IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL)
ISSN (P): 2347–4564; ISSN (E): 2321–8878
Vol. 8, Issue 9, Sep 2020, 1–8

MACROECONOMIC DETERMINANTS AFFECTING BSE BANKEX IN INDIA - AN EMPIRICAL ANALYSIS

M. Jegadeeshwaran[1] & M. Basuvaraj[2]

[1]*Assistant Professor, School of Commerce, Bharathiar University, Tamil Nadu, India*

[2]*Research Scholar, Department of Commerce, Bharathiar University, Coimbatore, India*

Received: 06 Sep 2020 **Accepted:** 09 Sep 2020 **Published:** 15 Sep 2020

ABSTRACT

The intention of this paper is to study the impact of macroeconomic factors on BSE Banked. The study period covers ten years, from 2010 to 2019. For the purpose of the study, predominant macroeconomic factors have been selected based on the literature review. The sample macroeconomic factors, gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate are chosen for the study. The data analysis was done using correlation and multiple regression analysis. The findings also reveal that the during the study period the unemployment rate shows the correlation with PE ratio of banking returns at 5 percent significant level. The interest rate and exchange rate reveal the positive correlation with exchange rate with 1 percent level of significant and employment rate correlated with exchange rate at one percent significant level. Macroeconomic indicators do not have significant impact on the stock prices of banks. It can be concluded that the macro economic factors do not influence the BSE Bankex. Therefore, the study concludes that to have better returns on the stock market and to retain the Indian investors and foreign investors, government and other policy makers are needed to make policies in complement to the macroeconomic variables. This will help to enable to overall growth of economy and bring trust among the investors across the globe.

KEYWORDS: *BSE Banked, Macroeconomic Factors, Correlation and Multiple Regression Analysis*

INTRODUCTION

There is an enormous role of Indian stock market in the development of Indian economy. A little development in the financial exchange influences the presentation of economy. Investors of Indians or outsiders can contribute or take the benefits for capital gratefulness in the stock market. Banks are a major part of any economic system. They provide a strong base to Indian economy too. Even in share markets, the performance of bank shares is of great importance. This is justified by the proof that in both BSE and NSE we have separate index for Banking Sector Shares. The performance of share market, the rise and the fall of market is greatly affected by the performance of banking sector shares. An investor considers Primary and secondary market both are inter-related to each other's primary market creates secondary market. These different components may incorporate past performance of an organization, return on index or by organization, return on assets or equity, free cash flow, internal management, various macroeconomic factors like gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate. Some macroeconomic elements are essentially influencing the arrival on stock while some have gentle effect. The market can be ordered into two for example Primary market and secondary market. Primary and secondary market both are inter-related to each other as primary market creates secondary market. In the primary market different organizations such as government, sell the securities for the first time in the market and when these securities are further sold in the market, that market called as secondary market. The SENSEX, impelled in 1986 is contained 30 of the most successfully traded stocks in the market. In all honesty, they speak to a huge part of the BSE's market capitalisation. They address 13 territories of the economy and are pioneers in their individual undertakings. Bombay Stock Exchange Limited launched "BSE BANKEX Index" on 23 June 2003. This index consists of major Public and Private Sector Banks listed on BSE. The BSE BANKEX Index is displayed online on the BOLT trading terminals nationwide.

MACRO ECONOMIC VARIABLES

Gross Domestic Products (GDP)

Gross domestic product (GDP) is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of a given country's economic health.

Exchange Rate

Exchange Rate is the price of one country's currency expressed in another country's currency. If there is depreciation in the exchange rate, this depreciation will cause cost-push inflation and demand pull inflation. Controlling inflation will lead to increase in interest rates by RBI thereby affecting the profitability of banks.

Inflation

Inflation is a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over some period of time. It is the rise in the general level of prices where a unit of currency effectively buys less than it did in prior periods. Often expressed as a percentage, inflation thus indicates a decrease in the purchasing power of a nation's currency

Interest Rate

The interest rate is the amount a lender charges for the use of assets expressed as a percentage of the principal. The interest rate is typically noted on an annual basis known as the annual percentage rate. The assets borrowed could include cash, consumer goods, or large assets such as a vehicle or building.

Foreign Direct Investment

A foreign direct investment (FDI) is an investment made by a firm or individual in one country into business interests located in another country. Generally, FDI takes place when an investor establishes foreign business operations or acquires foreign business assets in a foreign company.

Unemployment Rate

The unemployment rate is the percent of the labour force that is jobless. It is a lagging indicator, meaning that it generally rises or falls in the wake of changing economic conditions, rather than anticipating them. When the economy is in poor shape and jobs are scarce, the unemployment rate can be expected to rise. When the economy is growing at a healthy rate and jobs are relatively plentiful, it can be expected to fall.

REVIEW OF LITERATURE

Wong et al. (2005) analysed a study to know whether macroeconomic factors affect the stock prices of Singapore and United States. They analyse the long run equilibrium relationships between the macroeconomics factors and the two countries. Menike (2006) analysed a study on how macroeconomic factors affect stock prices in developing Sri Lankan Stock Market. Secondary data was used from 1991 to 2002. Multivariate regression was used by them on all factors for each stock. The study too discovers that there is a relationship between stock market in the Colombo Stock Exchange and macroeconomic factors. Sharma (2009) has taken monthly data over the period of 2001to 2008 to analyse the relationship between Vietnamese stock prices and macroeconomic factor that is interest rate. Vihari Guptha. (2014) have been taken quarterly data over the period of 1991 to 2013 to analyse the relationship between the macroeconomic factors and the stock market of Turkey named as Istanbul Stock Exchange. Manisha Luthra and Shikha Mahajan (2014) Impact of Macro factors on BSE Bankex. Singh (2017) conducted a study that aim to analyse the effect of various macroeconomic variables like inflation rate, exchange rate, and interest rate on the stock price of two gulf countries i.e. Kingdom of Saudi Arabia and United Arab Emirates.

Statement of the Problem

Recent research has therefore begun to focus on the linkages between the stock markets and macroeconomic development. New theoretical work shows how stock market development might boost long-run economic growth, and new empirical evidence supports this view. The stock market development plays an important role in predicting future economic growth. The World Bank Economic Review also dedicates its May 1996 issue to the role of the stock markets in economic growth. It is widely recognized by now that a well-functioning stock market is crucial to economic growth. As part of the stock market development, the macroeconomic indicators play important rolein stock market development. Then, the question of how the macroeconomic determinants help to stock market development becomes important.

OBJECTIVES OF THE STUDY

- To analyse the relationship between macroeconomic determinants and BSE BANKEX returns of PE Ratio, PR Ration and yield
- To investigates the impact of macroeconomic factors on BSE BANKEX returns listed in Bombay Stock Exchange in India.

Hypothesis of the Study

- There is no significant difference between macroeconomic determinants and stock returns of banking companies returns listed in Bombay Stock Exchange in India.

RESEARCH METHODOLOGY

The present study is based on analytical in nature. The sample size of the study included all Banking companies listed in the Bombay stock exchange of India that is, BSE BANKEX Index. The data used in the study had been divided into two sub-groups. First data set consists of BSE BANKEX Index and Second data set consists of data on macroeconomic factors. Secondary data of stock index was taken from 2010 to 2019 and was collected from official website of Bombay Stock

Exchanges. The data for macroeconomic variables was collected from the official website of World Bank database. The analysis is based on stock portfolios banking companies listed in BSE Bankex, three criteria are used i.e. price earnings ratio (P/E ratio), price book value ratio (P/B) and yield. The macro economic variables used in the study are gross domestic products, exchange rate, inflation, interest rate and foreign direct investment and employment rate. Correlation and Regression was applied to measure the relationship and impact of macroeconomic variables on BSE BANKEX returns.

ANALYSIS AND INTERPRETATION

Table 1: Relationship between Macroeconomic Factors and BSE BANKEX Returns

Correlations										
		PE Ratio	**PR Ratio**	**Yield**	**GDP**	**Exchange Rate**	**Inflation**	**Interest Rate**	**FDI**	**Employment Rate**
PE Ratio	Pearson Correlation	1								
PR Ratio	Pearson Correlation	.413	1							
Yield	Pearson Correlation	-.983**	-.465	1						
GDP	Pearson Correlation	-.518	-.553	.507	1					
Exchange Rate	Pearson Correlation	.579	-.297	-.511	.019	1				
Inflation	Pearson Correlation	-.353	.209	.216	-.213	-.634*	1			
Interest Rate	Pearson Correlation	.348	-.517	-.292	.292	.918**	-.570	1		
FDI	Pearson Correlation	.297	.186	-.245	-.297	.569	-.411	.448	1	
Employment Rate	Pearson Correlation	.681*	-.167	-.593	-.137	.969**	-.714*	.818**	.597	1
Correlation is significant at the 0.01 level (2-tailed).										
Correlation is significant at the 0.05 level (2-tailed).										

The above table exhibits the correlation analysis between BSE Banex returns and Macroeconomic determinants is fond of, unemployment rate shows the correlation with PE ratio of banking returns at 5 percent significant level. The interest rate and exchange rate are reveals the positive correlation with exchange rate with 1 percent level of significant and employment rate correlated with exchange rate at one percent significant level. All the other variables are shows the no correlation or negative correlation with the variables.

H_0 = There is no significant relationship between macroeconomic factors and PE Ratio of BSE Bankex.

Table 2: Impact of Macroeconomic Determinants on Performance of PE Ratio of Bse BANKEX Returns

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.848[a]	.718	.155	.17787	.718	1.276	6	3	.455
Predictors (Constant), GDP, Exchange Rate, Inflation, Interest Rate, FDI, Unemployment Rate.									
Dependent Variable PE Ratio of BSE Bankex.									
Indicates statistical significance at 5 per cent level.									

The table 2 it is observed that while analysing the regression analyses between PE Ratio of BSE Bankex and macroeconomic variables. The macro economic variables like, gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate which are statistically not significant at 5 per cent level and the adjusted R squire value of these variables describes the 15 per cent influences the dependent variable. Therefore, the null hypothesis is accepted. It is concluded that there is a no significant differences between PE Ratio of BSE Bankex and macroeconomic variables.

Table 3: Coefficients Analysis of Macroeconomic Variables and PE Ratio of BSE Bankex Returns

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	2.317	24.71		.094	.931	-76.324	80.958
GDP	-1.03	2.535	-.449	-.408	.711	-9.103	7.034
Exchange Rate	-.399	17.64	-.138	-.023	.983	-56.521	55.724
Inflation	.015	1.320	.015	.011	.992	-4.187	4.216
Interest Rate	-.052	1.138	-.071	-.046	.966	-3.672	3.568
FDI	-.415	.617	-.327	-.673	.549	-2.380	1.549
Employment Rate	2.694	15.68	1.018	.172	.875	-47.203	52.591
Indicates statistical significance at 5 per cent level.							

The table 3 shows the Coefficients analysis of macroeconomic variables and PE Ratio of BSE Bankex. The macro economic variables are statistically not significant at 5 per cent level in the coefficient analysis. Hence, it is concluded that these variables are not significantly affect the PE Ratio of BSE Bankex.

H_0 = There is no significant relationship between macroeconomic factors and PR Ratio of BSE Bankex.

Table 4: Impact of Macroeconomic Determinants on Performance of PR Ratio of BSE Bankex Returns

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.770[a]	.592	-.224	.05694	.592	.726	6	3	.663
Predictors: (Constant), GDP, Exchange Rate, Inflation, Interest Rate, FDI, Unemployment Rate									
Dependent Variable: PR Ratio of BSE Bankex									
Indicates statistical significance at 5 per cent level									

T

he table 4 reveals that the regression analyses between PR Ratio of BSE Bankex and macroeconomic variables. The macro economic variables like, gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate which are statistically not significant at 5 per cent level and the adjusted R squire value of these variables shows the negatively influence the dependent variable. Hence, the null hypothesis is accepted. It is concluded that there is a no significant differences between PR Ratio of BSE Bankex and macroeconomic variables.

Table 5: Coefficients Analysis of Macroeconomic Variables and PR Ratio of BSE Bankex Returns

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	2.873	7.911		.363	.741	-22.303	28.049
GDP	.265	.812	.433	.327	.765	-2.318	2.849
Exchange Rate	-1.88	5.646	-2.453	-.333	.761	-19.846	16.088
Inflation	.190	.423	.750	.450	.683	-1.155	1.535
Interest Rate	-.142	.364	-.721	-.391	.722	-1.301	1.017
FDI	.166	.198	.490	.838	.464	-.463	.794
Employment Rate	2.186	5.019	3.103	.435	.693	-13.789	18.160
Indicates statistical significance at 5 per cent level							

The table 5 exhibits the Coefficients analysis of macroeconomic variables and PR Ratio of BSE Bankex. The macro economic variables are statistically not significant at 5 per cent level in the coefficient analysis. For this reason, it is concluded that these variables are not significantly affect the PR Ratio of BSE Bankex.

H_0 = There is no significant relationship between macroeconomic factors and yield of BSE Bankex.

Table 6: Impact of Macroeconomic Determinants on Yield of BSE BANKEX Returns

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.787[a]	.619	-.144	.18206	.619	.812	6	3	.623
Predictors: (Constant), GDP, Exchange Rate, Inflation, Interest Rate, FDI, Unemployment Rate									
Dependent Variable: Yield of BSE Bankex									
Indicates statistical significance at 5 per cent level									

The table 5 it is observed that while analysing the regression analyses between yield of BSE Bankex and macroeconomic variables. The macro economic variables like gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate, which are statistically not significant at 5 per cent level and the adjusted R squire value of these variables negate velinfluence the dependent variable. Therefore, the null hypothesis is accepted. It is concluded that there is a no significant differences between yield of BSE Bankex and macroeconomic variables.

Table 7: Coefficients analysis of macroeconomic variables and Yield of BSE BANKEX Returns

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-2.09	25.293		-.083	.939	-82.584	78.402
GDP	.517	2.595	.255	.199	.855	-7.742	8.775
Exchange Rate	1.478	18.050	.583	.082	.940	-55.967	58.923
Inflation	-.286	1.351	-.342	-.212	.846	-4.587	4.014
Interest Rate	.065	1.164	.100	.056	.959	-3.640	3.771
FDI	.310	.632	.277	.490	.658	-1.701	2.321
Employment Rate	-3.76	16.048	-1.616	-.234	.830	-54.835	47.310
Indicates statistical significance at 5 per cent level							

The table 7 explains the Coefficients analysis of macroeconomic variables and yield of BSE Bankex. The macro economic variables are statistically not significant at 5 per cent level in the coefficient analysis. Hence, it is concluded that these variables are not significantly affect the yield of BSE Bankex.

CONCLUSIONS

The present study indicates that during the study period the unemployment rate shows the correlation with PE ratio of banking returns at 5 percent significant level. The interest rate and exchange rate are reveals the positive correlation with exchange rate with 1 percent level of significant and employment rate correlated with exchange rate at one percent level. Macroeconomic indicators like gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate have not significant impact on the stock prices of banks. It can be concluded that the macro economic factors not influencing the BSE Bankex. Further, to have better returns on the stock market and to retain the Indian investors and foreign investors, government and other policy makers are needed to make policies in complement to the macroeconomic variables. This will help to enable to overall growth of economy and bring trust among the investors across the globe.

REFERENCES

1. *Maysami RC, Koh TS, A vector error correction model of the Singapore stock market, J. Econ. Finance, 9: 79–96. Maysami RC, Koh TS (2000)*
2. *A vector error correction model of the Singapore stock market, Int. Rev. Econ. Finance, 9: 79-96. Maysami RC, Loo SW, Koh TK (2004)*
3. *Menike, The Effect of Macroeconomic Variables on Stock Prices in Emerging Sri Lankan Stock Market. Sabaragamuwa University Journal, 2, 50–67 (2006)*
4. *Ngoc, K. H., The impact of macroeconomic indicators on Vietnamese stock prices. The Journal of Risk Finance, 10, 321–332 (2009)*
5. *Rjoub H et al, The effects of macroeconomic factors on stock returns: Istanbul Stock Market. Studies of Economy and Finance, 26 (1): 36–45 (2009)*

6. *Mgammal, M. H, The Effect of Inflation, Interest Rates and Exchange Rates on Stock Prices Comparative Study Among Two Gulf Countries. International Journal of Finance and Accounting, 1(6), 179 to 189 (2012)*
7. *Yu Hsing, Michael C. Budden, Macroeconomic Determinants of the Stock Market Index for a Major Latin American Country and Policy Implications. Business and Economic Research, Vol. 2(1) (2012)*
8. *Raza & Jawaid, Foreign capital inflows, economic growth and stock market capitalization in Asian countries: an ARDL bound testing approach. Quality & Quantity, Vol. 48(1), pp. 375–385(2014)*
9. *Sahu, T. N et al, An empirical study on the dynamic relationship between oil prices and Indian stock market. Managerial Finance, Vol. 40 (2), pp. 200–215 (2014)*
10. *Manisha Luthra and Shikha Mahajan, Impact of Macro factors on BSE Bankex. International journal of current research and academic review, Vol. 2 (2), pp. 179–186 (2014)*
11. *Barakat Mahmoud, Impact of Macroeconomic Variables on Stock Markets: Evidence from Emerging Markets. International Journal of Economics and Finance, 195–97 (2016)*