Obour Institute Journal
for Engineering and Technology (OI-JET)
Journal homepage: https://oijet.journals.ekb.eg
Volume (2), Issue (1), December 2024

The Relationship Between Gulf Stock Market Indices and The Egyptian Stock Market Index

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Received August 12, 2024, Revised September 5, 2024, Accepted September 15, 2024

Abstract

This study aims to find out the reciprocal relationship between the main indicators of the Gulf financial markets and the Egyptian market. The researcher used correlation analysis of the research variables to test the hypotheses statistically, as the time series of the monthly values of the Egyptian financial market index, and the time series of the values of the Gulf financial market indicators, were used during the period From May 2018 to April 2023, representing 60 observations in each time series, the researcher found positive and inverse correlations between a number of variables and each other.

Keywords: *Saudi stock market, TASI index, Dubai stock market, Abu Dhabi stock market, Kuwait stock market, Bahrain stock market, Oman stock market, Qatar stock market, Egypt stock market, diversification, risks, correlation between markets, regression analysis.*

1- The Introduction:

The stock market plays an important role in meeting investors' needs for funds and also provides the opportunity to profit from trading operations. It is also considered a mirror of the economy. With globalization, the flow of money between international stock markets has increased (Obadan, 2006), which makes different markets affect the performance of Each other, (Forbes & Et.Al, 2001), (Joyo & Leven , 2019), and with the global financial crises since the late 1990s, markets began to move together, which affected the strategies of international portfolio managers (Francis, 2013), as stock markets became International markets become more closely linked over time (Manopimoke et al, 2018), which led to a decrease in the benefits of international diversification of portfolios for the purposes of risk reduction (Gupta & Guidi 2012), as with the occurrence of a common movement in international markets up and down, it becomes difficult to reduce risks by diversifying between International markets, and this phenomenon has been given several names, such as the joint movement of markets, correlation between markets, integration between markets, or even in some research it is called synchronization (Marashdeh, 2011), (Walti, 2006), most research has focused on the extent of the presence of an influence on And the correlation between developed markets, as there are few opportunities to reduce portfolio risks using diversification among these markets. Other research has focused on the impact and correlation between developed and developing markets, especially with the growth of East and Southeast Asian markets, (Carvalho & Et.Al. 2019), all so that investors and portfolio managers can find markets that are less interconnected and thus can diversify their investments among these

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Print ISSN, 2974-4539, Online ISSN: 3062-5270

markets in order to reduce the systematic risks in their portfolios. This, as the famous modern portfolio theory suggests, is that investors try to find markets that are less integrated. They are the ideal markets for obtaining the highest risk-adjusted returns (Markowitz, 1952), but the Arab stock markets and the correlation between them and the impact of the movement of the largest markets in them, especially the Saudi market, on the rest of the markets have not been studied, despite the importance of such Studies for regional portfolio managers, so that they can effectively diversify their investment portfolios to reduce their risks.

2- Previous Studies:

2/1-Research that addressed the impact of some economic variables on financial market indicators:

Many studies have addressed the impact of both inflation and interest rates on money market indicators. (Al-Rimawi & Kaddumi, 2021).

By studying the impact of some selected macroeconomic variables (inflation rate (INR), interest rate (IR), economic growth rate (EGR), foreign investment (FI)) on the fluctuations of the Amman Stock Exchange (ASE) in the period from 1999-2018, it showed Results: There was no statistically significant effect of INR, IR, EGR, and FI combined on the performance of the ASE individually. The results indicated that there was a statistically significant effect of the variables combined (INR, IR, EGR, FI) on the performance of the Amman Stock Exchange, in addition to that. The results concluded that foreign investment is the most influential factor on the performance of the Amman Stock Exchange, followed by the change in the average interest rate, then the inflation rate, and the least influential was the economic growth rate. Neupane (2018) also studied the impact of the interest rate on the stock market. Finance and trying to find the effect of the bank interest rate on the stock market return, the nature of investors to invest in stocks, the difference between the stock market return and the short-term interest rate, and the effect of the deposit interest rate on the stock market return in Nepal. The results have supported What previous studies have found is that there is a significant and negative relationship between the interest rate and the stock market. Thang (2009) also studied the effect of the exchange rate and interest on the stock market index, but in Malaysia, and the test results were consistent with prior expectations, as he found that the interest rate and the exchange rate have a negative impact on the stock market index in the long run, as well as on... Short-term. Zubair (2013) also estimated the causal relationship between the ASI stock market index and monetary indicators such as the exchange rate and the M2 monetary volume index, and the results indicated that there was no long-term relationship before and during the crisis. Granger causality tests show a one-way causality extending from M2 to ASI before the crisis, while during the crisis period there is no causal relationship between the variables. This indicates that the ASI appears in response to M2, and this absence of a direct correlation between the ASI and the exchange rate shows that the market is ineffective and may not be guided by the financial fundamentals of the shares. As for (Prakash, 2001), he focused in his study on the reciprocal relationship between the stock market and the nominal exchange rate in India has addressed the question of whether changes in stock market volatility affect volatility in the foreign exchange market or vice versa. The empirical analysis of one of the main stock market indicators supported the emergence of a hypothesis of the existence of links in the process of volatility from the foreign exchange market to the stock market, but not vice versa.

Hosseini et al., 2011 also studied the effect of money supply on market indicators,as they investigated the relationships between stock market indicators and four macroeconomic variables,

namely the price of crude oil (COP), and the money supply (M). , industrial production (IP) and inflation rate (IR) in both China and India, and the period covered by this study was between January 1999 to January 2009, and the results indicated the presence of long and short-term links between the four macroeconomic variables and the stock market index in each. From these two countries. (Laszlo, 2021) made an attempt to identify the relationship between both the stock market index and the GDP index in the short term in times of crises, in the European Union countries, where the results were that the two indicators did not change together and did not move in the same direction, and that There is a negative correlation coefficient in the European Union countries as a whole of -0.16028, which means that the indicators have moved in the opposite direction, as the study found that among the 27 member states, 23 countries were characterized by this opposite movement. Yartey (2008) also studied the impact of some macroeconomic factors on the stock market, and found that macroeconomic factors such as income level, gross domestic investment, banking sector development, private capital flows, and stock market liquidity are important determinants of stock market development. In emerging market countries, the results also show that political risk, law and order, and bureaucratic quality are important determinants of stock market development because they enhance the market's susceptibility to external financing. (Cappiello et al., 2008) investigated whether the joint movement of stock returns in the euro area at the national and industrial levels changed after the introduction of the euro currency. They found that the joint movement of national stock markets in the euro area was enhanced and that the increase in movement The cross-national indicators were mainly driven by the financial, industrial and consumer services sectors. Khositkulporn (2013) identified the dominant factors affecting the volatility of the stock market in Thailand and measured the effects of the transmission of volatility from the stock market in Thailand to other stock markets in Southeast Asia. The result of the factors affecting the volatility of the stock market in Thailand shows that The US S&P 500 index had a significant impact on the stock market in Thailand, followed by the BSI index and oil prices. The results of the study also indicate that major stock market movements and political uncertainty have direct effects on stock market fluctuations. Both (Singh & Thaker, 2016) analyzed The various indices of the Bombay Stock Exchange in India, in terms of the characteristics of risk returns, their relationships, and predictability, in order to address the neglect in studying this point in previous studies. The study found that there is a significant impact of other indices on the market index, and that the returns of the various indices are closely related and can be predicted. With help.

2/2 A group of studies that dealt with the impact of the main financial market index on some other variables:

Many researches (Greenwood & Sammon, 2022), (Bankovica & Pranevics, 2017), (Pyemo, 2007) have addressed the issue of reconstructing stock indices periodically and how changes in the composition of the index can affect the performance of companies or achieve abnormal returns for companies that add Its shares are added to the index or dropped from it, as the results show that there are large abnormal returns on the day of the announcement of inclusion in the index, and investments in these stocks will gain on average 5.1% in the following month, as there is a stronger impact of the announcement of the listing than the listing process itself. (Pradhn et al., 2013), they studied the causal relationship using the Granger test to investigate the link between stock market development, economic growth and inflation separately, and the results revealed that these variables are combined, which suggests the existence of a long-term equilibrium relationship between them. He also (Masoud, 2013), by exploring the causal

relationship between stock market performance and economic growth through the framework of simple theoretical and empirical literature, and the results indicated that there is a positive relationship between efficient stock markets and economic growth, whether in the short or long term, and there is evidence of the existence of a mechanism Indirect transmission through the impact of stock market development on investment. Prakash (2001) also addressed the question of whether changes in stock market volatility affect fluctuations in the foreign exchange market or vice versa, and proved the existence of links in the volatility process. From the foreign exchange market to the stock market but not vice versa.

3- Summary of Previous Studies:

There is a phenomenon of increasing joint movement between developed and emerging stock markets, and therefore the benefits of international diversification have become limited.
China's stock market has a high correlation with other Asian emerging markets.
There is a common movement between the American and Brazilian markets and the Asian markets (Japanese and Hong Kong).
The continued integration of the capital market in the Southeast Asian region would mitigate the benefits of portfolio diversification for investors by increasing the correlation between securities and assets.
There are abnormal returns achieved for the shares of companies that are listed in the general index of the stock exchange.
There is a positive relationship between effective stock markets and economic growth.
The existence of links in the process of fluctuation from the foreign exchange market to the stock market, but not vice versa.
Among the member states of the European Union, 23 countries were characterized by an opposite movement between the financial market index and the gross domestic product.
There is an impact of some selected macroeconomic variables (inflation rate (INR), interest rate (IR), economic growth rate (EGR), foreign investment (FI)) on the fluctuations of the Amman Stock Exchange (ASE) in the period 1999-2018.
There is a significant and negative relationship between the interest rate and the stock market.it was found that the interest rate and exchange rate have a negative impact on the stock market index in the long run as well as the short run.
Political risks, law and order and bureaucratic quality are important determinants of stock market development because they enhance the market's susceptibility to external financing.

4- Research Gap:

We find that most foreign research has dealt with the impact of some economic variables on the change in the stock market index, and there are some that have dealt with the issue of the mutual influence of stock market indices in a specific region such as Europe and Southeast Asia, and there is also some research that has dealt with the relationship between the United States index and And some developing countries.

However, we note that with regard to Arab research, there is an extreme scarcity of research that has dealt with this topic, so in light of the researcher’s knowledge, the topic of the impact of one of the regional or Gulf stock market indicators on the rest of the regional markets has not been addressed, or the correlation between these markets has been addressed, despite the importance of identifying it. This relationship in a scientific manner.

5- Research Problem:

To what extent is there a reciprocal correlation between Gulf financial market indicators and Egypt?

6- Research Hypotheses:

There is no statistically significant correlation between the indicators of the Gulf financial markets and the Egyptian market with each other.

7- The Importance:

An attempt to clarify the importance of studying the movement of financial market indices and the impact of their movement on the rest of the regional financial market indices.
The practical importance of the research stems from the importance of diversification operations between financial markets in international portfolios, as investors and portfolio managers' knowledge of the correlation between regional markets provides the opportunity to carry out portfolio diversification operations between markets that lead to effective risk reduction.
Supporting the investment decision, whether to buy or sell, to investors and portfolio managers in regional stock exchanges through the prediction models that have been developed.

8- Objective:

Identify the reciprocal relationship between Gulf stock market indices and the Egyptian market

9-Study Approach:

The researcher followed the descriptive analytical approach to identify the theoretical aspect of the processes of reducing stock portfolios through international diversification operations. As for the applied aspect, the researcher used the standard statistical approach.

10- Theoretical Framework for The Research:

10/1 Definitions:
Definition of stock index: It is an index to measure stock prices in the market in general on a daily basis. Or it is a cumulative statement indicating the overall performance of the market (Saad, 2014).
- Stock portfolio:
It is a collection of several securities of different types and maturity dates, which the investor holds and manages to obtain a return and the possibility of converting them into liquidity when needed. (Shaoufi, 2020).

10/2 Portfolio diversification and international diversification operations:

Diversification is defined as a balancing strategy in which a trade-off is made between risks and returns that are adjusted by combining a group of assets whose returns are expected to be less correlated with each other (Aimprasittichai & Tanyatorn, 2015), while knowing the acceptable range of risks for investors. The principle of diversification is to reduce risk by combining assets with uncorrelated returns into a single portfolio and thus, portfolio risk will be eliminated. However, since assets react to the same innovations and influences, they are interconnected to some degree and portfolio risk cannot be completely eliminated by diversifying into the same

market (Fabozzi, 2011), unless we diversify between several markets, as research has shown (Tirimisiyu, 2018). Diversifying the stock portfolio between American and British stocks and one of the African countries can reduce the risks of the impact of financial shocks by owning approximately 25:10% of the portfolio's shares in the African market.

Diversification can be achieved further by diversifying into stock markets in different countries. Krapl (2015) studied all the benefits of international diversification. The results were all in the same direction that investing internationally has the potential to reduce portfolio risk and promote greater capital gain opportunities. The reasons behind international investments are those structural and cyclical differences in economies that enhance opportunities to reduce risks. If one market performs worse than expected, it is likely that other markets will perform better than expected, and given the assumption of uncorrelated stock markets, investing in a better performing market will certainly reduce risks and losses.

Modern Portfolio Theory (MPT), derived from the idea of diversification, states that investing in more than one type of asset can benefit investors when

they diversify and thus reduce the volatility of the entire portfolio (Markowitz, 1952) (Nobel Prize winner). When the portfolio is more diversified by including assets from different categories or countries, the correlation of portfolio assets should be low, and thus the risk bias is lower. Knowing that the more the investor wants to obtain a higher return, the greater the risk he has to take (Bradford, J. & Miller, T., 2009), (Mangram, 2013). A good portfolio based on this theory is a balanced mix that results in the highest level of satisfaction. For the investor with the best risk-return trade-off, based on investors' risk aversion and demand for the highest return at the same level of risk. This trade-off can be seen as the efficient frontier, which depicts the relationship between the best return an investor can afford, based on an acceptable level of risk. In order for a portfolio to be effective, the portfolio must pay investors the highest level of return for a given level of risk. If these requirements are met, this portfolio is certainly on the efficient frontier (Kierkegaard et al, 2006).

$$\sigma_p^2 = w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2Cov_{1,2}$$

10/3 Measuring the risks of a portfolio that contains two assets:

A security's risk is measured in terms of the variance or standard deviation of its returns. Portfolio risk is not just a measure of the weighted average risk of the stocks in the portfolio, because the securities in the portfolio are related to each other, and portfolio risk must also take into account the variance of the respective returns between the portfolio stocks. The covariance between two securities is a measure of co-movement that expresses the degree to which the securities diverge from each other. The variance for two stocks in the same portfolio is done by applying the following equation, (Ngongo, et al., 2020):

Portfolio variance $\sigma_p 2$

It is the relative weight of stock 1 in the portfolio w1

$COV_{1,2} = p_{(1,2)}\sigma_1\sigma_{,2}$

The relative weight of stock 2 in the portfolio w2

Standard deviation of the first stockσ1

Standard deviation of the second stockσ2

Covariance between arrows 1 and 2 Cov1,2

Knowing that the variance is calculated through:

Where (1,2) p is the correlation coefficient between shares 1 and 2
From this it is clear that the gains from risk reduction through diversification depend directly on the extent of the correlation between the returns of the stocks that make up the portfolio, and the diversification process is ideal whenever the stocks show a negative correlation with each other in returns. Then, if a stock declines and achieves losses, the stock The other is likely to rise and achieve gains, and in this case the average return is less risky than when investing in only one of the two stocks.

11- DESIGNING THE EXECUTIVE FRAMEWORK FOR THE RESEARCH:

11/1 Research community determinants:

11/1/1 The monthly values of the main index of the Saudi capital market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

11/1/2 The monthly values of the main index of the Egyptian stock market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

11/1/3 The monthly values of the main index of the Dubai Capital Market in the period from May 1, 2018 to April 1, 2023, to be a time series of 60 individuals.

11/1/4 The monthly values of the main index of the Abu Dhabi Stock Market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

11/1/5 Monthly values of the main index of the Kuwaiti capital market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

11/1/6 Monthly values of the main index of the Omani capital market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

11/1/7 The monthly values of the main index of the Qatari financial market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

11/1/8 The monthly values of the main index of the Bahraini capital market in the period from the first of May 2018 to the first of April 2023, to be a time series of 60 individuals.

12- Data Collection Methods:

Documentary survey of the Egyptian Stock Exchange reports published on the Internet, to know the monthly values of the EGX30 index of the Egyptian Stock Exchange, and as for the values of the Gulf financial market indices, through the Investing website.

13- Executing The Search:

13/1 Introducing the variables used in the proposed study models:

Variable name	Variable symbol
values the Saudi Stock Market Index	TASI
Dubai Financial Market Index values	DFMGI
Abu Dhabi Stock Market Index values	FTFADGI
Kuwait Stock Market Index values	BKP
Bahrain Stock Market Index values	BAX
Oman Stock Market Index Values	MSX30
Qatar Stock Market Index values	QSI
Egyptian Capital Market Index Values	EGX30

Table (1): Introduction to the variables used in the proposed study models

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maximum value	minimum value	standard deviation	arithmetic mean	Variable name
13734	6505	1814.244	9549.10	TASI
3720	1771	433.069	2824.67	DFMGI
10552	3735	2198.872	6582.95	FTFADGI
9308	4691	1202.970	6733.65	BKP
2074	1266	234.105	1588.00	BAX
4863	3448	372.578	4094.75	MSX30
13591	8207	1248.518	10705.75	QSI
17002	9226	2212.298	12573.23	EGX30

Descriptive Statistics:

First, we conduct a set of statistical tests on the explanatory variables represented in the study model and on a sample of 60 observations, and this what the following table shows:

Table (2): Descriptive statistics for the explanatory variables

EGX30	QSI	MSX30	BAX	BKP	FTFADGI	DFMGI	TASI	name
							1	TASI
						1	0.803**	DFMGI
					1	0.869**	0.902**	FTFADGI
				1	0.930**	0.797**	0.893**	BKP
			1	0.977**	0.941**	0.847**	0.864**	BAX
		1	0.478**	0.369**	0.568**	0.755**	0.361**	MSX30
	1	0.322*	0.821**	0.855**	0.816**	0.771**	0.903**	QSI
1	-0.348**	0.562**	-0.107	-0.229	-0.119	0.219	-0.301*	EGX30

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:Correlation

Table (3): Correlation matrix between model variables

From the previous table it is clear that:

• As for the TASI index: There is a positive, statistically significant correlation at the 1% level of significance between the TASI index and the rest of the indicators, except for the EGX30 index, where the correlation was negative and significant at the 5% level of significance.

• As for the DFMGI index: There is a positive, statistically significant correlation relationship at the 1% level of significance between the DFMGI index and the rest of the indicators, except for the EGX30 index, where there is no significant correlation relationship at the 1% and 5% level of significance.

• As for the FTFADGI index: There is a positive, statistically significant

correlation at the 1% level of significance between the FTFADGI index and the rest of the indices, except for the EGX30 index, where there is no significant correlation at the 1% and 5% level of significance.

• As for the BKP index: There is a positive, statistically significant correlation at the 1% level of significance between the BKP index and the rest of the indices, except for the EGX30 index, where there is no significant correlation at the 1% and 5% level of significance.

• For the BAX index: There is a positive, statistically significant correlation at the 1% level of significance between the BAX index and the rest of the indices, except for the EGX30 index, where there is no significant correlation at the 1% and 5% level of significance.

• For the MSX30 index: There is a positive, statistically significant correlation at the 1% level of significance between the MSX30 index and all the rest of the indices except the Qatar index, where the relationship is significant at 5%.

• As for the QSI index: There is a positive, statistically significant correlation relationship at the 1% level of significance between the QSI index and the rest of the indicators, except for the EGX30 index, where there is a negative, significant correlation relationship at the 1% level of significance.

14- RESULTS:

There are no correlation relationships between all Gulf stock market indices on the one hand and the Egyptian Stock Exchange index on the other hand, except for the Saudi and Qatari index, as there is a negative correlation relationship between them and the Egypt index, and as for the Omani index, there is a positive correlation relationship between it and the Egypt index.

15- RECOMMENDATIONS:

-An attempt to generalize the results of the research to all investment funds and institutional investors, whether regional or international, to exploit these results to effectively diversify their

investment portfolios in securities between stock exchanges that have a negative correlation, with the aim of reducing the systematic risks of the portfolio.

-Disseminating the results to individual investors, especially Gulf ones, to

introduce the correlation transactions between the Egyptian Stock Exchange and the rest of the Gulf stock exchanges and how investing in them during periods of decline in the Gulf stock exchanges constitutes an opportunity to work on stabilizing their portfolios.

-Stock exchange officials and decision makers attempt to promote investment in the Egyptian Stock Exchange by foreign investors.

-Trying to stimulate international investment in the Egyptian Stock Exchange by increasing the number of offerings for companies on the stock exchange.

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