CHAPTER- II

REVIEW OF LITERATURE

2.1 INTRODUCTION

Arbitrage pricing theory gives a comprehensive idea on the possibility of relationship between macroeconomic variables and stock returns. Following the theory of APT, there is an extensive discussion in the literature that developed and emerging stock market returns are more sensitive to macroeconomic news and financial market participants. However, there exists a large gap in the empirical identification of the macroeconomic variables affecting returns and the few studies that documented such relationships have focused either on developed markets or on emerging markets. Because of distinguished characteristics of each stock market such as different rules, regulations and locations of the country, examining the empirical relationship gives new insight into the formulation and implementation of monetary policy that could help to maintain a stable financial market. There are many research studies that try to look into the country specific variables influencing the stock market returns. This study is isolated from the previous literature on the basis of methodologies used, the macroeconomic variables selected and the type and nature of country selected for analysis. Some worthwhile studies relating to the present topic are being reviewed here.

There are number of studies undertaken to study the impact of macroeconomic variables on developed and emerging stock markets. Such studies are highly useful to identify the areas already investigated and formulate new insight into the present study. The researcher has included the review of literature in order to identify the gap in the research. The review of literature collected is summarized in this chapter.

Abbas Alavi Rad\textsuperscript{1} (2011) investigates how a set of three macroeconomic variables from 2001 to 2007 influence the Tehran Stock exchange by using Vector Autoregressive model. The results indicate that the response of TSE price index to shocks in macroeconomic variables such as consumer price index (CPI), free market exchange rate, and money supply. In addition, generalized Forecast Error Variance Decomposition (FEVD) reveals that share of macroeconomic variables in fluctuations of
TSE price index is about 12 per cent. Finally, it seems that political shocks or other economic forces can effect on TSE price index in Iran.

Abdul Nafea Al-Zararee, Izz Eddien N. Ananzeh\(^2\) (2014) examined the relationship between macroeconomic factors such as Real Money Supply, Real Gross Domestic Product, Weighted Average Interest rates on Loans and Advances, Worker’s Remittances, Internal public loan and Consumer price Index on Amman Stock Returns by employing ARCH/GARCH(1,1) model. Out of the six variables used, Consumer price index, Worker remittances have a positive impact, while Real Gross Domestic Product, Real Money Supply, Interest rate, Internal Public Loan have a negative significant impact on stock returns. It is concluded that the GARCH (1, 1) Lagged squared error term is negative and significant and it reveals that Amman stock returns are highly affected by economic news rather than the past volatility.

Abeyratna Gunasekarage, Anirut Pisetsalasai, David.M.Power\(^3\) (2008) analyzed the correlation between Colombo all share price index and the macroeconomic variables of money supply, Treasury bill rate, the consumer price index and the exchange rate from January 1985 to December 2001 by employing co-integration tests, Vector Error Correction Model, Impulse Response Functions and Variance Decompositions tests. The Vector Error Correction Model (VECM) explains that the lagged value of macroeconomic variables had a significant impact on the stock returns. The Variance Decomposition test shows that a significant proportion of the changes in the market index were explained by its own past values rather than macroeconomic variables. IRF reveals that the immediate shocks are running from macroeconomic variables to Colombo stock index. It is concluded from the study that there is a causal, long and short run relationship exists among the chosen variables.

Ahmad A. Al-Majali , Ghazi I. Al-Assaf\(^4\) (2014) analyzed if the stock price index is affected by a set of macroeconomic variables using quarterly data. To examine the relationship, Johansen co-integration test, Vector Error Correction model, Impulse response function and Variance decomposition were utilized. The Johansen test indicates that there is a long run equilibrium relationship exists between the stock index and

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macroeconomic variables in Jordan. The VECM shows there is a bi-directional long-run relationship between stock price index and credit to the private sector, weighted average interest rate on time deposits, and consumer price index.

Ahmet Ozcan\(^5\), (2012) examined the relationship between macroeconomic variables and Istanbul Stock exchange industry index. The selected macroeconomic variables for the study include interest rates, consumer price index, money supply, exchange rate, gold prices, oil prices, current account deficit and export volume. The Johansen’s co-integration test is utilized to determine the impact of selected macroeconomic variables on ISE industry index. The result of the Johansen’s co-integration shows that macroeconomic variables exhibit a long run equilibrium relationship with the ISE industry index.

Ajab Al Freed, Ahmed Shamiri, Zaidi Isa\(^6\) (2012) studied the volatility of Saudi Arabia stock prices using symmetric and asymmetric GARCH models over 15 years. The result of the GJR-GARCH model shows heavy density improves overall estimation of the conditional variation equation. The study period has been divided into two periods such as, Pre and post crisis. The GJR-GARCH model outperforms the other model in the pre-crisis period, whereas, the GARCH model performs better in the post crisis period.

Al-Sharkas, Adel\(^7\) (2004) utilized Vector Error Correction Model (VECM) to determine the impact of selected macroeconomic variables on Amman Stock Exchange (ASE). They selected the real economic activity, money supply, inflation and interest rate as macro economic variables influencing the Amman Stock Returns. The results reveal that the stock prices responds negatively to inflation while the real economic activity represented by industrial production responds positively. These results go along with the results produced by Chen, Roll and Ross (1986) and Fama (1990) respectively. Money supply has positive impact on the Amman Stock returns and interest rate negatively. Johansen Juselius (1990) co integration test results indicate that all the macroeconomic variables chosen for the study are co-integrated. Therefore, a long term equilibrium relationship prevails between the stock returns and macroeconomic variables.
Amit Kumar Jha, Nitesh Kumar Singh (2014) investigates the relationship by using co-integration and innovation accounting techniques. They documented that co-movement between stock market index and macroeconomic variables in a long run equilibrium path. EGARCH method was selected as the best forecasting models available among others. However, it is advisable not to forecast beyond one period in cases of such volatile series, because of the randomness involved as visible from the forecast errors obtained from different methods.

Aristedidis G.Samitas, Dimitris F.Kenourgios (2007) attempted to study how the current, future domestic and international macroeconomic variables can explain long and short run stock returns in four new European countries (Poland, Czech Republic, Slovakia and Hungary) They documented that new European Stock markets are not perfectly integrated with foreign financial markets, while domestic economic activity and the German factor are more influential on the stock markets. They considered USA as a foreign global influential country.

Benjamin A.Abugri (2008) studied the dynamics of domestic indicators like exchange rate, interest rates, industrial production and money supply and global variables like the MSCI world index and the U.S. 3 month T-Bill Yield significantly explain the Latin American stock returns or not. By employing Vector Autoregressive model, the results indicate that Global variables along with the domestic variables are significantly explaining the Latin American Stock returns ( Brazil, Mexico, Argentina, Chile).The empirical results show that the global variables explain the stock returns consistently in all the four stock returns than the domestic variables across the markets. The significant and consistent effect of global variables shows that the Latin American stock Market is highly integrated with the World Market.

Bhanu Sireesha (2013) investigated the impact of select macroeconomic factors on the Indian stock market index by employing linear regression techniques. The results indicate that Gross Domestic Product, Exchange Rate against dollar, Yen against dollar, significantly influence the Nifty Stock Market Returns. GDP shows a direct relation with stock returns and an inverse relation with gold and silver returns.
Chancharat, S.Valadkhani, A, Harvie.C\(^1\) (2007) employed GARCH-M model to find out the impact of macroeconomic variables such as; consumer price index, the exchange rate, the interest rate, the money supply and oil price and several stock market price indices on Thai Stock returns in the pre and post- 1997 Asian crisis eras. The results indicates that the Singapore stock market significantly influence the Thailand stock returns in both the pre and post 1997 Asian crisis period. The Indonesian and Malaysian Stock markets significantly influence the Thai Stock returns in the pre Asian Crisis period, whereas, Korea and the Philippines played a dominant role in the volatility of Thai Stock returns. Therefore, it is concluded from the study Thai stock market is not an isolated market but to large extent Thai market is highly integrated with the neighboring countries stock market.

Chetna Parmar\(^2\) (2013) discussed various macroeconomic variables on Indian stock market, and the selected macroeconomic variables like reverse repo rate, cash reserve ratio, special lending rate, Repo rate, inflation rate, consumer price index, Index of industrial production, gold rate, oil rate and exchange rate to identify its relationship with stock market movement and predict market behavior in future. The research has been concluded that in long term the Indian stock market is more driven by domestic macroeconomic factors rather than the global factors.

Christopher Gan, Minsoo Lee, Hua Hwa Au Yong, Jun Shang\(^3\) (2006) employed co-integration tests to find out the relationship between the New Zealand Stock Index and a set of seven macroeconomic variables spanning for the period from January 1990 to January 2003. Furthermore, Johansen Maximum Likelihood and Granger – Causality test were applied to determine causal relation between macroeconomic variables and the New Zealand Stock index. The Multivariate co-integration tests results show that the group of macroeconomic variables is significantly integrated with the New Zealand Stock index in the long run. Hence, there is a long term relationship exists between the macroeconomic factors and the Newzealand stock index. The Granger – Causality test results reveals that the Nigeria stock index is not a leading indicator in the Newzealand and Impulse Response Function shows there was a consistent and significant impact of shock to exchange rate, consumer price index, lending rate, and Gross domestic
product on the Nigeria Stock index. It is suggested from the study that the investors aspiring to invest in the Newzealand should carefully examine the macroeconomic variables significantly influencing the stock returns rather than exchange rate and inflation rate index.

Chung S.Kwon, Tai.S. Shin\textsuperscript{15} (1997) analyzed the relationship between macroeconomic fundamentals on Korean Stock Market using regression Models. The macroeconomic variables selected are dividend yield, foreign exchange rate, oil price and money supply. They demonstrated that inflation and interest rate related variables are not significant variables explaining the Korean stock returns. But variables related to real economic activities are significant variables explaining the stock market returns. Therefore, it is concluded from the study that Korean stock market is sensitive to exchange rate, trade balance, the money supply, the production index than inflation and interest rate related variables.

Cyrus Mutuku, Kirwa lelei Ng’eny\textsuperscript{16} (2015) examined the dynamic relationship between stock prices and four macroeconomic variables using co-integration and Vector Autoregressive framework. The VAR and VECM reveal that macroeconomic variables drive the stock prices in the long-run. The variables in the VAR model are co-integrated with 3.8\% disequilibrium in the short run. Inflation is the factor which has negative impact on stock prices. They suggested that stock market is not an avenue to hedge funds against inflation.

Dharmendra Singh\textsuperscript{17} (2010) explored the relation especially the causal relation between the stock market index i.e. BSE SENSEX and three key macro economic variables of Indian economy by using correlation, unit root stationary tests and Granger causality test. Monthly data has been used from April,1995 to March, 2009 for all the variables, like, BSE SENSEX, wholesale price index (WPI), index of industrial production(IIP) and exchange rate(Rs/$). Results showed that the stock market index, the industrial production index, exchange rate, and wholesale price index contained a unit root and were integrated of order one. Granger causality test was then employed. The Granger causality test indicated that IIP is the only variable having bilateral causal
relationship with BSE SENSEX. WPI is having strong correlation with SENSEX but it is having unilateral causality with BSE SENSEX.

**Donatas Pilinkus, Vytautas boguslauskas**\(^{18}\), *(2009)* classified macroeconomic variables and defined the positive impact and negative impact of macroeconomic variables on Lithuania stock market prices using Impulse response function. The study embraces six macroeconomic variables such as; seasonally adjusted gross domestic product at previous year prices, harmonized consumer price index as compared to 2005, the narrow money supply, unemployment rate, short-term interest rates, and exchange rate of the Litas against the US dollar) and the main Lithuanian stock market index – the OMX Vilnius index. The result indicates that macroeconomic variables are significant determinants for stock market prices in Lithuania. Gross domestic product and money supply have a positive effect on stock market prices while most of the time unemployment rate, exchange rate, and short-term interest rates negatively influence stock market prices.

**Drama Bedi Guy Herve et al.**\(^{19}\) *(2011)* examined the long-run and short-run relationships between the stock market index and the macroeconomic variables. The results supports that there is a long run relationship exists between the macroeconomic variables and stock prices in cote d’ Ivoire. The results of impulse Response function and variance decomposition test shows that the consumer production index and domestic interest rate are the determinants of the stock market prices. The Granger- causality test produced evidence that there is a bidirectional causal relationship exists between the stock price index and the domestic interest rate.

**Dumitru Miron, Cristiana TUDOR**\(^{20}\) *(2010)* applied several statistical models on daily stock market returns and compared their performance in terms of sample fit and sample forecast ability. They documented that conventional ARCH and GARCH models cannot capture the leverage effects, therefore, the asymmetric models such as EGARCH, PGARCH, TGARCH outperform well in forecasting the volatility of stock market returns. Among the asymmetric models, EGARCH exhibit lower forecast errors and therefore more accurate than other asymmetric GARCH models.
Durga Prasad Samontaray et al.²¹ (2014) studied the impact of different macroeconomic variables on the returns of the Saudi stock market. They examined that there are three important factors influencing the returns in the Saudi Stock Exchange (TASI). The dependent variable taken here was the Saudi index that is TADAWUL All Stock Index (TASI) and the three independent variables considered for the study were oil prices, Saudi Exports and the profit earning Ratio. Correlation analysis revealed that Saudi Exports and the PE Ratio were found to be highly correlated with TASI at 1% level of significance whereas Oil prices and TASI are significantly correlated at 5% level. Step-wise regression analysis of the data revealed that the multiple regression models is significant at 1% level and the variable PE Ratio was the most important determinant of TASI followed by the oil prices and Saudi Exports.

Edward Kitati et al.,²²(2015) analyzed the influence of the selected macro-economic variables such as; foreign exchange rate of hard currencies, interest rate and inflation rate from January 2008 to December 2012 for the companies listed on the Nairobi Securities Exchange in Kenya.. To investigate the effect of the selected macro-economic variables on share prices of the companies listed on the Nairobi Securities Exchange, simple and multi-variant regressions analysis was used. The study found that interest rate had a predominant effect on stock market price indices as compared to the other macro-economic variables. Interest rate, exchange rate for both the Euro and US Dollar had a negative effect on stock market indices for companies quoted on the Nairobi Securities Exchange.

Emeka Nkoro, Aham Kelvinuko²³ (2013) examined how the changes in domestic macroeconomic variables influence the Nigeria Stock market returns using GARCH model on annual data. The result of the GARCH –M model shows that inflation, government expenditure, index of manufacturing output, interest rate influences the stock returns significantly. Out of the six macroeconomic variables, inflation and government expenditure influences the stock returns positively, while manufacturing output and interest rate influence the stock returns negatively. The study has been concluded that volatility of Nigeria stock market returns was influenced by past volatility than the economic news from the previous period.
Eric Girardin, Roselyne Joyeux\textsuperscript{24} (2013) examined the influence of volume and macroeconomic fundamentals in China stock returns before and after the entry of WTO. The results show that the Chinese ‘A’ share market was a highly speculative market before 2001 but after the entry of WTO, the volatility of macroeconomic fundamentals played a significant role in the Chinese ‘A’ share market. However, the Chinese B-share market is a highly speculative market since it was opened to domestic investors. It is concluded from the study that though macroeconomic fundamentals played an increasing role in Chinese stock market, the market is totally disconnected with the real economy represented by industrial output.

Evans Kirui et al.\textsuperscript{25} (2014) evaluated the interdependence between gross domestic product, treasury bill rate, exchange rate, inflation and Nairobi Stock market returns by employing Threshold Generalized Autoregressive Conditional Heteroscedasticity (TGARCH) and examined the co-integrating relationship between stock returns and chosen macroeconomic variables by applying Engle- Granger two step method for the quarterly data from 2000-2012. The co-integration test reveals that there is a long-run equilibrium relationship exists between the variables. The outcome of the regression results indicates that exchange rate had a significant relationship with stock returns, whereas, Gross domestic product, inflation and Treasury bill rate had insignificant relationship on Nairobi stock returns. TGARCH reveals that exchange rate, Gross domestic product and Treasury bill rate news produced asymmetric effects on stock returns. It means that negative news in any of the macroeconomic variables makes larger effect on Nairobi Stock returns rather than the magnitude of the changes produced by positive news.

Faisal Khan et al.\textsuperscript{26} (2014) employed Generalized Autoregressive Conditional heteroskedasticity (GARCH) model to find out the lagged effect of macroeconomic variables including exchange rate, risk free rate, inflation, and money supply and oil prices on firm stock returns. The results indicates that the lagged effect of macroeconomic variables significantly explain the firm stock returns. Two and four lags of exchange rate positively influences the firm stock returns while, two and five lags of exchange rate negatively influence the stock market returns. Moreover, the lagged effect
of inflation changes its impact from negative to positive with the increase in lags from one to four lags. The lag effect of money supply indicates the positive effect on firm stock returns at lag two and lags five. Oil prices of lag effect are positively influencing the stock returns at one and two lags. It is concluded from that study that the Pakistan stock market is inefficient due to the changing condition of macroeconomic variables at various lags on firm’s stock returns.

**Frimpong Joseph Magnus, Oteng-Abayie Eric Fosu**\(^{(27)(2010)}\) employed Random Walk, GARCH, EGARCH, TGARCH models to study the dynamics of the Ghana Stock market volatility over a 10 year period. The results of the analysis show that the data exhibits volatility clustering, leptokurtosis and asymmetry effects. The GARCH model outperformed the other models under the assumption that the innovations follow a normal distribution.

**Haruna Issahaku et al** \(^{(28)(2013)}\) examined the existence of causality, long run and Short run relationship between selected macroeconomic variables and the performance of listed companies in the Ghana Stock Exchange by employing Vector Error Correction Model (VECM) and Granger causality Model. They documented that there is a significant long run relationship exists between stock returns and inflation, money supply and Foreign Direct Investment (FDI) while short run relationship prevails with interest rate, inflation and money supply. The Granger causality test reveals that there is causal relationship exists between the stock returns and macroeconomic variables of money supply, interest rate and foreign direct investment. The study has been concluded that there is a possibility of earning arbitrage profit on the price movement of Ghana Stock Exchange.

**Hasan Mohammed El-Naderi, Ahmad Diab Alraimony** \(^{(29)(2013)}\) examined the causes of stock market development in Jordan. The data is tested for stationary by employing unit root tests. Results confirm that all variables are stationary at first difference. The estimated findings demonstrate that the variables namely; Money Supply relative to GDP, Total Value Traded relative to GDP, Gross Capital Formation relative to GDP, Consumer Price Index (CPI), and Credit to private Sector relative to GDP all have
positive and considerable influences on stock market development. On the other hand, Nominal Gross Domestic Product and Net Remittances relative to GDP had a negative impact. The Johansen and Juselius’ multivariate co-integration and variance decompositions analysis also confirm the presence of both a long-term and short-term dynamic relationship between the Stock market capitalization relative to GDP and macroeconomic variables.

Ifuero Osad Osamwonyi, Esther Ikavbo Evbayiro- Osagie\(^{30}\) (2012) made an attempt to find out the magnitude of relationship between macroeconomic variables and Nigeria Capital market index. They selected interest rate, inflation rate, exchange rate, fiscal deficit, GDP and money supply as macroeconomic variables spanning for the period of 1975 to 2005. In order to study the short run and long run relationship between the Nigeria stock market index and the six selected macroeconomic variables, Vector Error Correction Mechanism was employed for the study period. Out of the six macroeconomic variables used, consumer price index and fiscal deficit, Exchange rate and Gross domestic Product are positively related at various levels of significance while Money supply is negatively influencing the stock market index. It is concluded from the study that the policy makers should keep an eye on the movement of macroeconomic variables that helps to enhance the national income of Nigeria.

Isiaq Olasunkanmi, Philip Ifeakachukwu\(^{31}\) (2011) investigated the nexus between the stock market volatility and macroeconomic variables volatility in Nigeria by employing AR (k) –E-GARCH (p,q) model. The results present that there exists bi-causal relationship between stock market volatility and real GDP volatility: and there is no causal relationship between stock market volatility and volatility in interest rate and inflation rate.

J.G.Garza-Garcia, Y.Yue \(^{32}\) (2010) analyzed the macroeconomic determinants of the China stock index namely, Shanghai Composite Index and studied the impact of US macroeconomic variables on Chinese Stock prices by employing Johansen maximum Likelihood method. The results indicate that Chinese stock prices are influenced by domestic variables such as inflation, industrial production, money supply, interest rate
and the exchange rate. The US stock index namely the Dow Jones Industrial average, industrial production and the consumer confidence index significantly impacts the Chinese stock prices. The Granger causality test finds that Chinese stock index is the conducing indicator for macroeconomic variables and the US stock index is related to the Chinese stock index.

J.K.M. Kuworo (2012) analyzed the co-integrating relationship between macroeconomic variables and the stock returns by using Johansen and VECM model. The Johansen test produced evidence that there is co-integration between the macroeconomic variables and the stock returns in Ghana. In the short run, the Treasury bill rate significantly influences the stock returns while in the long run the stock returns are significantly influenced by inflation rate, crude oil prices, exchange rate, and Treasury bill rate. Inflation is the most significant factor influencing the stock prices in Ghana in both the short and long-run analysis.

Jaber Yasmina (2014) investigated the impact of twelve macroeconomic series announcements on daily equity returns and documented that there is no significant relation between macroeconomic announcement and in Tunisian stock returns. By employing GARCH model, it is found that the announcements of the macroeconomic variables are not important as it is not making any changes in the Tunisian Financial market. In addition, the consumer price index and the selling price index have a significant positive impact on Tunisian stock returns on contrary to the results produced by by Nelson (1976) and Fama and Schwert (1977) who announced significantly negative relation between inflation and the equities returns.

Jamal Esmaeili, Sajad Gholami (2013) determined the long-run relationship between the growth rate of stock index yields returns and a set of macroeconomic variables such as inflation rate, money supply growth rate, and exchange rate and oil revenues using vector autoregressive with distributed lags. Generalized Dickey Fuller unit root test showed that the level of liquidity growth rate and other variables in first differences are permanent. The co-integration test results also indicate the existence of long-run relationship between economic variables and the rate of cash return. Long-run
relationship between growth rates and yields of oil revenues and a negative exchange rate, and inflation are positively related.

**Janak Raj, Sarat Dhal** (2008) analyzed the financial integration of Indian stock market with the global and major regional markets. The results indicate that Indian stock market is highly integrated with the global and regional stock market. Additionally, it is found Indian stock market provides ample opportunities to international investors to earn higher returns than the global and regional stock markets. The dependency of Indian stock market with the United States stock market and United Kingdom stock market is higher than the integration with the regional markets namely Singapore and Hong Kong.

**John.K.M.Kuwornu et al.**, (2011) found that there is a association between macroeconomic variables and stock market returns using monthly data over the period from January 1992 to December 2008. They documented that the macroeconomic variables such as, consumer price index, exchange rate, Treasury bill rate influence the stock returns significantly. On the other hand, the macroeconomic variable namely crude oil prices do not have any significant impact on the stock returns. The inflation had a positive impact on stock returns, while exchange rate and Treasury bill rate had negative impact on stock returns.

**Joseph Tagne Talla** (2013) investigated the impact of changes in selected macroeconomic variables on stock prices of the Stockholm Stock Exchange (OMXS30). To estimate the relationship, unit root test, multivariate regression model computed on Standard Ordinary Linear Square (OLS) method and Granger causality test have been used. The results show that inflation and currency depreciation have a significant negative influence on stock prices. In addition, interest rate is negatively related to stock price change, but it is not significant in the model. On the other hand, money supply is positively associated to stock prices although not significant. No unidirectional Granger Causality is found between stock prices and all the predictor variables under study except one unidirectional causal relation from stock prices to inflation.

**Lakshmi Kalyanaraman, Basmah al Tuwajri** (2014) evaluated the long run relationship among macroeconomic variables comprising of consumer price index,
industrial output, money supply, exchange rate, oil prices along with the global stock prices proxy standard and poor 500 index and Saudi all share stock index by applying Vector Error Correction Model and Causality test. Johansen co integration test finds the existence of a long run relationship among the selected variables. Surprisingly, the Standard and Poor 500 index does not affect Saudi stock prices. The empirical results of Impulse response function indicates that industrial production shocks pushes up stock prices while consumer price index pulls the stock price down. The results of Variance decompositions show that historical stock prices are the major driver of stock prices. This study is concluded that Saudi stock market has followed weak form of market efficiency.

M.V.Subha,S.Thiruparkadal Nambi 40 (2010) tested if the Indian stock market is interdependent with the American stock market using Engle Granger test from January 2000 to December 2008. They documented that the Indian market is isolated from the American stock market, which is the top market in terms of market capitalization. The result has been confirmed by the absence of co-integration between Indian and American stock markets.

Mansor Ibrahim41 (2002) investigated the dynamic interactions between seven macroeconomic variables and the stock prices for an emerging market, Malaysia, using co-integration and Granger causality tests. The results strongly suggest informational inefficiency in the Malaysian market. The bivariate analysis suggested co-integration between the stock prices and three macroeconomic variables – consumer prices, credit aggregates and official reserves. It is resulted that stock prices are Granger-caused by changes in the official reserves and exchange rates in the short run.

Mark J.Flannery, Aris A.protopapadakis42 (2002) documented that stock returns are significantly correlated with inflation and money growth. The impact of real macroeconomic variables on stock returns has been difficult because their effects are nonlinear. The result of the GARCH model shows that the stock market volatility depend on 17 macro series announcements including three nominal and three real factors.

Mirza Vejzagic, Hashem Zarafat 43 (2013) examined the long-term equilibrium relationships between selected macroeconomic variables and the FTSE Bursa Malaysia
Hijrah Shariah Index. They documented that co-integrating relationship along with identification of the exogeneity and endogeneity of the variables. It depicted that FTSE Bursa Malaysia Hijrah Shariah Index plays an important role economy, as it influence the lead major macroeconomic variables which are interest rate, money supply, consumer price index, exchange rate and money supply on stock market returns. It statistically shows significant relationship with interest rates, exchange rate and money supply; it’s negatively affecting interest rate and exchange rate while positively money supply in the case of disequilibrium. CPI has been statistically proven insignificant.

Mofleh Ali Mofleh Alshogathri\textsuperscript{44} (2011) analyzed the long and short run relationships between Saudi stock market returns and macroeconomic variables by employing the VAR and GARCH models. A significant unidirectional short run causal relationship was found between stock market returns and the money supply. The Error correction term shows that the stock market converges to the equilibrium within half a year. The results of Granger causality test shows that no causal relationship between Saudi stock market returns and the exchange rate. The GARCH model shows that there is a significant relationship between volatility of Saudi stock market returns and macroeconomic variables.

Mohammad Bayezid Ali\textsuperscript{45} (2011) investigated the long run- and short run dynamic relationship between dhaka stock exchange and macroeconomic variables, namely, consumer price index, GDP, foreign remittances and import payments by using co-integration test and vector error correction model. The results produced evidence that the variables are co-integrated and had a long run equilibrium relationship. The Granger causality test produced evidence that there is a bi-directional causality exists between the import payment and stock price index.

Mohammed Mustapha Wasseja \textit{et al.}\textsuperscript{46} (2015) examined the causal relationship between macroeconomic variables and stock prices in the VAR(Vector Autoregressive) modeling framework using secondary time series annual data from 1980 to 2012. It is evident from the causality test that movement in the macroeconomic variables had no significant effect on stock prices except for inflation rate; exchange
rate and change in stock prices also seem to be an insignificant factor explaining part of the movement in the macroeconomic variables except for market interest rates. The regression test result shows that all the macroeconomic variables are jointly significant in explaining the variations in stock prices.

Mohsen Mehrara\textsuperscript{47} (2014) examined the causal relationship between stock prices and macroeconomic aggregates in Iran, by applying the techniques of the long–run Granger non–causality test proposed by Toda and Yamamoto (1995). The causal relationship has been tested between the TEPIX Index and the three macroeconomic variables: money supply, value of trade balance, and industrial production using quarterly data for the period 1993:1 to 2010:4. The result shows that unidirectional long run causality from macroeconomic variables to stock market. Accordingly, the stock prices are not a leading indicator for economic variables, which is inconsistent with the previous findings that the stock market rationally signals changes in real activities. On the contrary, the macro variables seem to lead stock prices.

Muazu Ibrahim, Alhassan Musah\textsuperscript{48} (2014) examined the impact of macroeconomic variables on stock market returns by applying the Johansen co-integration and Vector error correction model. The test results presents that there is a long-run relationship exists between the macroeconomic variables and stock returns. The impulse response and variance decomposition show that the shocks to inflation, money supply do not impact the stock returns significantly, but the impact persists over a long period.

Muhammad Irfan Javaid Attari, Luqman safdar\textsuperscript{49} (2013) explored the relationship between macroeconomic variables and Pakistan stock returns by applying EGARCH( Exponential Generalized Autoregressive Conditional Heteroskedasticity) The selected macroeconomic variables include interest rate, inflation and Gross domestic product for the period of 1991 to august 2012. They documented that macroeconomic variables influence the Pakistan stock returns significantly. Granger causality test shows that there is no relation between Gross domestic product and Pakistan stock returns whereas, Inflation and stock returns moves in the same direction. Furthermore, the
Pakistan stock returns did not have significant relationship with interest rate. The outcome of the study indicates that the Pakistan stock market is highly volatile market and it can be used to predict the future condition of the market. Therefore the policy makers are needed to give more attention towards regulating the factors influencing the stock returns to make it less volatile.

Muhammad Nauman Khan, Sharif Saman\(^5\) (2012) has found out the relationship between macroeconomic variables and stock prices in Karachi Stock Exchange (KSE), Pakistan. They considered 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. 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 negatively affects stock prices. The results of export, money supply M2, foreign direct investment and oil prices were insignificant.

Muhammed Monjurul Quadir\(^5\) (2012) selected Treasury bill rate and industrial production as variables influencing stock returns of Dhaka Stock Exchange by employing the method of Autoregressive Integrative Moving Average Model (ARIMA). The results show that there is a positive linkage among the Treasury bill rate and industrial production index on Dhaka stock returns for the study period. However, the relationship among the variables was insignificant due to negligence of good number of macroeconomic variables such as inflation rate, exchange rate, balance of trade. The author concluded from the study that there is a positive and insignificant coefficient among the variables.

Muzammil Hussain et al.\(^5\) (2015) explored the relationship between macroeconomic variables and stock returns volatility by employing Exponential GARCH model and ARDL approach. The results revealed that macroeconomic variables are responsible factors in explaining the Pakistan stock market returns. On the contrary, industrial sector output and money supply influence the stock returns negatively.
Nadeem Sohail and Zakir Hussain\textsuperscript{53} (2009) examined the long-run and short-run relationships between Lahore Stock Exchange and macroeconomic variables in Pakistan. The monthly data from December 2002 to June 2008 was used in this study. The results revealed that there was a negative impact of consumer price index on stock returns, while, industrial production index, real effective exchange rate, money supply had a significant positive effect on the stock returns in the long-run. The VECM analysis illustrated that the coefficients of ecm1 (−1), and ecm2 (−1) were significant with negative signs. The coefficients of both error correction terms showed high speed of adjustment. The results of variance decompositions revealed that out of five macroeconomic variables consumer price index showed greater forecast error for the stock market index.

Nasrin Afzal, Syed Shahadat hossain\textsuperscript{54} (2011) investigates the causal relationship between four macroeconomic variables and Dhaka Stock Exchange (DSE) stock prices using co-integration and Granger causality test. The result shows that co-integration exists between stock prices with the variables such as; M1, M2 and inflation rate, indicating a long-run relationship exists between them. They found evidence that unidirectional causality exists from stock market to exchange rate and M1 in the short run. From bivariate Error-Correction models, it is found that long run causality exists from M1, M2 to stock market and from stock market to inflation rate. From the result of the analysis, it is evident that M2 Granger-cause stock price and the three macroeconomic variables.

Nikolaos Sariannidis et al.,\textsuperscript{55} (2010) studied the impact of macroeconomic variables such as oil price, interest rate, exchange rate on the Dow Jones sustainability index and Wilshire 5000 indices by employing GARCH model. The results indicate that while crude oil price affect the US stock prices negatively, the 10-year bond value influences the stock prices negatively. Moreover, the changes in exchange rate have negative impact on the US stock market returns.

Nobert Funke and Akimi Matsuda\textsuperscript{56} (2002) analyzed the impact of macroeconomic news on stock prices in the United States and Germany by employing
GARCH model. The Results indicates that macroeconomic news has significant impact on stock prices. But the impact of macroeconomic news varies between different types of stocks and on the state of the economic condition. For instance, in a boom period, bad economic news may be good news for stock prices. International news becomes most important in German stock prices.

**Nopphon Tangjitprom**\(^{57}\) (2012) performed a study to examine the impact of macroeconomic factors on Thailand stock market performance. He examined the lead-lag relationship between macroeconomic variables and stock market return by using Vector Auto regression model and Granger causality test. The result shows that the macroeconomic variables are less important in explaining the stock returns, whereas the stock market is the leading indicator for all the macroeconomic variables. The Variance decomposition techniques reveal that interest rate is the most significant factor in explaining the stock market return. It is concluded that macroeconomic variables explain only a little variance in stock return.

**Nuno B. Ferreira et al.**\(^{58}\) (2006) investigates the asymmetric effect on six stock market indices such as SP 500, FTSE 100, DAX30, CAC40, ASE 20, and IBEX35. TARCH and EGARCH models were utilized to assess the asymmetric volatility on stock market prices. The result of the analysis shows that the conditional variance is an asymmetric function of past innovations raising proportionately more during market declines, a phenomenon known as the leverage effect.

**Ochieng Duncan Elly, Adhimbo Eunice Oriwo**\(^{59}\) (2012) determined whether changes in macroeconomic variables can be used to predict the future NASI. Three key macroeconomic variables are examined and they include lending interest rate, inflation rate and 91 day Treasury bill (T bill) rate using linear regression method. The lending rate is dropped from the regression model since it is correlated with the 91-Day T bill rate. The findings in the study indicate that 91 day T bill rate has a negative relationship with the NASI while inflation has a weak positive relationship with the NASI.

**Okoli Margaret Nnenna**\(^{60}\) (2009) analyzed the effect of domestic and global macroeconomic variables on Nigeria Stock Returns using GARCH and VAR models. He
classified the macroeconomic variables as domestic variables and global variables. The domestic variables include consumer price index, exchange rate, interest rate, money supply, industrial production index and global variables are federal funds rate and 6 month LIBOR rate. The empirical results indicate that there is a significant and insignificant interdependence between macroeconomic variables and stock returns. Specifically, the money supply, consumer price index LIBOR, Federal funds rate and Industrial production index have a negative and insignificant impact on Nigeria Stock Returns. However, the exchange rate shows a negative impact on Nigeria stock returns. It was confirmed that both global and domestic macroeconomic variables are significant in explaining the Nigeria stock returns.

Oystein Gjerde, Frode Saettem (1999) applied the VAR technique to find out the relationship between the Norwegian Stock data and macroeconomic variables. The results explain that changes in real interest rate respond negatively to stock returns and Inflation substantially. As the industrial production changes, the Norwegian stock returns respond positively. Moreover, the strong dependency on oil is reflected in the stock returns that changes quickly to oil prices. It is concluded that in contrast with the European markets, where stock returns are not easily influenced by macroeconomic variables, the oil price and real economic activity make changes in Norwegian stock returns.

Pramod Kumar Naik, Puja padhi (2012) studied the relationship between the Indian Stock market index (BSE SENSEX) and macroeconomic variables, namely, industrial production index, wholesale price index, money supply, treasury bills rate and exchange rate. The results found that Indian stock market index is co-integrated with the macroeconomic variables; therefore, a long-run equilibrium relationship exists between them. Where as in the short run, there is no causality running from macroeconomic variables to stock market prices. A Bidirectional causal relationship exists between the stock prices and industrial production index, while unidirectional relationship is found between money supply and stock prices.
Praphan wongbangpo, Subash.C, Sharma\textsuperscript{63} (2002) investigated the interdependence between the ASEAN 5 countries (Indonesia, Malaysia, Philippines, Singapore and Thailand) and fundamental macroeconomic factors such as Gross National Product, Consumer Price Index, Money supply, Exchange rate and Interest rate. They documented that the interest rate is negatively influencing the stock returns of Philippines, Singapore and Thailand and positively the stock returns of Indonesia and Malaysia. A long run negative interdependence was found between Money supply and stock prices in Malaysia, Singapore and Thailand and there was a positive relationship between exchange rate and stock returns in Indonesia, Malaysia, and Philippines yet negatively in the Singapore and Thailand stock prices.

Prince Famous Izedonmi, Ibrahim bello Abdullahi\textsuperscript{64} (2011) tested the performance of the Arbitrage Pricing Theory (APT) in the Nigerian Stock Exchange (NSE) for the period of 2000 up to 2004 on monthly base. In this paper, 3 macro-economic variables (inflation, exchange rate and market capitalization) are investigated against 20 sectors of the Nigerian Stock Exchange to observe the effects of inflation exchange rate were carried out by Chen Roll & Ross (1986). This study in addition, includes Market capitalization variable. Using Ordinary Least Square (OLS) they observed there are no significant effects of those variables on the stocks’ return in Nigeria. The results are broadly consistent with the similar studies carried out for most developed and emerging economies.

Princilla Liang\textsuperscript{65} (2013) applied Vector Error Correction Models to find out the short-run and long-run causality on China stock returns. The VECM shows that there is a long run equilibrium relationship with both its domestic economic fundamentals and foreign national stock indices. Moreover, the China stock market is more sensitive to exchange rate and bank loans and deposits volatility and it becomes little sensitive to industrial production. Finally, the stock market of China is coupled with other emerging and developed markets such as India, Russia, the U.S., Germany, China, South Korea and Mexico.
Rakesh Kumar\textsuperscript{66} (2013) employed data reduction technique to extract factors influencing the performance of Indian stock market. Three factors were extracted by applying principal component method of factor analysis. The components were Macro environment, industrial performance and policy rates. Industrial performance consists of exchange rate and industrial growth rate significantly influence the performance of Indian stock market. The results indicate that several macroeconomic variables are highly correlated. Indian stock market is highly sensitive to macroeconomic factors. Industrial performance in terms of growth pattern is highly associated with the performance of the stock market. It suggests that the government should maintain its macroeconomic factors with the full attention in order to function the stock market smoothly.

Ram Chandra Bhattarai, Navan Krishna Joshi\textsuperscript{67} (2009) examined the dynamic relationship among the stock market and macroeconomic factors for the stock market of Nepal. They documented that both short-run and long-run interdependence among stock index and some macroeconomic variables. They estimated results suggest that unidirectional short-run (positive) causal relationship running from consumer price index (CPI) to stock index but reverse causality in the long run (from stock index to CPI), supporting the widely-held view that stock returns are a hedge against inflation. The multivariate results also confirmed absence of long-run causality but supported positive and unidirectional relationship flowing from money supply to stock index in the short run. The variance decompositions results showed a strong relative exogeneity of stock index, while the impulse response graphs showed that the response of stock index to shocks in macroeconomic variables didn’t persist for long period of time.

Ramin Cooper Maysami et al \textsuperscript{68} (2004) investigated the relationship between macroeconomic variables and Singapore share indices. They examined the co-integration between macroeconomic variables and stock market’s’ sector indices rather than using composite index. The sector indices chosen are the finance index, the property index, and the hotel index. The macroeconomic variables include are short and long term interest rates, industrial production, price levels, exchange rate and money supply. The findings indicate that all macro economic variables have significant relationships with Singapore
stock indices. Real economic activity and money supply were not significant on All-S Equities.

Rim M. Khoury 69 (2015) applied multi index model to explore the sensitivity of the stock return of European automotive companies to some macroeconomic variables. The study finds that the S&P 350 positively affects the stock returns, supporting the single index model. Furthermore, exchange rate, exports and platinum positively affect stock return, while aluminum and unemployment rate negatively affect the stock return. The results suggest that a multi index model using selected macroeconomics variables provides additional power in explaining the variability of the European stock returns in the automobile industry over a single index model using the market index alone.

Robert D. Gay 70 (2008) studied the relationship between macroeconomic variables of consumer price index, money supply, foreign exchange rate, gross domestic product, oil price and the stock price in Brazil, Russia, India and China (BRIC) to find out the correct form of efficiency exists among the countries. A consistent and negative relationship was found between the lagged macroeconomic variables and the Russia and India Stock returns. A negative relationship was found between the consumer price index and the India and China stock returns, while it is positive for Brazil and Russia. It is concluded from the study that Brazil, Russia, India and China exhibited a weak form of market inefficiency that indicates that BRIC stock market exchanges are significantly influenced by the past stock market prices.

S.G.M. Fifield et al. 71 (2002) examined the effects of local and global economic variables on emerging stock market returns. They selected inflation, exchange rate, interest rate, Gross Domestic product, money supply and trade balance as domestic variables and World inflation, commodity price, oil price, world stock market return, world industrial production as global variables. Principal Component Analysis was applied to extract most significant factors influencing the ESM stock returns and the output of Principal Component analysis is used as the input for Regression analysis. It is resulted that world factors plays a significant role in explaining the ESM returns along with the chosen local factors.
Saeed samadi et al.\textsuperscript{72} (2012) documented that exchange rates, world gold prices, inflation, have significant impact on stock returns, while oil prices has no impact on the stock prices. The reason for limited reaction to oil price changes due to Iran’s small capital market and delayed response to oil price changes on profitability and stock price of companies despite undeniable impacts of global oil price changes on many macroeconomic variables. The GARCH result shows that there could be leverage effect on Tehran stock market.

Safdar Abbas et al.\textsuperscript{73} (2014) considered that inflation, exchange rate, GDP, Gold prices and T-Bills as independent variables and KSE-100 index as dependent Variable. The result of the correlation analysis shows that stock return was negatively correlated with each independent variable. All independent variables inflation, T-bill, exchange rate, GDP and gold prices were positively correlated with each other. Regression results indicate that positive relationship of exchange rate and stock return. Gold prices have positive insignificant relation but GDP has insignificant negative relation with stock return. Inflation has significant negative relation with the stock market return. T-Bill has insignificant relationship with the stock market returns.

Sarpapiya Ray\textsuperscript{74} (2012) explored the impact of macroeconomic variables on the Indian stock prices by employing multiple regression model and granger causality test. The granger causality test reveals that there is no causal association between the pair of stock price and interest rate and the pair of stock price and industrial production index. But unidirectional causality relationship exists between stock price and inflation, stock price and foreign direct investment, stock price and gross domestic product and the stock price and exchange rate. Moreover, bi-directional causality relationship exists between stock price and foreign exchange reserve and money supply and crude oil price. The multivariate regression indicates that oil price and gold price had significant negative impact on the stock price, while balance of trade, interest rate, foreign exchange reserves, gross domestic product, industrial production index and money supply influence stock returns positively. Moreover, inflation rate, foreign direct investment, exchange rate whole sale price index do not influence stock prices significantly.
Serife Ozlen\textsuperscript{75} (2014) identified the effects of selected macroeconomic factors such as; interest rate, exchange rates, inflation, consumer price index, current account deficit, unemployment rates and sector indices on stock returns by employing ARDL approach. The results show that Sector Indices are found to be quite influential through the selected sectors. Exchanges rate is also significantly influential on almost all the sectors except Communication and Textile sectors. The impacts of Interest Rate, Inflation Rate, Current Account Deficit, and Unemployment Rate are various through the selected sectors.

Seyed Mehdi hosseini et al.\textsuperscript{76} (2011) examined the relationship between stock market indices and macroeconomic variables that includes crude oil price, money supply, industrial production and inflation rate in China and India from January 1999 to January 2009. They employed Johansen-Juselius Multivariate Co integration and Vector Error Correction Model to analyze the long and short run linkages between macroeconomic variables an on Indian and Chinese Stock market indices. They found that there is a linkage between the four macroeconomic variables and stock market indices in China and India. In the long run, Oil price keeps positive relationship on Chinese stock market indices whereas it becomes negative in India stock indices. Moreover, the money supply has a negative impact on china stock indices and it becomes positive on Indian Stock indices. Inflation is the variable having positive relationship on both the country’s indices.

Seyyed Ali Paytakhti Oskooe\textsuperscript{77} (2012) finds out if the nonlinear adjustment of stock returns in an emerging stock market is symmetrical or asymmetrical. The result has been documented that the stock return series is nonlinear and the adjustment of the stock returns to the long run equilibrium is asymmetric. It is found that the speed of the adjustment mechanism to equilibrium level is different in the bull market and in the bear market.

Sezgin Acikalin et al.\textsuperscript{78} (2008) found long term stable relationships between Istanbul stock exchange and Turkish macroeconomic variables by applying co-integration and vector error correction model. The granger causality test produced that
unidirectional causal relationship exists between the macroeconomic indicators and ISE index.

Sharaf Obaid Ali, Abdalla Suliman Mhmoud\textsuperscript{79} (2013) analyzed the stock market return volatility by using symmetric and asymmetric GARCH family models, namely: ARCH(1,1), GARCH-M(1,1), EGARCH(1,1) AND GJR-GARCH(1,1) models. Moreover the return series exhibits a positive skewness, leptokurtosis, and significant departure from normality, volatility clustering and existence of heteroscedasticity. The result of the study shows that KSE index is a highly volatile market and shows the existence of risk premium and leverage effect.

Suluck Pattarathammas and Anya Khanthavit\textsuperscript{80} (2009) shed some lights on the interdependence between macroeconomic factors comprising of world, regional and idiosyncratic factors and stock markets in four regions namely North America-the USA and Canada, South America – Brazil, Mexico and Chile, Europe – the UK, Germany and France and Asia- China, Hong Kong and Singapore. The results reveal that the national market returns are driven by global factors, Regional Factors and Idiosyncratic factors. The North American markets are substantially influenced by the world factor, while the European markets are influenced equally to both world and regional factors.

Tarun K.Mukerjee and Atsuvuki Naka\textsuperscript{81} (1995) documented that Chinese stock market is co-integrated with the macroeconomic variables such as Exchange Rate, Money supply, industrial production index, inflation rate, Government bond rate return and the call money rate return. The result of the findings shows that there exists long-run equilibrium relationship and suggest that VECM outperforms the VAR model.

Tobias Olweny, Kennedy Omond\textsuperscript{82} (2011) employed EGARCH model and TGARCH model on monthly observations from January 2001 to December 2010 to examine the relationship between macro-economic factors and stock return volatility. The results indicate that the stock returns are symmetric but leptokurtic and normally distributed. The findings from this study emphasize on the role of the stock exchange market in directing economic growth i.e. the Nairobi stock exchange has been found to be a leading indicator for economic growth. The result of the TGARCH model indicates that
the news impact is asymmetric. The results also provided evidence that bad news has a larger impact on stock return volatility than the good news. The finding is consistent with the results of the EGARCH model.

**Turgut Tursoy et al.** (2008) tested the Arbitrage Pricing Theory on Istanbul stock exchange by using money supply, imports, exports, exchange rate, industrial production index, crude oil price, interest rate, gross domestic product, consumer price index gold price and market pressure index as macroeconomic variables. Simple Ordinary Least Square technique was applied to investigate the relationship among the chosen variables. The results indicate that unemployment rate shows significant relationship on metal industry, wood industry, and transportation and communication at 10% level of significance.

**Valentina Corradi et al.** (2013) found out the level and fluctuations of stock volatility that is explained by cycle factors and some unobserved factors which contribute nearly 20% to the stock volatility. They documented that volatility risk-premiums are strongly countercyclical, and explains the large swings of the stock market index volatility during the 2007-2009 subprime crises.

**Wei-Chong Choo, See-Nie Lee** (2011) analyzed the behavior of Chinese stock market volatility with respect to a few macroeconomic variables namely gold price, crude oil price and exchange rate. Moreover, a comparison study has also been performed and found there is no impact on the volatility of Chinese stock markets. The result indicates that the GJRGARCH model is superior to GARCH (1, 1) model.

**Wen-Ien Hsieh** (2013) analyzed the effects of selected macroeconomic variables on the Newzealand stock market prices by employing Exponential GARCH model. The findings show that the GDP and world index influences the stock market prices positively while interest rate, exchange rate and inflation rate influences the stock prices negatively. A structural break has been identified and the money supply to gross domestic product is positive in before 2007 last quarter and become negative afterwards.
Yu Hsing\textsuperscript{87} (2013) analyzed the Chinese stock market index and found that industrial production impact the stock prices positively while government deficit to GDP impacts negatively. The result of the analysis found that there is a nonlinear relationship exists between stock market index and exchange rate. It is suggested from the research paper that in order to maintain a robust stock market, the authorities need to depreciate the Chinese Yen and increase the economic growth.

Z.Chinzara\textsuperscript{88} (2010) examined how the volatility arising out of macroeconomic determinants transmits its own risk into stock market by employing autoregressive GARCH model and Vector Auto regression models. The results show that macroeconomic volatility impacts the stock market prices significantly. The gold and oil price played a major role in explaining the stock returns significantly. The results indicates that financial crises increases volatility in the stock market and in most macroeconomic variables and by so doing, strengthen the effects of changes in macroeconomic variables on the stock market.

Zaheer Alam, Kashif Rashid\textsuperscript{89} (2014) investigated the long term relationship between karachi Stock market 100 index and macroeconomic variables comprising of inflation, industrial production, money supply, exchange rate and interest rate. They used Johnson co integration test, Augmented Dickey Fuller and Phillip Perron test to analyse the stationary of the data collected for the study. Moreover, Autoregressive Conditional Heteroskedasticity Lagrange Multiplier test was applied to find out the relationship in the presence of heteroskedasticity in the data.

2.2 CONCLUSION

Reviewing various research articles and reports shed light on the researcher to identify and select the macroeconomic variables influencing the stock market returns. It gives a basic idea for selection of macroeconomic variables that can be applied to find out the association with the stock market returns. Hence, the researcher has selected inflation, interest rate, money supply, exchange rate, industrial production index as country specific variables and global stock market index, global commodity prices and global oil prices as global variables influencing the stock market returns.
REFERENCES


