirical analysis was carried out by (Kotha & Sahu, 2016) using monthly data, examining the long- and short-term effects of macroeconomic issues on the Indian stock market from July 2001 to July 2015. The macroeconomic indicators that are chosen are WPI, T-Bill (365 days), M3, and EXR. The Indian stock market is represented by the BSE Sensex. ADF, Johansen Co-integration, VECM, and VDC were the tests that were used. It validates that there is a long-term relationship between the Sensex and macroeconomic factors. In the short term, there is a bi-directional causal relationship between the Sensex and EXR, as well as a positively significant relationship between the WPI and M3 and stock returns, but a negatively negligible relationship between the T-Bill.

In support to this, the impact of macroeconomic indicators on the Indian stock market (CNX Nifty & BSE Sensex) between 1981 and 2017 was examined by (Sultana & Reddy, 2017) using annual data. In this study, the macroeconomic variables that were chosen for analysis include the following: interest rate, inflation, statutory liquidity ratio (SLR), oil prices, IPI, FII, EXR, and cash reserve ratio (CRR). With the exception of IPI, all of the applied tests—Pearson link, ADF, Johansen Co-integration, and Granger Causality—show a substantial link between the components and both the Nifty & Sensex. According to the Granger Causality test, Nifty and Sensex are caused by CRR and FII, while Interest Rate is caused by both Nifty and Sensex.

The study conducted to analyse macroeconomic factors' effects on the performance of the Indian stock market (CNX Nifty is utilised as a proxy) were assessed by (Agrawal & R, 2019). The macroeconomic factors employed in this study were Gold, Silver, Oil, 10-Yr Bond, IPI, ER, CPI, M3, FR, and BoT. The monthly time series data were collected between April 2008 and March 2018. Only FR and ER have a substantial link with the Nifty index, according to the results of the Granger Causality, ADF, Correlation, and Multivariate Regression tests. There is also a significant



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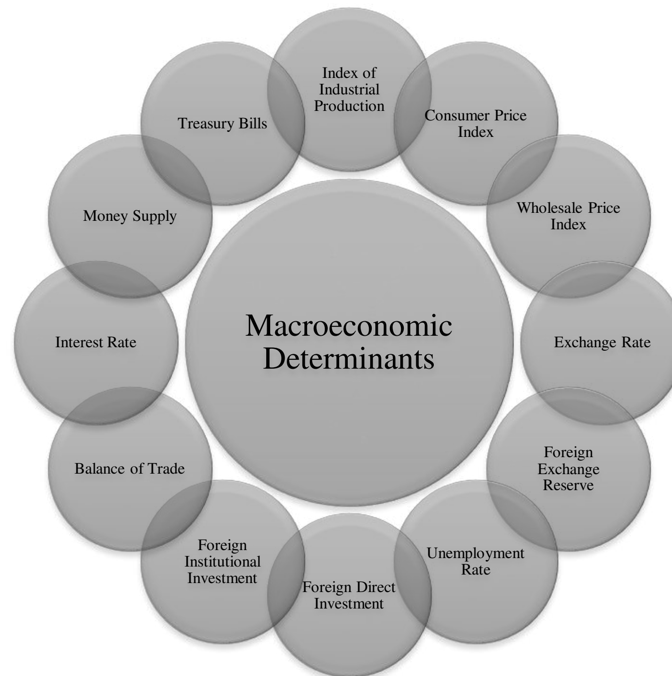
relationship between the variables. Gold and Silver to Nifty, CPI to T-Bill, T-Bill to M3, Gold to FR, BoT, and ER, Silver to ER, and ER to BoT were all causally related.

In addition to this, using the NSE as a proxy, (Kaur & Singla, 2021) examined the short- and long-term dynamic correlations between the macroeconomic factors and the sectoral stock indices (Financial, FMCG, IT, and Oil & Gas) in the Indian stock market from January 2009 to December 2019. The macroeconomic variables in this study include the Institutional Investments (IINV), FDI, IPI, T-Bill (91 days), WPI, ER, Gold Price, and Oil Price. The monthly time series data is utilised in this research. The employed tests are Descriptive Statistics, ADF, ARDL, CUSUM, CUSUMQ which resulted that in long-run IINV have a relationship with the most of the sectoral stock indices such as Finance, FMCG, Oil and IPI also influencing Finance and Oil indices while FDI and T-Bill are also affecting Finance index whereas ER, Gold and Oil prices are affecting IT index. In short-run, Finance index is influenced by T-Bill, ER, WPI and FMCG index is positively and significantly related to the ER, IPI, Gold and Oil Prices while IT index is influenced by IPI then Oil & Gas sector is influenced by ER, FDI, IPI, and WPI**.** Furthermore, Figure 1 compiles the collection of the most noteworthy macroeconomic determinants observed in this study that can have a substantial impact on the Indian stock market.

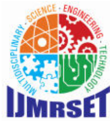


Source: Observed by the authors from the reviews

Figure 1: Noteworthy Macroeconomic Determinants Impacting the Indian Stock Market

III. CONCLUSION AND SUGGESTIONS

The impact of macroeconomic determinants on the performance of the Indian stock market is discussed in this article, which draws on a number of research studies and offers a comprehensive review of the literature on the subject. These assessments highlight the fact that most research has been conducted solely on the Sensex and Nifty indices of the Indian stock market and that many studies have been restricted to a small number of carefully chosen macroeconomic variables. Consequently, it is suggested to think about including more macroeconomic determinants. Additionally, noteworthy macroeconomic determinants observed in this study include the Index of Industrial Production, Consumer Price Index, Wholesale Price Index, Exchange Rate, Foreign Exchange Reserve, Unemployment Rate, Foreign Direct Investment, Foreign Institutional Investment, Balance of Trade, Interest Rate, Money Supply, and Treasury Bills. In order to attain a more accurate and effective result, researchers should concentrate their efforts in the future on incorporating these aspects into the Indian stock market. In light of this, the current study examined the impact of macroeconomic determinants on the Indian stock market, which will assist academics in their future research as well as investors in making investment decisions and policymakers in formulating policies.



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