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IMPACT OF MACRO ECONOMIC VARIABLES ON STOCK MARKET VOLATILITY: A STUDY OF GCC STOCK MARKETS

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Abstract: The fundamental objective of the current research study is to examine the relationship between the selected macroeconomic variables and stock market volatility of GCC stock markets. In the present study the significant impact of selected macroeconomic variables on stock market volatility, measurement variables namely, Inflation rate, interest rate, exchange rate, money supply and Crude Oil was observed. A sample of twenty-four past studies from different countries are selected for the study and data is collected for a period of ten financial years ranging from the financial year 2011 to 2020. In order to evaluate the correlation and significant impact, macroeconomic variables considered for a long-term, which are considered as independent variables. The stock market volatility which are dependent variable used in the study for all stock market of the GCC countries which are Muscat securities market, Tadawel Securities Market,Qatar Stock Exchange, Abu Dhabi securities Exchange, Kuwait Stock Exchange and Bahrain Bourse. The required data related to variables used in the study are collected from the different stock market for each GCC countries.The collected data was analyzed with the help of statistical tools, descriptive statistical analysis, correlation analysis, multiple regression analysis and ANOVA. The analysis has given mixed results showing that there is a positive correlation between some of the selected macroeconomic variables with the stock market volatility and at the same time also negative impact in case of other variables under study. It is recommended that all the investors and participants in the stock market to study the different macroeconomic variables that effect the stock market before they make a decision as well to evaluate the overall performance of the country in stock market which help the investors to make decision rather to buy or sell.

Keywords: GCC Stock markets, Macro-Economic Variables, Inflation Rate, Interest Rate, Exchange Rate

I. Introduction

The stock market is one of the critical sources and challenging forum for maintaining and enhancing the economic growth of a country therefore, substantial risk will be involved in respect to gain a certain return as well the chances of losses are possible. The Economic policies of countries around the world containing GCC are fetched changes within the worldwide. The world market has cohesive through the concept of globalization and liberalization. Moreover, the aim of this study is to investigate the impact of macroeconomic variables on stock exchange volatility with special relevance stock markets located in GCC region. Macroeconomic is extremely vital term to review the aggregate growth of the country and seek on general changes happen within the economy such changes may consider GDP, inflation, unemployment, interest rate etc. The perseverance of this study to reconnoiter and treasure the impact of the chosen macroeconomic variables on the volatility of stock markets with special relation to stock markets located in GCC region.

II. Review of Literature

In the past, numerous industry scientists, financial examiners, and professionals have attempted to forecast the connection between stock market volatility and macroeconomic factors. The results of every one of these studies gave various conclusions as per the arrangement of factors, techniques and tests used. Here, we examine some past working/research papers and their observational decisions which are discussed below.

Ghulam Abbas, Usman Bashir, ShouyangWangc, GilneyFigueiraZebende, Muhammad Ishfaq. (2019),Claimed that this investigation analyzes the Relation among profits, stock price movements and macro-economic factors by using monthly information covering period from 1995 to 2015. The empiric consequences of the overall spillover index may not indicate major differences in the relationship between stock market and macroeconomic variables in return and volatility for China. The spillover effect of positive gain as well as instability amongst the macroeconomic indicators to the stock market is relatively higher.The spillovers of return and uncertainty on either path have changed dramatically since the 2008 global financial crisis.

HamidahRamlan, SahaidaLailyMdHashim, Wan Muhammad Syahmi Bin Dolkepeli. (2018), this examination is clarifying that the macroeconomic factors have huge relationship with the financial exchange capitalization. More than that, the relapse model is critical which clarify how the relapse of the conversion scale and expansion rate gives sway towards securities exchange capitalization. This examination infers that macroeconomic factors are a crucial instrument for researching the effect of it to the securities exchange capitalization.

S.Baranidharan, N. Dhivya, RevFr.A.Alex (2018), Number of nations has been changed over the worldwide the economic policies. The world economy has been coordinated through the concept of globalization and progression. The reason for this examination is to investigate the impact of macroeconomic factors on Bombay Stock trade Sensex through the information gathered in the time of April 2008 to walk 2018 utilizing SPSS programming, the engaging measurements and connection created which presenting the connection among share cost and different components influencing the equivalent.

IhsanIlahi, Mehboob Ali1 and Raja Ahmed Jamil (2018), the goal of the article is to research the relation between macroeconomic variables "inflation charge, alternate fee and hobby charge" on Securities market returns in Pakistan. A Multiple Linear Regression changed into accomplished cause of information analysis. The study confirmed that may have weak relation among securities market returns and macroeconomic variables. The studies validate the findings of in advance research in addition to conclusions and guidelines are discussed.

IhsanErdemKayral and SemraKaracaer (2017),the impact of US securities returns, exchange rate differences, and stock market volatility on two emerging countries between 2000 and 2013. The analysis shows, the main outcome of the entire period is that US stock market returns cause volatility in stock markets. Between 2000 to 2013 and 2008 to 2013, covering the period following the 2008 International financial crisis, there has been a significant rise in causality

- **S. Baranidharan, Dr. S. Vanitha. (2016),** the examination recommends that institutional and singular financial specialists can make their interests in 3G nations particularly China, Bangladesh, and India. Thus, securities exchanges in these nations have improved monetary soundness and viable development in economy. Plus, the approach creators are more obligated to the development improving and stable monetary area changes and speculation from financial specialists helps the financial development itself.

  Aigbovo. O and IZEKOR, Andrew. O (2015), itexplores the influence of six macroeconomic variables, specifically, trade fees, interest costs, inflation prices, cash deliver, business production index and international oil rate on Nigeria inventory market Index. The results show that in Nigeria there is a long shared dating exists between the inventory market indexes and desired macroeconomic variables and also that cash deliver, industrial production index, oil price, inflation charge, and interest charge all this influence stock marketplace index either in short or a long term.

- **Hunjra, A. I., Chani, M. I., Shahzad, M., Farooq, M., and Khan, K. (2014)**, collected data in the period between 1st January 2001 to December 31th 2011 and the objective of this study which is conducted in Pakistan is to determine the influence of trade fee, GDP, inflation price and interest charge on the inventory expenses. The outcomes find that there is no relationship in short run between explanatory variables and dependent variable but in long term it is the opposite that the Findings show that there is powerful relationship.

- **Zukerman Zakaria (2012),**observes the relationship between the five macroeconomic volatilities which is a) inflation, b) alternate feec) GDP, d) interest quotes and e) cash supply and the inventory market returns volatility. The outcomes from regression analysis shows that cash deliver volatility is significantly linked to inventory marketplace volatility. Also, macroeconomic variables volatilities as a group are found not significantly linked to the stock market volatility

- **NaliniTripathy (2011)**, examined the effect of macroeconomic indicators on Indian stock market volatility utilizing the models of ARCH, GARCH, EGARCH, TARCH, PGARCH and Component ARCH, and the duration covering January 2005 and January 2011. Research reveals that the latest news of macroeconomic variables could be used to boost the forecasting of stock market volatility. It also identifies proof of leverage and asymmetrical influence of macro-economic factors on the share market and suggests that negative news has

a greater impact on the market's stock price volatility. The study further concludes that asymmetric GARCH models have a better outcome for prediction than the symmetric GARCH model.

III. Objectives of the study

1. To identify and study various macroeconomic variables which have impact on stock market volatility.
    2. To analyze the impact of selected macroeconomic variables on stock market volatility in the province of GCC.

1. Hypothesis of the study

In line with the objectives of the study, the following hypotheses were formulated.

H0: There is no significant impact of selected macroeconomic variables on stock market volatility.

H1: There is a significant impact of selected macroeconomic variables on stock market volatility.

2. Methodology of the study

This study attempts to explore more by using secondary data and different techniques to inspect the impact of stock market volatility against macroeconomic indicators in the GCC countries. Therefore, the study will be using different methods in gathering data such as, descriptive Analysis, correlation analysis, multiple regression analysis and ANOVA. These are the tools to be use in our study while examining the connection among stock market movement and macroeconomic factors in the GCC region.

Correlation analysis:is a statistical model which used to assess the strength of the relationship between two quantitative variables. If there is more than one variable that have a strong connection with each other that indicate to High correlation, while poor correlation means that the variables has a weak relationship between each other's. Moreover, after measuring the correlation coefficient for the research study, there are three possibilities for the expected result. First, if the result shows the number 1, then there is a positive relationship among the variables and if the opposite result appears -1 in the connection among variables tends to be negative relation, and in the case the result is zero it shows that there is no connection within the variables.

Formula:

$$r = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}}$$

$N = number\ of\ pairs\ of\ scores$

$\sum xy = sum\ of\ product\ of\ paired\ scores$

$\sum x = sum\ of\ x\ scores$

$\sum y = sam\ of\ y\ scores$

$\sum x^2 = sum\ of\ squared\ scores$

$\sum y^2 = sum\ of\ squared\ scores$

Multiple regression analysis is a measurable strategy to perceive what variable have an impact by contrasting reliable variable and at least one autonomous factor and observe the connection among them. In addition, Regression analysis comprise of three sections which are relapse coefficients, changed estimation of R square and ANOVA. The initial segment of relapse examination is relapse coefficients which are to present if there any impact among the autonomous factors with the reliant factors. The subsequent relapse part is changed estimation of R square which assists with appearing if there is a connection between the free factors and the needy factors in rate. The third one is ANOVA which is utilized to observe the effect of macroeconomics variables in stock market.

$$YSMV = a + \beta 1XInflation\ Rate + \beta 2XIntrest\ Rate + \beta 3XMoney\ Supply + \beta 4Exchange\ Rate + \beta 5XCrude\ Oil$$

* SMV = Stock Market Volatility.

IV. Analysis and Discussions

1. Sultanate of Oman (Muscat Securities Market):
Table 1.1: Correlation analysis table:

	Inflation	Interest Rate	Money	Exchange	Crude Oil	Stock Market

	Rate		Supply	Rate		Volatility
Inflation Rate	1					
Interest Rate	0.375641365	1				
Money Supply	-0.583569177	0.097386211	1			
Exchange Rate	0.683712155	0.23782003	-0.294111774	1		
Crude Oil	-0.441794312	-0.002680931	0.767930158	-0.212993406	1	
Stock Market Volatility	0.625287188	-0.209713653	-0.733329853	0.494594417	-0.358783587	1

Table 1.1: Correlation analysis table:

Table 1.2: Regression Model Summery

Model	Multiple R	R Square	Adjusted R Square	Standard Error
1	0.88941829	0.791064894	0.529896012	90.94844354

Table 1.3: ANOVA
Table 1.4: Regression Coefficients

It is observed from the above table that dependent variable stock market volatility positively correlated with the variables inflation rate and exchange rate and negatively correlated with the variables interest rate, money supply and crude oil prices. It indicates a positive change in inflation rate and exchange rate will create a positive impact on stock market volatility and vice versa. It is also designating that positive changes in interest rate, money supply and crude oil prices will lead to negative impact on stock market volatility and vice versa.The R square value of 0.79 indicates that the set of independent variables are account for 79% of the variance in stock market volatility.The value less than 0.05 (alpha=0.05) indicates that the relationship measured between dependent and independent variables is significant. If the value is more than 0.05 it indicates that the relationship is not significant. Here in this study the value 0.152 is more than 0.05 and it portrays that there is no significant relationship between stock market volatility and independent variables. Hence the null hypothesis will be accepted, and alternative isrejected. Regression coefficients shows there is no significantrelationship of stock market volatility with each individual macro-economic variables of the study. It is observed from the above table that there is no significant relationship between stock market volatility and all the selected macro-economic variables under study as P-value for all the variables is more than 0.05.

Kingdom of Arabia Securities Table 2.1: analysis

Model	df	SS	MS	F	Significance F
Regression	5	125271.1972	25054.23944	3.028940076	0.152692012
Residual	4	33086.47753	8271.619383		
Total	9	158357.6747			

Saudi (Tadawel Market): Correlation table:

Model	Coefficients	Standard Error	t Stat	P-value
Intercept	-101287.9346	166035.5046	-0.610037804	0.574792934
Inflation Rate	29.98951283	37.14070692	0.807456705	0.464680642
Interest Rate	-85.4923233	76.30644844	-1.120381371	0.325273284
Money Supply	-0.034661643	0.019579533	-1.770299755	0.151386657
Exchange Rate	263033.3315	431338.2192	0.609807617	0.57493116
Crude Oil	1.390765606	1.172912306	1.185735301	0.301350484

	Inflation Rate	Interest Rate	Money Supply	Exchange Rate	Crude Oil	Stock Market Volatility

Inflation Rate	1				
Interest Rate	-0.72538	1			
Money Supply	-0.63519	0.618430881	1		
Exchange Rate	0.375301	-0.022529792	-0.599056424	1	
Crude Oil	-0.16173	0.095038699	0.2345566	-0.072836328	1
Stock Market Volatility	-0.26426	0.266537453	0.679561524	-0.658261694	-0.066275066	1

Table: 2.2 Regression Model Summary:

Model	Multiple R	R Square	Adjusted R Square	Standard Error
1	0.812050106	0.659425375	0.233707094	903.7696016

Table 2.3: ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	6325994.629	1265198.926	1.548971243	0.346233032
Residual	4	3267197.971	816799.4927		
Total	9	9593192.6			

Table: 2.4 Regression coefficients:

	Coefficients	Standard Error	t Stat	P-value
Intercept	3682875.14	3667443.615	1.004207706	0.372098
Inflation Rate	220.4692498	277.1460778	0.795498358	0.470861
Interest Rate	747.3268882	1949.614249	0.383320387	0.720984
Money Supply	0.010626398	0.011408491	0.931446414	0.40435
Exchange Rate	-13804240.69	13757730.8	-1.003380637	0.372452
Crude Oil	-6.44165E-11	1.06448E-10	-0.605143971	0.577736

The table above shows that the relationship betweenmacroeconomic variablesand stock market volatility. It is observed that dependent variable stock market volatility positively correlated with the variables interest rate and money supply while negatively correlated with the variables inflation rate, exchange rate and crude oil prices.It refers to a positive change inthe variables inflation rate, exchange rate and crude oil prices will have led to negative effect on stock market volatility and vice versa. While a positive variation for both variables interest rate and money supply will led to a positive effect on stock market volatility and vice versa.According to the table above of the Regression Model Summery show that the R square value of 0.65 indicates that the set of independent variables are account for 65% of the variance in stock market volatility.Therefore, it represents that there is no significant relationship between stock market volatility and independent variables. Hence, the null hypothesis will be accepted, and alternative is rejected. According to the table, it is clear that dependent variable which is stock market volatility has no significant relationship with each individual independent variable, which is individual macro-economic variables. It is observed that, all value of all the individual macro-economic variables of the study indicate, that P-value is more than 0.05.

3. **State of Qatar (Qatar Stock Exchange):**
    Table: 3.1 Correlation analysis table:

	Inflation Rate	Interest Rate	Money Supply	Exchange Rate	Crude Oil	Stock Market Volatility
Inflation Rate	1					
Interest Rate	0.320565591	1				
Money Supply	-0.499189322	-0.25811	1			
Exchange Rate	-0.303094297	-0.1355	0.03164	1		

| Crude Oil | -0.361260736 | -0.84794 | 0.003074 | -0.10578 | 1 | |
| Stock Market Volatility | 0.571440528 | 0.126724 | -0.28942 | -0.32435 | -0.21114 | 1 |

Table: 3.2 Regression Model Summary:

Model	Multiple R	R Square	Adjusted R Square	Standard Error
1	0.741755093	0.550200618	-0.349398146	124.7646816

Table:3.3   ANOVA:

	df	SS	MS	F	Significance F
Regression	6	57122.44648	9520.407747	0.611606685	0.721860445
Residual	3	46698.67734	15566.22578		
Total	9	103821.1238			

Table: 3.4 Regression coefficients:

	Coefficients	Standard Error	t Stat	P-value
Intercept	25927.17541	24152.25838	1.073489	0.343497553
Inflation Rate	4.370941485	43.18827444	0.101207	0.924256537
Interest Rate	-140.9430017	141.7481984	-0.99432	0.376346667
Money Supply	-0.004038555	0.004970637	-0.81248	0.462102155
Exchange Rate	-6566.74834	6383.167044	-1.02876	0.36173034
Crude Oil	-4.46296282	4.524690679	-0.98635	0.379803192

It is noticed from the above table that dependent variable stock market volatility positively correlated with the variables inflation rate and interest rate and negatively correlated with the variables exchange rate, money supply and crude oil prices. It indicates a positive change in inflation rate and interest rate will create a positive impact on stock market volatility and vice versa. The R square value of 0.55 indicates that the set of independent variables are account for 55% of the variance in stock market volatility.It is observed from the above table that there is no significant link between stock market volatility and all the selected macro-economic variables under study as P-value for all the variables is more than 0.05. Here in this study the value 0.721 is more than 0.05 and it portrays that there is no significant relationship between stock market volatility and independent variables. Hence the null hypothesis will be accepted, and alternative is rejected.

4.   United Arab of Emirates (Abu Dhabi Securities Exchange):

Table: 4.1 Correlation analysis:

	Inflation Rate	Interest Rate	Money Supply	Exchange Rate	Crude Oil	Stock Market Volatility
Inflation Rate	1					
Interest Rate	-0.813436603	1				
Money Supply	-0.442742038	0.479015	1			
Exchange Rate	-0.12240888	-0.15967	-0.13807	1		
Crude Oil	-0.127012893	0.431819	0.281246	-0.38633	1	
Stock Market Volatility	0.481591947	-0.0996	-0.19074	-0.49905	0.462186	1

Table: 4.2 Regression Model Summary:

Model	Multiple R	R Square	Adjusted R Square	Standard Error
1	0.794165229	0.63069841	0.169071423	87.89419664

Table :4.3 ANOVA:

	df	SS	MS	F	Significance F
Regression	5	52774.11418	10554.82284	1.366251167	0.392437474
Residual	4	30901.55921	7725.389803		
Total	9	83675.67339			

Table 4.4 Regression coefficients:

	Coefficients	Standard Error	t Stat	P-value
Intercept	4481.379152	7052.895473	0.635395657	0.559702299
Inflation Rate	40.77016431	33.70439037	1.209639571	0.29301742
Interest Rate	7166.732579	11334.94281	0.632268967	0.56154831
Money Supply	-6.287579105	0.000120427	-0.52210087	0.629178808
Exchange Rate	-1250.789998	1880.457985	-0.665151792	0.542343296
Crude Oil	1.173698907	1.334728907	0.879827862	0.428636808

As it's observed from the above table that dependent variable stock market volatility positively correlated with the variables inflation rate and crude oil prices and negatively correlated with the variables interest rate, money supply and exchange rate. It indicates a positive change in inflation rate and crude oil prices will create a positive impact on stock market volatility and vice versa. It is also designating that adverse changes in interest rate, money supply and exchange rate will lead to negative effect on stock market volatility and vice versa.The R square value of 0.63 indicates that the set of independent variables are account for 63% of the variance in stock market volatility. Here in this study the value 0.39 is more than 0.05 and it described that there is no significant relationship between stock market volatility and independent variables. Hence the null hypothesis will be accepted, and alternative is rejected.It is also observed from the above table that there is no significant link between stock market volatility and all the selected macro-economic variables under study as P-value for all the variables is more than 0.05.

5. State of Kuwait (Kuwait Stock Exchange):

Table 5.1: Correlation analysis table:

	Inflation Rate	Interest Rate	Money Supply	Exchange Rate	Crude Oil	Stock Market Volatility
Inflation Rate	1					
Interest Rate	-0.571795148	1				
Money Supply	-0.641500882	0.224421293	1			
Exchange Rate	0.690892919	-0.308401705	-0.93724	1		
Crude Oil	0.004548055	-0.448806734	0.259438	-0.18782	1	
Stock Market Volatility	0.251423669	-0.617418763	-0.28224	0.486626	0.121287	1

Table 5.2: Regression Model Summery

Model	Multiple R	R Square	Adjusted R Square	Standard Error
1	0.916394	0.839778376	0.639501345	442.5167373

Table 5.3: ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	4105470.649	821094.1298	4.193083819	0.094868675
Residual	4	783284.2512	195821.0628		
Total	9	4888754.9			

5.4 Regression coefficients:

	Coefficients	Standard Error	t Stat	P-value
Intercept	-22036.44029	13130.76609	-1.678229597	0.168605
Inflation Rate	-332.0905539	158.4108652	-2.096387476	0.104077

Interest Rate	-1708.972344	602.6159837	-2.835922694	0.047062
Money Supply	0.423082894	0.214330652	1.973972876	0.119624
Exchange Rate	9376.540021	3262.669158	2.873886247	0.045291
Crude Oil	-8.11226107	9.10558007	-0.890911372	0.423323

The table above indicates that the dependent variable stock price movement was positively associated with the variables inflation rate, exchange rate, and crude oil prices. However, was negatively correlated with the variable money supply and interest rate. This indicates a positive effect on the volatility of the stock market and vice versa in all the variables except money supply and interest rate will have negative effect. The R square value of 0.83 reveals that the set of independent variables are account for 83% of the variation in stock market volatility.In this analysis, the value of 0.094 is more than 0.05 and indicates that there is no significant association between stock market volatility and independent variables. Therefore, the null hypothesis will be accepted and the alternative is dismissed. The above table reveals that there is no significant association between the volatility of the stock market and three of the selected macro-economic variables under study which are interest rate, money supply and crude oil, as the P-value is greater than 0.05 for these variables. However, this study also discovered the significant relationship in two selected macroeconomic variables interest rate and exchange rate, as it represents the P-value is less than 0.05.

6. Kingdom of Bahrain (Bahrain Bourse):

Table 6.1: Correlation analysis table:

	Inflation Rate	Interest Rate	Money Supply	Exchange Rate	Crude Oil	Stock Market Volatility
Inflation Rate	1					
Interest Rate	-0.465622864	1				
Money Supply	-0.081334547	0.770783785	1			
Exchange Rate	-0.083099635	0.386568859	0.585624617	1		
Crude Oil	0.519693685	-0.201474106	0.312096879	-0.127330986	1	
Stock Market Volatility	-0.546406162	0.660111622	0.525064526	0.138975323	0.073195364	1

Table 6.2: Regression Model Summery

Model	Multiple R	R Square	Adjusted R Square	Standard Error
1	0.825361187	0.681221089	0.28274745	105.4552758

Table 6.3: ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	95059.41044	19011.88209	1.7095763	0.311735221
Residual	4	44483.26076	11120.81519		
Total	9	139542.6712			

6.4 Regression coefficients:

	Coefficients	Standard Error	t Stat	P-value
Intercept	-69127.67282	273231.3961	-0.253000474	0.812738215
Inflation Rate	-52.66108554	37.68315681	-1.397470117	0.234801826
Interest Rate	128.7938466	133.0178546	0.968244804	0.387751617
Money Supply	-0.703033273	1.602005949	-0.438845607	0.683436472
Exchange Rate	185373.6262	724526.8443	0.255854738	0.810681732
Crude Oil	1.836463405	1.694734305	1.083627497	0.33948071

It reveals that the dependent indicator stock market volatility has been found to be favorably associated with the interest rate, money supply, exchange rate and crude oil price variables, though adversely correlated with the inflation rate variable. It refers to a positive change in the variables interest rate, exchange rate, money supply and crude oil prices will lead to positive effect on stock market volatility and vice versa. While a negative variation for interest rate variable will led to a negative effect on stock market volatility and vice versa.The R square value of 0.68 means that 68% percent of the variation in stock market volatility is expressed by the set of independent variables.The value 0.311 is more than 0.05 here in this study and it indicates that there is no significant relationship between stock market fluctuations and independent factors.The above table demonstrates that there is no important association between the volatility of the stock market and all the selected macro-economic variables under study, as the P-value is greater than 0.05 for all the variables.

IV. Conclusion

The current research study observedand made an effort on how well the selected-macroeconomic variables are inter-related with the GCC stock market and to what extend these variables were affecting and resulting the volatility in GCC regions. This study objective was adopted different types of techniques namely, descriptive statistical analysis, correlation analysis, multiple regression analysis and ANOVA for the period of 2011 to 2020 in respect measuring the selected indicators namely, exchange rate, interest rate, money supply, inflation rate, crude oil and stock market volatility. The research also sets out the leveraging impact of the stock market towards macroeconomic variable, which indicates, that any unacceptable or bad news of macroeconomic variables will lead raises in the stock market volatility more. Therefore, the macroeconomic factors are a critical method to examine the effect of this on the capitalization of the stock exchange. In addition, further analysis is then required to investigate the other available macro-economic variables and to gather data for the short-term as this is because the research is exploring only long-term process effect of proving the findings of the previous author and discovering the results. According to our study, it became clear to us that each of the macroeconomic factors affect the stock market fluctuations in a different way, some of which affect positively, and others affect negatively. In addition to that, the percentage of positive and negative impact also varies. Some factors are strongly positively related to the fluctuations in the Gulf stock markets in some Gulf countries, and some are positively related, but more closely to the normal. While in some other Gulf countries, there are significant negative relationships between some macroeconomic variables and fluctuations in the stock market. The reactions of stock market to wards various macro-economic variables is

differing from country to country under study.

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