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A STUDY ON IMPACT OF MACRO ECONOMIC VARIABLES ON STOCK MARKET

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ABSTRACT :

In the stock market, the prices of stocks are influenced by the forces of demand for and supply of shares. These factors include various macroeconomic and microeconomic conditions, similar to those in other free markets. The interaction between demand and supply from market participants determines the prices. To better understand this, a microeconomic model of interacting agents could be used to analyze the behaviors and decisions of these participants in the market.

Researchers are exploring agent-based models to simulate stock markets that include factors such as imitation and contagion in price formation. Previous studies have modeled stock markets as deterministic systems involving two types of traders: fundamentalists (who believe prices are based on underlying value) and trend chasers (who predict prices based on past trends). In these models, transitions between trader types can result in significant price fluctuations. Notably, the NSE collaborates with both the Uganda Securities Exchange and the Dares Salaam Securities Exchange, facilitating cross-listings of various stocks.

Key Words: Stock Market, Demand , agents, Collaborates.

INTRODUCTION :

Established in 1954, the Nairobi Securities Exchange (NSE) was initially connected to the London Stock Exchange while Kenya was under British rule. As the primary stock exchange in Kenya, the NSE is part of the African Stock Exchanges Association. It ranks among the top five exchanges in Africa based on trading activity and is notable for having a market capitalization that is significant relative to Kenya's Gross Domestic Product (GDP). Notably, the NSE collaborates with both the Uganda Securities Exchange and the Dar es Salaam Securities Exchange, facilitating cross-listings of various stocks. Trading takes place electronically through the Electronic Trading System (ETS), established in 2006. To enhance remote business operations for brokers, a Wide Area Network (WAN) was introduced in 2007, allowing transactions to be conducted directly from their offices.

Performance is measured using two primary indices: **NSE 20-Share Index (1964-present)** This index tracks the performance of 20 leading companies in Kenya, including: * Mumias Sugar Company * Express Kenya * Rea Vipingo * Sasini Tea Company * CMC Holdings * Kenya Airways * Safaricom * Nation Media Group * Barclays Bank of Kenya * Equity Bank * Kenya Commercial Bank * Standard Chartered Bank * Bamburi Cement Company * British American Tobacco (Kenya) * Kengen * Centum Investment Company * East African Breweries * EA

REVIEW OF LITERATURE:

EdwardKitatia-2012

The daily fluctuations in stock prices of listed businesses are influenced by a combination of firm-specific factors (such as earnings and dividend policies) and broader economic trends. This study investigates the impact of specific macroeconomic factors, including foreign exchange rates, interest rates, and inflation, on the stock price volatility of companies listed on the Nairobi Securities Exchange in Kenya. Analyzing data from 2008 to 2012, the study finds that these macroeconomic factors play a significant role in shaping stock market behavior. Understanding these influences is crucial for policymakers, risk managers, and financial analysts in making informed decisions and managing risk.

Prantik - 2003

This study aims to investigate the interplay between key economic indicators and the stock market in India. It analyzes monthly data for economic variables such as GDP, fiscal deficit, interest rates, inflation, exchange rates, and foreign investment from 1994 to 2003. The study employs advanced non-linear techniques, including Vector Autoregression (VAR) and Artificial Neural Networks, to assess the relative impact of these variables on the Bombay Stock Exchange's Sensitive Index (Sensex). The findings suggest that factors such as interest rates, national output, and money supply have a significant influence on stock market performance.

Sharif Zaman -2012

Movement of stock indices is responsive to changes in macroeconomic fundamentals. The objective of this study is to find the relationship between macroeconomic variables and stock prices in Karachi Stock Exchange (KSE), Pakistan. The study considers annual data of several macroeconomic

variables from 1998 to 2009: gross domestic product, exports, consumer price index, money supply M2, exchange rate, foreign direct investment and oil prices. The stationarity of data is checked through Augmented Dickey Fuller test. All variables are stationary at zero lag. Multiple regression analysis with Fixed Effects Model is then used. Results show that gross domestic product and exchange rate positively affect stock prices while consumer price index

RESEARCH METHODOLOGY

Research Gap The major research Gap is incomplete knowledge of how these relationships change during various economic cycles, such as booms and recessions. Although some research has focused on certain time periods, there is a lack of a thorough study that contrasts and analyses these connections throughout different cycles. Furthermore, little research has been done on how new financial tools and technologies, including fintech and cryptocurrencies, are affecting the conventional stock market and how it interacts with macroeconomic variables.

Need of the study It mainly Researches about the relationship between macroeconomic factors and the stock market is crucial because it clarifies how the state of the economy as a whole affects stock prices and investor behaviour. For example, fluctuations in GDP growth, inflation, or interest rates can all have a big effect on how the stock market performs. Investors may potentially achieve better investment results by better deciding when to buy or sell stocks by having a better understanding of these relationships. This information can help policymakers create economic policies that stabilize markets and spur economic growth, so they can also gain from it.

Problem Statement The main problem is to understand relationship between the stock market and macroeconomic variables which mainly include the different economic cycles, Geographical Regions and the latest emerging technologies. Also analysing how factors such as interest rates, inflation and GDP growth will influence Stock Prices across Various environments and sectors.

Objectives of the study

1. This Study analyses the effect of Macro economic variables on Stock price.
2. This Study investigates is their any correlation between stock price and Macro economic variables.

Research design

To study the interaction between the stock market and macroeconomic variables, we will be using a mixed-methodologies of research design. The first step is we will collect and analyse the historical data on stock prizes and the essential macroeconomic variables which mainly include interest rates, inflation, and GDP From different economic cycles. This analysis will help to identify the patterns and correlations. Then we can understand of How microeconomic variables impact stock market globally.

Research Type

This research involves both qualitative and quantitative methodology.

Data collection methods:

There are two main data collection methods: Primary data and Secondary data.
Primary Data is a form of data collected from Questionnaires, surveys and interviews.
Secondary Data is the form of data which already existing and readily available for the study.
Now for this Study we use primary data collection methods primarily the questionnaire method. A detailed questionnaire was structured for the Nestle employees in order to know their responses about the stock market.
Population: 100
Population Unit: Nestle Company Employees.
Sample: 40
Sample Size: MEDCHAL Employees.

Tools used for analysis

Chi square, questionnaire, tables, graphs.

Hypothesis:

H0: There is no significant influence of stock market on Macro economic variables.
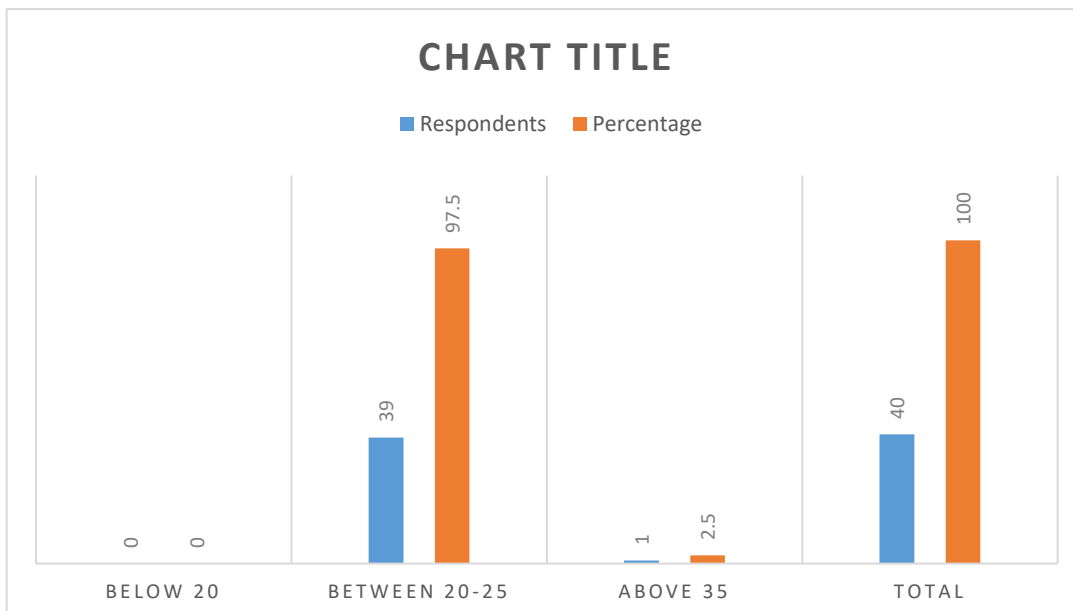H1: There is significant influence of stock market on Macro economic variables.

DATA ANALYSIS

Gender	Male	Female	Total
Respondents	20	20	40
percentages	50	50	100

CHART TITLE

■ Respondents ■ percentages

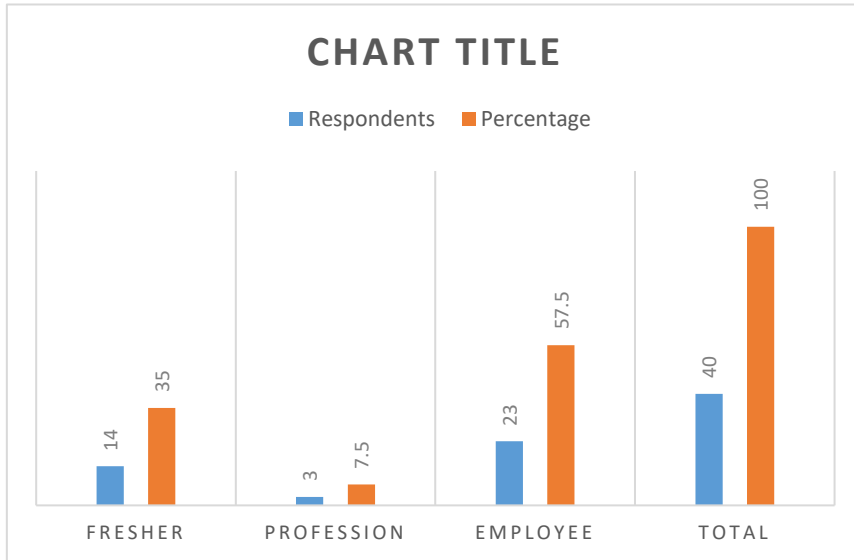|	Respondents	percentages
MALE	20	50
FEMALE	20	50
TOTAL	40	100
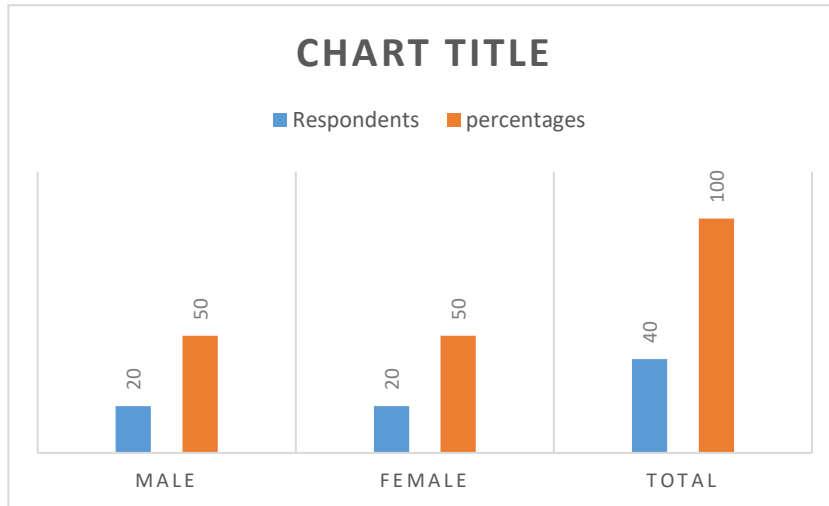
INTERPRETATION: The total respondents are 40 out of which 50% are male and 50% are female.

Age	Below 20	Between 20-25	Above 35	Total
Respondents	0	39	1	40
Percentage	0	97.5	2.5	100

CHART TITLE

■ Respondents ■ Percentage

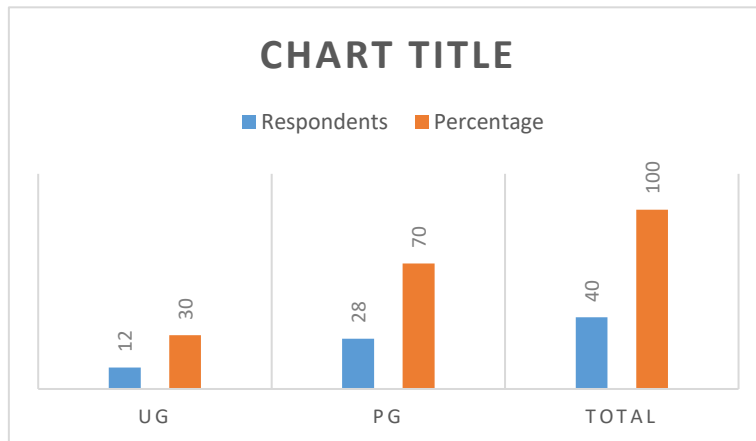|	Respondents	Percentage
BELOW 20	0	0
BETWEEN 20-25	39	97.5
ABOVE 35	1	2.5
TOTAL	40	100

INTERPRETATION: Majority of the respondents are between 20-25 and there are no respondents of below 20 years.

| Occupation	Fresher	Profession	Employee	Total
Respondents	14	3	23	40
Percentage	35	7.5	57.5	100

CHART TITLE

■ Respondents   ■ Percentage

INTERPRETATION: 57.5% are of the respondents are employees and 7.5% of the respondents are profession.

Qualification	UG	PG	Total
Respondents	12	28	40
Percentage	30	70	100

CHART TITLE

■ Respondents   ■ Percentage

INTERPRETATION: Most of the respondents are from PG followed by degree respondents.

| Working Experience	6 Months	1-2 years	1-5 Years	No experience	Total
Respondents	2	11	17	10	40
Percentage	5	27.5	42.5	25	100
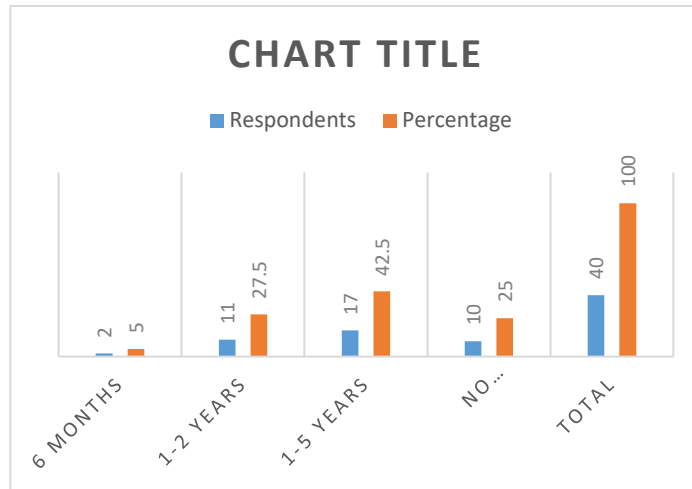
INTERPRETATION: 42.5% of the respondents have been having 1-5 years of experience followed by 5% of the respondents have 6 months of experience.

| How does GDP growth effect the stock market?	Positively	Negatively	No effect	Total
Respondents	39	1	0	40
Percentage	97.5	2.5	0	100
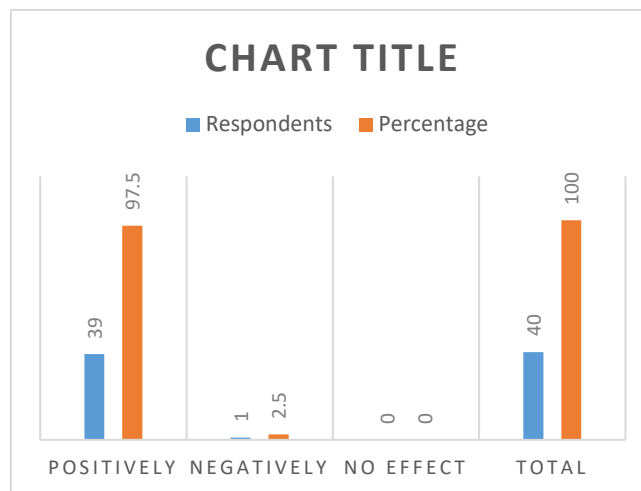
INTERPRETAION: 97.5% of the respondents positively reacted that GDP growth effect the stock market followed by 2.5% reacted negatively.

| How does currency affect the stock market?	Positively	Negatively	No effect	Total
Respondents	27	10	3	40
Percentage	69.2	25.6	5.2	100
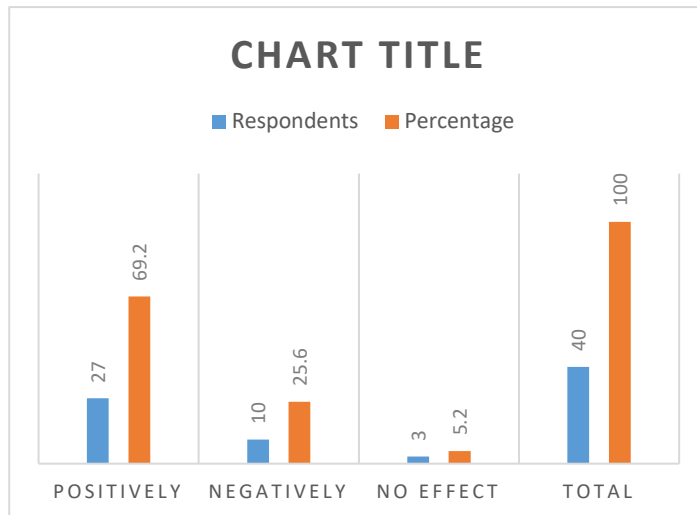
INTERPRETATION: 69.2% of the respondents reacted currency positively effects the stock market followed by 5.2% respondents reacted as there is no effect.

| What happens to stock price when there is high inflation?	Stock price increase	Stock price decrease	Stock price remain stable	Total
Respondents	14	23	3	40
Percentage	35	57.5	7.5	100
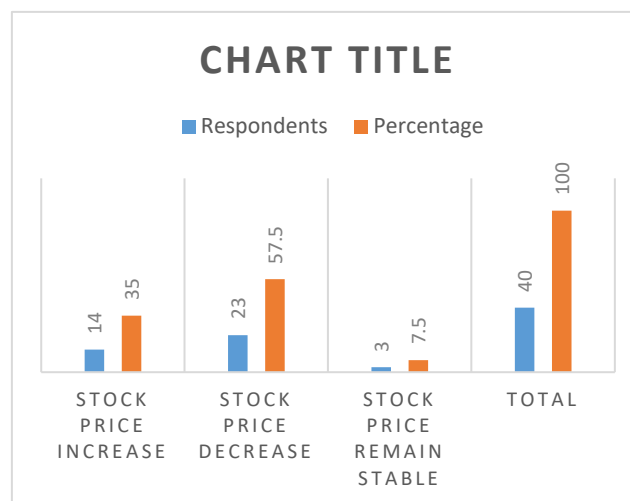
INTERPRETATION: 57.5% of the respondents reacted as stock price decrease followed by 7.5% of the respondents reacted as stock price remain stable.

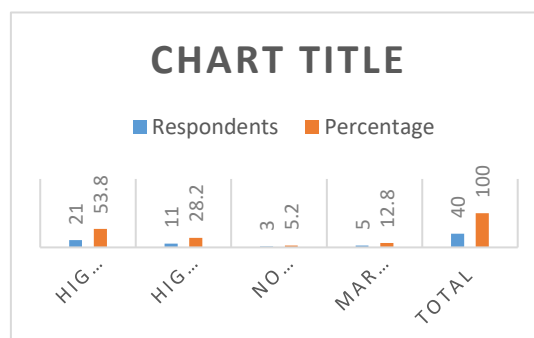| Which macroeconomic variable is considered as leading factor for stock market performance?	Gross Domestic Price	Consumer Price Index	Unemployment Rate	Retail prices	Total
Respondents	21	14	4	1	40
Percentage	52.5	35	10	2.5	100
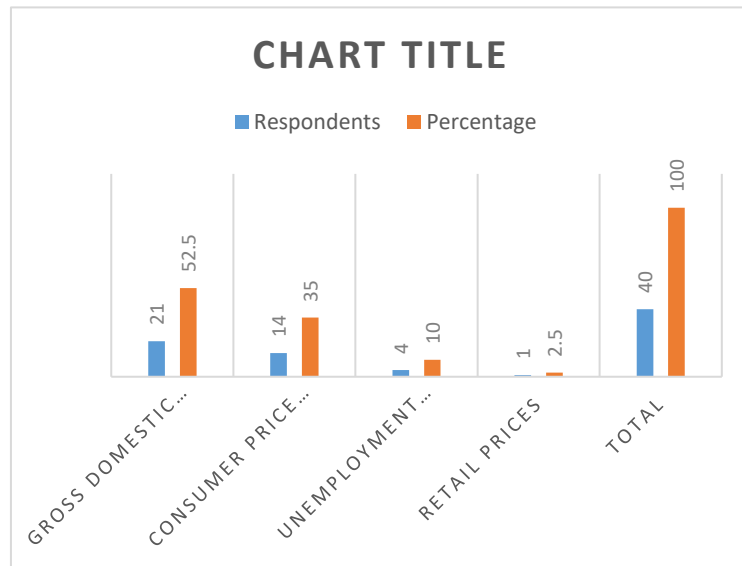
INTERPRETATION: 52.5% of the respondents reacted as gross domestic price followed by 2.5% of the respondents reacted as retail prices.

| What is the impact of recession on the stock market?	Stock price rise	Stock price fall	Stock prices remain same	Total
Respondents	16	24	0	40
Percentage	41	59	0	100
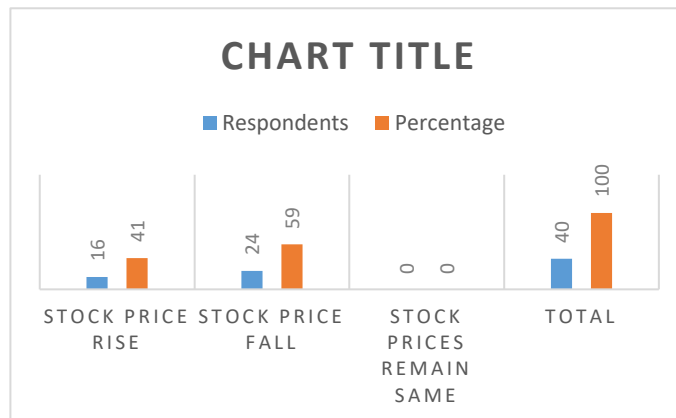
INTERPRETATION: 59% of the respondents reacted as stock price fall followed by 41% of the respondents reacted as stock price rise.

| How does consumer spending influence stock market performance?	Higher spending leads to higher stock prices	Higher spending leads to lower stock prices	No effect on stock prices	Market stock prices unpredictable	Total
Respondents	21	11	3	5	40
Percentage	53.8	28.2	5.2	12.8	100

INTERPRETATION: 53.8% of the respondents reacted as higher spending leads to higher stock prices followed by 5.2% of the respondents reacted as their will be no effect on the stock price.

| How does increase in unemployment rate impact the stock market?	Increase stock prices	Decrease stock prices	Has no effect on stock prices	Makes stock prices unpredictable	Total
Respondents	12	22	4	2	40
Percentage	30.8	56.4	10.3	2.5	100
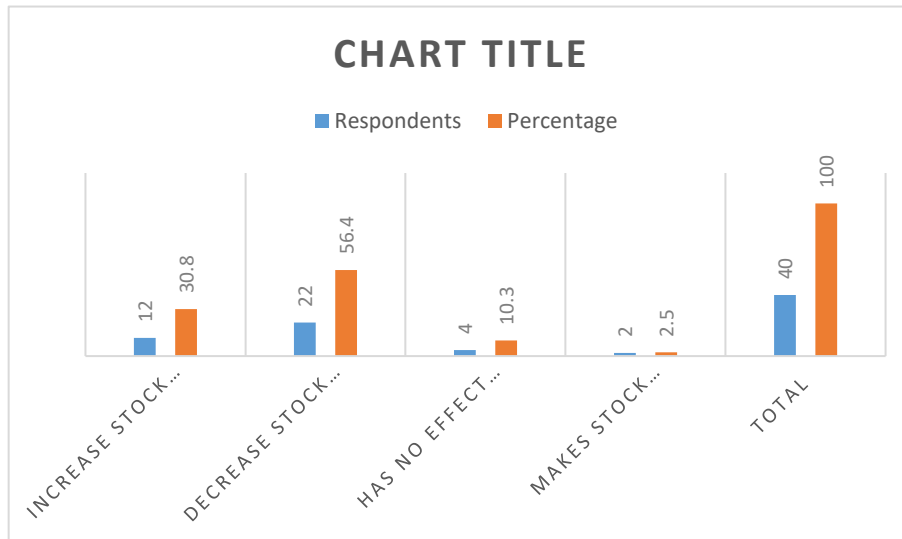
INTERPRETATION: 56.4% of the respondents reacted as decrease stock prices followed by 2.5% of the respondents reacted as makes stock prices unpredictable.

| What is the effect of technological advancements on the stock market?	Raises stock prices	Lowers stock prices	No effect on stock prices	Depends on the sector	Total
Respondents	18	13	3	6	40
Percentage	46.2	33.3	5.1	15.4	100
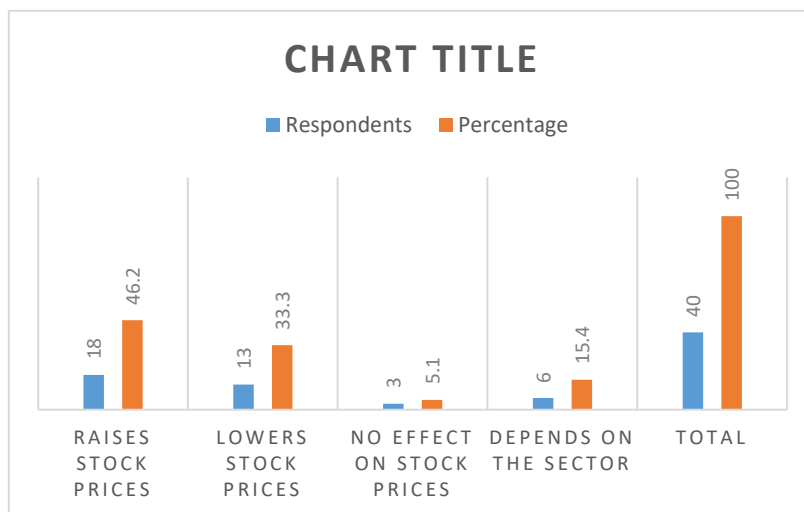
INTERPRETATION: 46.2% of the respondents reacted as technological advancements raises the stock prices followed by 5.1% of the respondents reacted as their will be no effect on stock prices.

How is stock market related to macroeconomic variables?	Positively	Negatively	Both positively and negatively	no relation	Total
Respondents	12	13	14	1	40
Percentages	30	32.5	35	2.5	100
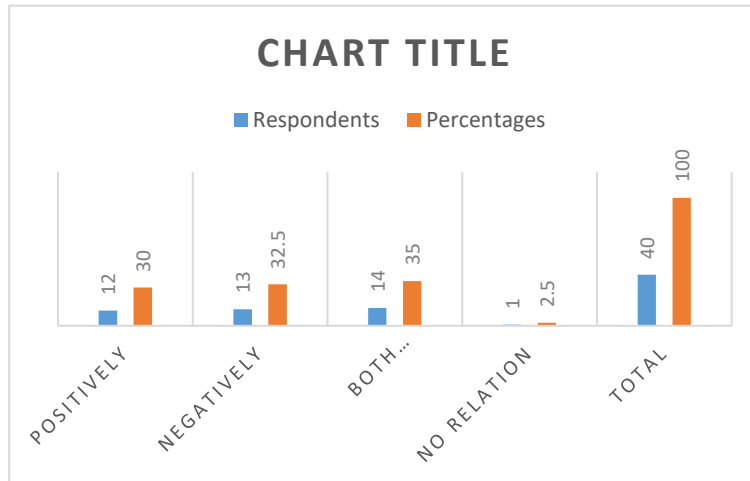
INTERPRETATION: 35% of the respondents reacted as both positively and negatively followed by 2.5% of the respondents reacted as no relation.

How does a decrease in interest rates affect the stock market?	Stock price increase significantly	Stock price increase slightly	Stock price remain unchanged	Stock price decrease	Total
Respondents	18	14	4	4	40
Percentage	45	35	10	10	100
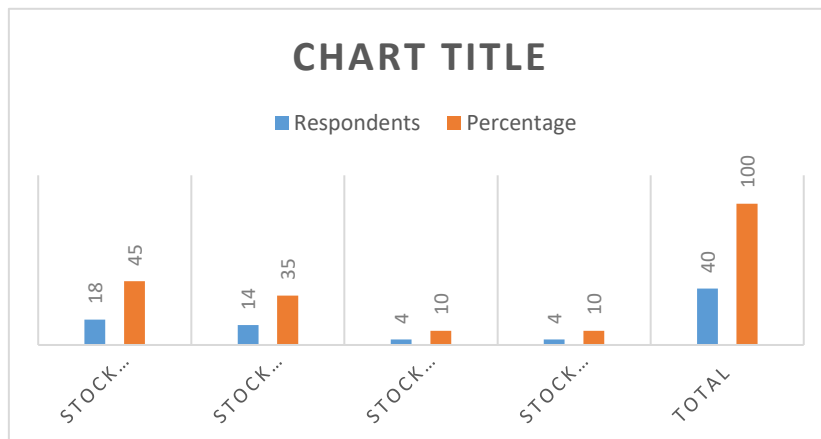
INTERPRETATION: 45% of the respondents reacted as stock price increase significantly followed by 10% of the respondents reacted as both stock price decrease as well as remain unchanged.

STATISTICAL TOOLS FOR ANALYSIS

H0: There is no significant influence of stock market on Macro economic variables.
H1: There is significant influence of stock market on Macro economic variables.

	Positive	Negative	Both positive and negative	No relation	Row Totals
Male	9(5.50) [2.23]	7(6.50) [0.04]	3(7.00) [2.29]	1(1.00) [0.00]	**20**
female	2(5.50) [2.23]	6(6.50) [0.04]	11(7.00) [2.29]	1(1.00) [0.00]	**20**
Column Totals	11	13	14	2	**40(Grand Total)**

The chi-square statistic is 9.1029. The p-value is 0.027954. The result is significant at $p < 0.05$.

As the p value is less than 0.05, we reject H0 and accept H1 that means, there is significant influence of stock market on macro-economic variables.

FINDINGS :

The total respondents are 40 out of which 50% are male and 50% are female. Majority of the respondents are between 20-25 and there are no respondents of below 20 years. 57.5% are of the respondents are employees and 7.5% of the respondents are profession. Most of the respondents are from PG followed by degree respondents. 42.5% of the respondents have been having 1-5 years of experience followed by 5% of the respondents have 6 months of experience. 97.5% of the respondents positively reacted that GDP growth effect the stock market followed by 2.5% reacted negatively. 69.2% of the respondents reacted currency positively effects the stock market followed by 5.2% respondents reacted as there is no effect. 57.5% of the respondents reacted as stock price decrease followed by 7.5% of the respondents reacted as stock price remain stable. 52.5% of the respondents reacted as gross domestic price followed by 2.5% of the respondents reacted as retail prices. 59% of the respondents reacted as stock price fall followed by 41% of the respondents reacted as stock price rise. 53.8% of the respondents reacted as higher spending leads to higher stock prices followed by 5.2% of the respondents reacted as their will be no effect on the stock price. 56.4% of the respondents reacted as decrease stock prices followed by 2.5% of the respondents reacted as makes stock prices unpredictable. 46.2% of the respondents reacted as technological advancements raises the stock prices followed by 5.1% of the respondents reacted as their will be no effect on stock prices. 35% of the respondents reacted as both positively and negatively followed by 2.5% of the respondents reacted as no relation. 45% of the respondents reacted as stock price increase significantly followed by 10% of the respondents reacted as both stock price decrease as well as remain unchanged.

CONCLUSION:

In conclusion, the interaction between stock market and macroeconomic variable is a critical aspect of financial analysis. Macroeconomic variables such as inflation, interest rates, Gross Domestic price (GDP) and employment levels play a important role in shaping the stock market. Companies can benefit from stock prices rising if they can borrow cheaply. The opposite happens when corporate profits are eaten away by hyperinflation decimating consumer power of purchase which causes shares to drop. Besides, strong GDP expansion means that companies are doing well financially which translates to good rates of return on shares even though such growth leads to more inflation; poor employment figures send negative signals to investors who become pessimistic resulting into low market productivity. These variables are interlinked because their combination determines the overall market environment. By knowing this interaction will make able investors to make better strategic decisions and to know better economic trends.