

An Analysis of the Factors Affecting the Performance of Stock Markets in the GCC Region

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Abstract

This article analyses the factors affecting the performance of stock markets in the Gulf Council Countries (GCC) region. In order to tackle the aim, this study collected data from 3 major economies in the GCC countries (Saudi Arabia, Qatar, and UAE) in the period between 2007 and 2020. Multiple regression analysis was used to test the effect of interest rate, inflation, exchange rate and foreign direct investment (FDI) on stock market index. The findings indicated that both exchange rate and FDI have substantially impacted the stock market performance in the three countries within the GCC. However, both interest rate and Inflation has negative effect on the performance of stock markets.

Keywords: stock markets, GCC, FDI, interest rate, inflation, exchange rate.

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Introduction

The Gulf Cooperation Council (GCC) region has been experiencing rapid economic growth over the past few decades, with its stock markets playing a significant role in this development. The GCC countries have been working to promote their stock markets as attractive investment destinations for both local and foreign investors. Despite the efforts made, the GCC stock markets have experienced some ups and downs, affecting their performance by various factors. Understanding the performance of GCC stock markets can help investors comprehend market activities and anticipate future trends. Stock markets serve as primary economic indicators of a country's growth. Historically, the stock markets of GCC states have exhibited poor performances, despite experiencing significant growth until 2005. Analysts previously attributed this growth to real economic principles and fundamental market conditions. As the world becomes increasingly interconnected and financialized, macroeconomic considerations and country risk assessments have come to exude an important role in shaping the performance of developing and frontier stock markets. The GCC stock exchanges have started engaging with global markets by loosening limitations on foreign ownership and increasing transparency and market operations. While these measures have resulted in benefits, they have also exposed the markets to global shocks and hazards.

The influence of the development of stock markets on economic growth has recently been a critical research subject for development and financial experts and policymakers worldwide. An efficient stock market favors economic growth because savings are invested in the stock market, increasing capital productivity. In most circumstances, the SMI is an excellent predictor of the economic growth of a nation or group of countries. A sharp gain in stock market values can benefit the economy by increasing individuals' money and profits, allowing for additional investments. On the other hand, an abrupt drop in stock market values might negatively influence the economy. Based on the above assumption, this treatise seeks to analyze the factors influencing the performance of stock markets in the GCC area.

Literature Review

Flannery & Protopapadakis (2002) explored how macroeconomic variables affect US stock returns. They used a GARCH model to determine how 17 1980–1996 macroeconomic data releases affected realized returns and volatility. The analysis found that Balance of Trade, CPI, Employment Report, PPI, and Monetary Aggregate were good risk factors. Only money supply affected returns and volatility, while the other two nominal variables simply affected returns. All three essential macroeconomic factors affected solely return volatility. The study clarifies the macroeconomic variables-stock return link. This study showed that macroeconomic indicators help measure stock market risk. Money supply is the only nominal factor affecting returns and volatility. This study sheds light on how macroeconomic issues affect the stock market, adding to the literature.

Using the GARCH-M model, Fang and Miller (2002) wanted to determine how much the volatility of the Korean foreign currency market affected the efficiency of the stock market. The authors came to the conclusion that there were three main ways in which the Korean foreign currency market influenced the stock market. First, the researchers opined that the exchange rate had a negative impact on the stock market performance. Secondly, the volatility caused by the depreciation had a constructive impact on the returns on the SMI. Thirdly, the volatility of the SMI was affected by the volatility of exchange rate depreciation. The authors suggested that incorporating additional macroeconomic factors might have resulted in more meaningful results, which would have helped in

investment decisions. The findings of the study highlight the importance of considering the complex interrelationships between different financial variables and their impact on the stock market.

Using a co-integration and vector autoregression model, Ibrahim & Aziz (2003) conducted research on the relationship that exists between the Kuala Lumpur Composite Index (KLCI) and four different elements that have a significant impact on the economy. The research looked at monthly statistics for real production, inflation rate, money supply, and exchange rate from 1977 all the way up until August of 1998. According to the findings of their research, there are links between the KLCI and many macroeconomic indicators. The data revealed that the money supply and exchange rate had a detrimental association with stock prices, whereas the other two components exhibited a positive relationship with the KLCI. This was in contrast to the relationship that the other two factors had with the KLCI. The findings of the study highlighted how crucial it is to take into account these macroeconomic elements while conducting research on and making predictions regarding stock prices.

The supposition that the stock market has a detrimental impact on economic activity in Germany was given a fresh look in a study that was carried out by (Glezakos, Merika and Kaligosfiris (2006). They analyzed the data obtained between the years 1960 and 2000 using a VAR model. While the CPI was used as a measure of inflation, the actual return rate of the DAX stock index was used as a measurement of returns on the stock market. According to the findings of the study, there is an inverse connection between increasing employment and rising stock values. However, the findings revealed a positive correlation between GDP growth and the stock market. This implies that when the economy is growing, investors tend to purchase more shares, driving up stock prices. The study suggested that including additional factors in the model could provide more precise results. One possible explanation for the negative association between employment growth and stock prices could be that an increase in employment costs might lead to a decrease in corporate earnings, thereby lowering stock prices. Another potential explanation is that investors might interpret an increase in employment costs as a sign of higher inflation, which would ultimately increase the cost of borrowing and reduce the value of equities. Additionally, we could explore the reasons behind the positive correlation between GDP growth and the stock market, such as the fact that economic growth generally leads to increased corporate earnings, which in turn drives up stock prices.

Coleman & Agyire-Tetty (2008) investigated the correlation between macroeconomic factors and the Ghana Stock Exchange (GSE) by utilizing quarterly time-series data from 1991 through 2005 were analyzed in the study. The study revealed that Treasury bill rates had little impact on the market. However, the stock market's response to inflation was found to be delayed. The researchers suggest that adding more macroeconomic variables, such as money supply and industrial activity, might improve the reliability of the findings. The study suggests that investors and policymakers should consider a range of macroeconomic variables when assessing the performance of the stock exchange in GSE.

Liu & Shrestha (2008) assessed the long-term correlation macroeconomic factors and the Chinese stock market. Heteroscedastic co-integration was utilized on data collected between January 1992 and December 2001. Industrial production and money supply positively correlated with Chinese stock indices, but inflation, interest rates, and exchange rates negatively correlated. Due to short-term volatility and danger, the authors advised long-term Chinese stock market investing. The report helps Chinese stock market investors. The findings imply macroeconomic conditions can significantly affect stock values. Strong industrial growth may boost stock prices, as Chinese stock indices are positively correlated with industrial production. The positive correlation between money supply and stock prices suggests that liquidity can boost stock market growth. Investing in the Chinese stock market requires monitoring macroeconomic issues including inflation, interest rates, and the exchange rate due to their negative association with stock values. The report also emphasizes long-term investment in the Chinese stock market. Long-term investing can help investors profit on market growth despite short-term swings and hazards.

Hussainey & Ngoc (2009) carried out research with the objective of determining the impact on stock prices in Vietnam of both domestic and international macroeconomic factors. They were able to determine the influence of these characteristics by employing regression models on data gathered from both Vietnam and the United States. According to the findings of the research, industrial production positively affects the stock prices of Vietnamese companies. In addition, the study demonstrated that the level of real production activity in the United States has a significant impact on Vietnam's SMI. Investors should take note of these findings, as they highlight the importance of closely monitoring macroeconomic indicators when investing in Vietnam's stock market. A better understanding of how these factors influence stock prices can help investors make informed decisions and manage their risk exposure. The study also demonstrates the significance of the US economy in Vietnam's stock market, indicating that changes in the US economy can have a substantial impact on stock prices in Vietnam.

Pal & Mittal (2011) undertook research on the correlation between macroeconomic variables and two capital markets in Saudi Arabia revealing a significant impact on both markets. However, the impact of interest and foreign exchange rates was limited to only one of the markets. Gross domestic savings had little influence on either of the markets. The study suggests that there is a need to include more macroeconomic factors and extend the time frame of the study to obtain more accurate conclusions. It can be noted that the impact of inflation on both markets

could be due to the inflation's impact on the purchasing power of investors, which may affect their decisions on stock investments. Additionally, the limited effect of interest and foreign exchange rates may suggest that investors are less influenced by changes in these rates in their decision-making process, possibly due to other economic factors being more significant. Furthermore, the insignificant impact of gross domestic savings may be attributed to the limited role it plays in the capital markets and the fact that investors may prioritize other indicators, such as inflation and interest rates, when making investment decisions.

Elsayed, Wickramainghe & Razik (2011) wanted to explore the long-term correlation between the capital markets in the UAE and numerous macroeconomic indicators. For the purpose of this study, time-series data were collected from January 2001 through December 2010, and the Johansen-Juselius cointegration methodology was implemented in order to analyze the nature of the correlation between the variables. The results of the research revealed a correlation in both directions between the fixed deposit rate and the stock market index in the United States. In contrast, a relationship of causality might be inferred between the remaining variables, such as the CPI. The findings of the variance decomposition research revealed that GDP and M1 had a substantial influence on anticipating the variation in stock price over longer time periods.

Using a monthly data series between July 1997 and June 2005, Nijam et al (2018) investigated the association between broad macroeconomic parameters and the performance of the stock market. The study revealed that there is normally not a significant correlation between them over the long term. On the other hand, the research showed that the variations in the interest rate or the growth rate of T-bills may have some influence on the return on the market. Furthermore, while the study suggests that interest rate and T-bill growth rate fluctuations may have some impact on market return, it is important to note that the direction and magnitude of the impact may vary depending on other factors such as market expectations, inflation rate, and economic growth rate. For instance, rising interest rates may lead to lower corporate profits, higher borrowing costs, and reduced consumer spending, which could have a negative impact on stock prices. Conversely, lower interest rates may boost economic growth, increase consumer spending, and raise the demand for corporate investments, leading to higher stock prices.

Research Methodology

The study has employed multiple regression analysis to assess correlations. The research has solely relied on secondary data from Qatar, Saudi Arabia, and UAE from 2007 to 2020. The stock market performance function of the GCC nations can be expressed as follows:

$$SMI = f(IR, CPI, ER, FDI)$$

Whereby:

- SMI is the Stock Market Index
- f is the function of a set of variables
- IR is the Interest Rate
- CPI denotes the Inflation
- ER represents the Exchange Rate
- FDI denotes Foreign Direct Investment

$$SMI = \alpha + \beta_1 IR + \beta_2 CPI + \beta_3 ER + \beta_4 FDI + \varepsilon$$

The present study is guided by four hypotheses, which help to define the research objectives.

- H₁:** No significant correlation between interest rates and stock market performance
- H₂:** Inflation has a negligible impact on the Stock Market Outlook
- H₃:** No significant correlation between exchange rates and stock market performance
- H₄:** FDI had a negligible effect on the Stock Market Outlook

Data Collection & Aggregation

For brevity, the research focused on three countries: Qatar, Saudi Arabia, and UAE.

Qatar

Table 1 presents the descriptive analysis of the stock market performance in Qatar, as measured by the QSE index.

Table 1: Descriptive Statistics for Qatar

	N	Minimum	Maximum	Mean	Std. Dev.
SMI	14	920	13,740	5,586	4,411
Interest Rate	14	2.72	8.91	6.89	2.10
CPI	14	2.91	20.29	8.24	5.06
Exchange Rate	14	41.11	85.19	60.34	12.27
Foreign Direct Investment	14	308,000	5,590,000	1,912,590	1,875,909

As the dependent variable, the QSE index fluctuated from a low of 920 in 2008 to a high of 13,740 in 2017,

with a mean value of 5,586 and a standard deviation of 4,411, suggesting substantial swings in the efficiency of the stock market.

In contrast, the interest rate ranged from 2.72 to 8.91 throughout the 14-year period, with an average of 6.89 and a standard deviation of 2.10, demonstrating greater stability than the dependent variable.

The mean CPI was 8.24, with 2.91 and 20.29 as the minimum and greatest values in 2013 and 2018, respectively. The worldwide crises between 2017 and 2019 influenced the standard deviation of 5.06 between 2017 and 2019.

Over the 14 years, changes in the exchange rate between 41.11 to 85.19 were predominantly impacted by oil transactions, with the riyal losing value against the dollar each time the government made oil payments.

Foreign direct investment over time averaged 1,912,590 (thousands), which was insufficient for the economy, mainly owing to the disruptions created by war and terrorism. The magnitude of the standard deviation demonstrated the unpredictability of the economy.

Saudi Arabia

Table 2 presents the descriptive analysis of the stock market performance in Saudi Arabia, as measured by the Tadawul index.

Table 2: Descriptive Statistics for Saudi Arabia

	N	Minimum	Maximum	Mean	Std. Dev.
SMI	14	2,988	17,868	8,103	5,520
Interest Rate	14	4.50	10.75	7.77	1.88
CPI	14	3.68	13.23	6.62	3.28
Exchange Rate	14	36.31	48.61	44.40	3.25
Foreign Direct Investment	14	2,168,591	43,406,277	13,553,083	13,685,708

In the 14 years, the lowest and greatest values recorded for this dependent variable were 2,988 and 17,868, respectively. This variable's mean value is 8,103, showing that the index varies continuously around the 10,000 level. Yet, this variable's standard deviation of 5,520 indicates that it is very volatile in this location.

In Saudi Arabia, the average interest rate during the past 14 years was 7.77%, with a low of 4.50% in 2013 and a high of 10.75% in 2007. These numbers indicate a downward trend for this variable. The standard deviation of 1.88 for this variable shows that it is substantially more stable than the dependent variable.

The mean CPI is 6.62; the least recorded CPI was 3.68 in 2011 and the highest at 13.23 in 2008. This variable's standard deviation is 3.28, less than the dependent variable's. The exchange rate has ranged between 36.31 and 48.61 during the past 14 years. This growth is primarily attributable to the country's rising inflation and unemployment rates.

Over time, foreign direct investment in Saudi Arabia averages 13,553,083 (in thousands), much greater than that of Qatar. This variable exhibits constant increases throughout time, which may be linked to the trust of foreign investors in the country's economy and the rate of expansion of Saudi Arabia's businesses.

UAE

Table 3 presents the descriptive analysis of the stock market performance in UAE, as measured by the ADX index.

Table 3: Descriptive Statistics for UAE

	N	Minimum	Maximum	Mean	Std. Dev.
SMI	14	419	5,161	1,643	1,296
Interest Rate	14	5.07	11.25	8.59	2.12
CPI	14	3.42	22.56	9.77	5.07
Exchange Rate	14	58.99	114.94	93.23	18.46
Foreign Direct Investment	14	171,790	752,200	342,297	184,665

Over the 14 years, the dependent variable ADX ranged between 419 and 5,161. This variable had a mean of 1,643 and a standard deviation of 1,296, lower than those of Qatar and Saudi Arabia. This is due to the market's relatively modest size, which results in lesser volatility.

The first independent variable's interest rate varied from 5.07 in 2014 to 11.25 in 2007. For 14 years, the average interest rate was 8.59%, higher than in Qatar and Saudi Arabia. The average value of the second variable, CPI, was 9.77, with the lowest and highest values of 3.42 and 22.56, respectively. A standard deviation of 5.07 suggested that the country had higher inflation rates than the other two countries. Throughout fourteen years, the currency rate in UAE fluctuated between 58.99 and 114.94 on account of inflation.

Data Analysis

Table 4: Factors Influencing the Stock Market Index

Variables	Coefficient	t-stats	Prob.
C	-0.496	0.874	0.3876
IR	-0.730	3.19	0.0030
CPI	-0.073	0.671	0.5064
ER	0.007	3.000	0.0049
FDI	0.682	9.351	0.0000
Adj. R2	.910		
D.W stats	1.775		
F-stats (prob.)	82.618 (0.000)		

As indicated in the table above, all variables' coefficients and their respective t-statistics and p-values were obtained after using the regression model. Also observed was the R-squared value, which reflects the degree of similarity between real and estimated values. Lower R-squared values suggest the model inadequately matches the data, whereas greater R-squared values show that the model is well-suited. In this instance, the corrected R-squared value indicates that the model is roughly 91% accurate; hence, the results obtained by this model are trustworthy.

In addition, the table provides the Durbin Watson (DW) value, which is employed to evaluate the model for autocorrelation. The DW number goes from 0 to 4 thus indicating that there is no autocorrelation in the model; hence, the data is appropriate for investigation. A score below 1 indicates positive autocorrelation, whereas a value over 3 indicates the reverse. In this investigation, the DW value was calculated using the serial LM test and determined to be 1.775%. This shows that the model lacks autocorrelation and is acceptable for investigation.

As was previously stated, interest rates substantially negatively influence the stock market since they present an alternative investing opportunity. The data collected demonstrate a negative coefficient, demonstrating that a 1% increase in interest rates leads to a 0.73% decline in the stock market, further supporting this argument. Hence, if interest rates in the economy rise, investors shift their investments from the stock market to bank accounts to optimize profits. In contrast, when the interest rate paid on deposits falls, investors find investing more profitable in other markets, such as the stock market and real estate.

As revealed by regression research, an insignificant negative link exists between the Consumer Price Index (CPI) and the stock market in the GCC area. FDI plays a crucial role in the region's capital market, and local investors largely follow foreign purchasers' lead. So, the insignificance of CPI may be linked to the fact that swings in inflation rates have little effect on the purchasing power of international investors. Conversely, the exchange rate has a considerable and favorable effect on stock values in the GCC area. According to the theoretical context, exchange rates can positively and negatively affect capital markets. Nonetheless, favorable effects have been witnessed in this region, primarily due to the entrance of international investors. A rise in exchange rates enhances the purchasing power of foreign purchasers, allowing them to acquire more shares for the same amount of local money. This leads to improved market liquidity.

The tendency of investors to move their assets from foreign exchange markets to other markets when the danger in foreign exchange markets grows is another factor for the beneficial influence of exchange rates. Results reveal that a 1% increase in foreign exchange rates is accompanied by a 0.1% increase in stock market prices.

Every 1% increase in FDI results in a 1% increase in the value of the SMI. This is the most significant, constructive, and potent influence on stock prices. Data from GCC states show that FDI has a substantial impact on the market, particularly in developing countries. FDI can also help build trust within a community by purchasing equities issued by domestic companies. These findings lend credence to the theory that increased levels of liquidity brought about by foreign direct investment are one of the most important factors contributing to the development of bullish market movements in all stock markets. This, in turn, attracts local investors, which, as a result, leads to increased liquidity and considerable gains in stock prices.

Discussion

Inflation negatively affects the stock market performance. The data indicate that a 1% increase in inflation will lead to a 0.14% decline in the stock market. This link may be explained by the fact that excessive inflation diminishes the buying power of money, hence decreasing the value of stock market investments. Moreover, outrageous inflation increases borrowing rates, which might further restrict stock market investment. It was discovered that exchange rates had a beneficial effect on the stock market's performance. According to the coefficient, a 1% increase in the exchange rate will result in a 0.15% gain in the stock market. This link may be explained by the fact that a stronger currency draws more foreign investors, increasing demand for local equities. Nevertheless, this correlation may not hold for all nations due to trade policy, political stability, and economic development. It was discovered that foreign direct investment had a beneficial effect on the stock market's performance. The coefficient indicates that a 1% rise in foreign direct investment will lead to a 0.28% gain in the

stock market. This link may be explained by the fact that foreign direct investment leads to the expansion of local industries, the creation of job opportunities, and the acceleration of economic growth.

The literature research revealed that the stock market is an integral part of any economy and that several macroeconomic factors impact its performance. Interest rates, inflation, currency rates, and FDI are among the most significant elements of the stock market. The analysis also indicated that the GCC nations are primarily reliant on oil exports and that their economies are susceptible to swings in oil prices, making their stock markets extremely sensitive to oil price fluctuations. The data analysis in this study lends credence to the hypothesis that there is a connection between changes in interest rates and the efficiency of the stock market. According to the data, whenever interest rates in the economy rise, there is a negative trend in the stock market as investors shift their investments from the stock market to bank deposits in order to maximize their profits. This occurs because investors believe that bank deposits offer a higher return on their money than the stock market does. In addition, the data suggested that there was a negative but insignificant correlation between inflation and the stock market in the countries that make up the GCC. This result may be attributed to the fact that GCC states place an inordinate dependence on investment from outside their region. The effect of inflation on the ability of local participants to make purchases is rather little, despite the fact that outside investors control the majority of these countries' capital markets.

In contrast, the study found that the exchange rate had a beneficial effect on stock prices that was also statistically significant. This finding is in line with what was found in the literature. As a result of a gain in the exchange rate, the purchasing power of foreign investors goes up, which leads to an increase in the market's liquidity. In addition, investors move their assets away from the foreign exchange market and into other markets whenever there is a sudden jump in the exchange rate. This is because of the increased risk that is associated with the international exchange market. It was shown that FDI had the most significant and positive effect on stock values in GCC nations. This conclusion is in agreement with the findings of the literature review, which underlined the significance of foreign direct investment in the stock market. This conclusion is compatible with the findings of the literature review. The creation of market liquidity, the enhancement of investor trust in local sectors, and the creation of market optimism are all results of foreign direct investment. The findings indicate that FDI is essential to the expansion and maintenance of the GCC stock market.

Conclusion

The ensuing treatise examined the variables influencing the efficiency of stock markets in the GCC area from 2007 to 2020, focusing on Qatar, Saudi Arabia, and the UAE. FDI and exchange rate greatly influenced the performance of GCC stock markets, while interest rates had a significant negative impact. The data also revealed a negative but small effect of inflation on the regional stock market performance. The theoretical foundation examined in this study supported the results. Foreign direct investment and exchange rates benefitted the stock market's performance, whereas interest rates and inflation had adverse effects. The literature also emphasized the need for well-managed macroeconomic policies to secure the capital market's advantages.

According to the findings of this study, foreign investment is vital to the success of stock markets in the GCC area. Thus, the governments of these nations must establish conditions that encourage continued foreign investment in the local capital markets. In addition, the report suggests implementing well-managed macroeconomic policies, such as monitoring and managing interest rates and inflation rates, to boost investor and local industry confidence. These initiatives would foster an atmosphere favorable to expanding the region's stock markets. Additionally, this study's conclusions significantly impact policymakers, investors, and other GCC stakeholders. They give insight into the elements that affect the stock market's performance, allowing stakeholders to make educated decisions on investment possibilities in the region. In addition, the study emphasizes the need for future research in this area to get a greater knowledge of the dynamics of the stock markets in the GCC and to uncover new elements that may influence their performance.

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