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TO STUDY THE EFFECT OF MACRO-ECONOMIC FACTOR (INFLATION) ON STOCK PRICES OF LISTED IT COMPANIES

Archita Jain, Prasen Hirpara, Dr. Dipak Gaywala
Student, Student, Assistant professor
Faculty of management studies MBA department
Parul University, Vadodara, India.

Abstract: The stock exchange is an important measure of India's economy. These stock markets have always been an area of extreme concern for governments, economists, and researchers. This research work aims to study factors and assessment of macroeconomic factors-like inflation in the share price movement of the top 5 performing IT sector stocks listed on the National stock exchange. The data collected in the research paper were for a period of five years, i.e., January 2017 to December 2021. To examine the effect of inflation on the stock prices of selected IT companies, we are going to use statistical tests, i.e. Regression and Correlation. This research will result in knowing the relation between the inflation and prices of selected IT companies as well as predicting the future value of variables with the help of regression.

Keywords – Stock prices, Inflation, National stock exchanges

I. INTRODUCTION

The information technology (IT) sector is important for the 21st-century economy, which is a technology-driven sector. India's outstanding IT sector has helped it become acknowledged on a worldwide level as a knowledge economy. The main parts of the information technology sector are IT services, IT-enabled services (ITES), e-commerce (online business), software, and hardware products. This industry plays a vital role in the development of the infrastructure required for processing, exchanging, and storing data for corporations and other organizations. The success and expansion of any firm now depends on IT-based services and products. The productivity of nearly every other sector of the economy is greatly increased by this industry, and it also has a huge potential to promote future growth and development. From the time of independence till 1970, India lacked a controlling policy or framework for computer/software technology. The government started taking a lot of steps to start designing and building computers in educational institutions. A boost to the IT sector was provided by the National Broadband Policy of 2004. The Special Economic Zone (SEZ) Act of 2005, and the Information Technology Act of 2005, which led to a growth in the number of domestic and foreign software/IT companies in the nation. Over the past ten years, India has transformed into an IT powerhouse for international software companies, and Indian software firms now hold significant positions in the global IT market. India is presently the world's largest source of IT sector suppliers. Online shopping, cloud computing, and e-commerce are all accelerating the growth of the IT industry. The IT sector has been growing at a rate of roughly 10% up until now, for the years 2019 and 2020. According to their market capitalization, the businesses Tata Consultancy Services, Infosys, Hindustan Computers Limited, Wipro, and LTIMindtree were chosen for the study.

II. OBJECTIVES OF STUDY

To study the effect of Macro Economic Variables (Inflation) on the share price of IT and to analyze the relationship between inflation and share prices.

III. SCOPE OF THE STUDY

The scope of this study is to analyze the effect of inflation on stock prices of listed Information Technology (IT) companies on the National stock exchange. It seeks to understand how changes in inflation levels from 2017 to 2021 years impact the stock prices of these Information Technology companies and identify correlation and regression between the two. This study will understand how the financial performance of IT companies is impacted by inflation and arm stakeholders with the knowledge to make wise investment choices.

IV. REVIEW OF LITERATURE

Impact of inflation and interest rate on the stock prices of listed FMCG companies. (Dr.R.Jeyalakshmi 2021)
Macroeconomic factors are divided into four different kinds of groups. The first group of variables includes employment rate levels and industrial production. The second group includes interest rates and monetary policy. The third group of variables consists of price levels, which can be a general price level and inflation rate or the price of key assets. The large group of variables includes international activities such as exchange rates and direct foreign investments.

Stock Market Volatility and Macroeconomic Factor Volatility. . (Mr. Naveed Ahmad 2016)
The study explains that volatility is the ups and downs in the prices of stocks, which is a reaction to incomplete information in the market. If there is a rapid increase and decrease in stock prices, then there would be high volatility, and similarly, if there is no or very little change in the prices of the stocks, then there would be low volatility. In highly volatile stocks, then, there exists a risk, and investors demand returns for stocks with higher risk. The macroeconomic elements that are either unidirectional or bidirectional cause volatility.

Key Factors Affecting the Stock Price of Enterprises Listed On Ho Chi Minh Stock Exchange. (Hung 2019)
One of the most significant macroeconomic indicators, inflation, is regularly referred to when conducting economic analysis. The impact of inflation is wide for many sectors. The value of one of the most significant macroeconomic indicators, inflation, is regularly referred to when conducting economic analysis. The impact of inflation is wide for many sectors. The value of investment securities is directly affected by inflation and this is considered one of the risks in stock investment for investors. Production and business activities of listed companies that are directly or indirectly affected by inflation will cause fluctuations in stock prices. As the rate of inflation is increasing, it can result in a crisis of confidence in the economy, especially when even the government seems to be powerless. The mentality of investors is also heavily affected and the stock market will no longer be the place for attractive investments.

Interest Rates and Stock Market in Indian Context: An Analysis (agarwal 2020)
According to the discounting model, there is an inverse relationship between the interest rate and prices as the present value of stocks is calculated by discounting the future cash flows at discount rates, and this discount rate is the risk-adjusted return, so as the interest rate increases, the present value of stock prices decreases. The relationship between stock prices and rates is also negative due to the presence of a bond market. As the interest rate on bonds increases, investors substitute bonds for shares, which leads to a decrease in the value of the share price. But many researchers have also said that the relationship between interest rates and stock prices need not necessarily be negative and they have found a positive relationship between the two, like stock prices rising along with the interest rate when the economy grows rapidly, and a positive relationship between variables can also exist due to risk, which leads to lower interest rates..

Relationship between Exchange Rate and Stock Prices in India – An Empirical Analysis (nath 2003)
The Asian crisis has made a strong linkage between stock prices and exchange rates. During this period, the world has noticed that markets have collapsed because of major depreciation of exchange rates (in terms of US$) as well as a fall in stock prices. From the viewpoint of great importance, money transfers are caused by portfolio investments rather than actual trade flows. Though trade flows have some impact on the stock prices of companies whose main sources of revenue come from foreign exchange. A decline in the value of the local currency makes exporting goods more appealing and increases global demand, which boosts sales for the company, increases its worth, and raises stock prices. On the other hand, an increase in the local currency lowers an exporting company's profits because it reduces the demand for its goods abroad. That is, exchange rate movements also affect the value of a firm's future payables (or receivables) denominated in foreign currency. Therefore, on a macro basis, the impact of exchange rate fluctuations on the stock market seems to depend on both the country's international trade in its economy and the degree of the trade imbalance.

Impact of Interest Rate and Exchange Rate on the Stock market Index In Malaysia: A Co integration Analysis (thang 2006)
The success of the stock market is influenced by a wide range of variables, including political, economic, external, and company-specific factors. Stock indices are influenced by various factors, which include economic growth, monetary policies, political issues, fiscal policies, exchange rates, and international issues. The factors that affect the price can be the company's profitability, sales, balance sheet, board of directors, new product launches, and so on. Since stock market performance can be taken as a measurement of the economy as a whole. Interest rates and exchange rates were the study's determinants. Since the 1990s, Malaysia has been using interest rate targeting. Malaysia is one of the nations that is most focused on exports. Exports will be encouraged if our exchange rate is competitive. Economic growth as a result will be seen in the performance of the stock market.

Macroeconomic variables and stock prices in emerging economies: A panel analysis. . (CHANDRASHEKAR 2018)
The present study focuses on the relationship between stock prices and inflation from the perspective of emerging countries. Inflation and interest rates depend on market conditions due to the instability of the open economy. This indicates that changes in aggregate macroeconomic factors will strongly affect the changes in stock prices occurring. In both the financial crisis and the global economy, the situation has stimulated investigation into the relationship between the macro-economy and financial markets. Economists would agree that the financing decisions explored, along with the study of the behavior of financial markets are within the sphere of finance. The study analyzed macroeconomic variables for changes in stock market prices from our sample period.
We must analyze this issue in particular and its unmatched macroeconomic reaction pattern. The paper mainly aims to investigate the effects of stock prices on macroeconomic variables in two emerging markets. More specifically, best of our knowledge, no study so far has examined the relationship between stock prices and macroeconomic variables in two emerging countries. More specifically, it will

be important for policymakers to know to what extent output and increased interest rate rates impact stock prices and depreciation in exchange rates impact stock prices. These results will help policymakers take further steps to advance important macroeconomic information to the stock market without jeopardizing those economies' economic growth.

Impact of Inflation and GDP on Stock Market Returns in India (D.V. Lokeshwar Reddy 2012)

The results agreed with Blanchard and Tam Tom's a priori assumption. An important result is that over the years 1997 to 2006, 95.6% of the stock prices of quoted businesses were affected by the explanatory variables in the model. Also, it offers circumstantial support for the relative significance of the explanatory variables on stock prices of the mentioned businesses. Particularly, the results imply that RDGP was the key factor affecting stock prices. The government should implement measures that would raise the standard of living while lowering the rate of inflation and the number of people living in poverty. To promote investment and stock market activity, interest rates should also be moderated.

Impact Of Union Budget On Indian Stock Market (gakhar 2015)

The Indian economy and financial market are impacted by the Union Budget. Stock markets often do better in growing nations like India than in those with slower development rates. An expanding economy produces more goods and services, which boosts business profitability. Increased profits result in more appealing firm shares and a price upward trend on the stock market. The engagement on the stock market frequently depends heavily on the budget. The reaction of the stock market is sometimes taken as a sign of the "quality" of the recently announced Budget in terms of bettering macroeconomic prospects. The stock prices of the corporations listed on stock exchanges are impacted by the budget's information on various industries.

V. RESEARCH METHODOLOGY

Research Type- Secondary research

Tools Used In the Analysis

- Regression - A technique for determining the statistical relationship between two or more variables where a change in a dependent variable is associated with, and depends on, a change in one or more independent variables.

Linear Regression: Y = b0 + b1X Where, b1 = Slope b0 = Intercept

- Correlation The degree and type of relationship between any two or more quantities (variables) in which they vary together over some time. Correlation can vary from +1 to -1. Values close to +1 indicate a high degree of positive correlation, and values close to -1 indicate a high degree of negative correlation.

$r = \sum xy - (\sum x*\sum y/n)$ $[\{\sum x^2 - (\sum x)^2/n\}*\{\sum y^2 - (\sum y)^2/n\}]^{1/2}$ Where, X = independent variable Y = dependent variable

Period of study - The present study has taken into account 5 years, viz., 2017-2021.

Sample of study -Tata Consultancy Services, INFOSYS, WIPRO, Hindustan Computers Limited, and LTIMindtree

VI. HYPOTHESIS FOR THE STUDY

H0:- There is no significant effect of inflation on the stock prices of selected IT companies.

H1:- There is a significant effect of inflation on the stock prices of selected IT companies.

H0:- There is no significant relation between the Inflation Rate and stock prices of selected IT companies.

H1:- There is a significant relationship between the inflation and stock prices of selected IT companies

VII. DATA COLLECTION SOURCES

- www.moneycontrol.com
- www.nseindia.in
- www.sebi.gov.in

VIII. RESULTS

Table 8.1:

Companies	Correlation		Regression
	r	interpretation	
tcs	0.463	strongly positive	249.232+1009.55x
infosys	0.50462	strongly positive	149.01+220.347x

wipro	0.185	negligible relationship	20.756+218.108x
hcl	0.38079	moderate positive	71.2672+319.815x
ltmindtree	0.18613	negligible relationship	20.137+218.014x

IX. CONCLUSIONS

This paper examines the effect of the inflation rate on stock prices using the yearly data on the top 5 listed Information technology companies on the National stock exchange, which includes Tata Consultancy Services, Hindustan Computers, limited, Infosys, Wipro, and LTIMINDTREE. For five years, information (2017-2021) Standard statistical analysis methods were used, such as Karl Pearson's correlation coefficient and linear regression models. The empirical findings reveal a significant association in terms of correlation and regression between stock prices and changes in stock prices due to inflation rates. The Karl-Pearson correlation coefficient is positive for all the above-listed IT companies, which indicates that there is a positive correlation between inflation and stock prices. Additionally, IT companies such as Tata Consultancy Services, Hindustan Computers Limited, Infosys, Wipro, and LTIMINDTREE may also benefit from the inflation due to an increase in the demand for their services during this period, and companies may be able to pass the increased costs to customers through high prices. On the other hand, when performing linear regression to study the effect of inflation on the stock prices of IT companies, there was a positive effect of inflation on the stock prices of IT companies and the regression equation for each selected IT company will help to predict the dependent variables.

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