



EFFECT OF STOCK'S ALTERNATIVE ASSETS ON THE STOCK MARKET IN IRAQ

Naseer Faisal Najm ¹

Ghufraan Shallal Mohammed ²

Muaamal Hussein Jwesim ³

Technical Institute of Al-Diwaniyah, AI-Furat Al-Awsat Technical University (ATU), Iraq, naseer.najm@atu.edu.iq ¹,
ghufraan.mohamed.idi6@atu.edu.iq ², dw.mol@atu.edu.iq ³

| Article history: | Abstract: |
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| Received: 6 th July 2024 Accepted: 4 th August 2024 | The stock exchange is one of the components of the financial market and one of the most important institutions of the capital market, which plays an important role in equipping savings resources in investments and the financial needs of production units. Given that investment is one of the necessities in the process of economic growth of any country and is one of the important factors of development in this century. It can be concluded that the stock exchange is part of the economy that is related to other sectors of the economy and can play an important role in the economic growth and development of a country. The stock price index and its return have always been affected by economic variables and the recession and stock market boom are also strongly affected by the fluctuations of these variables, so in this study, we will examine this issue. |

Keywords: Stock market, Iraq, Stock's Alternative Assets

INTRODUCTION

The stock exchange is one of the components of the financial market and one of the most important institutions of the capital market, which plays an important role in equipping savings resources in investments and the financial needs of production units. Considering that investment is one of the necessities in the process of economic growth of any country (Namazi and Khajavi, 2004) and is one of the important factors of development in the present century (Malekian et al., 2010) It can be concluded that the stock exchange is a part of the economy that is related to other sectors of the economy and can play an important role in economic growth and development of a country. The stock price index and its returns have always been under the influence of economic variables and the recession and boom of the stock market are also strongly affected by the fluctuations of these variables.

Identifying the factors affecting the stock price and analyzing the price behavior of the stock in the face of these factors can help to improve the prosperity of the capital market and be effective in better evaluating the stock market and improving and controlling its performance. This, in turn, can address a major part of the problems of investors and shareholders. If, as a solution, one can measure the effects of fluctuations in alternative stock assets on the stock price index, it may be possible to identify some aspects of the stock market and the factors influencing its success (Taghavi et al., 2008).

Because based on the theory of holding assets in the investment basket or the same as the portfolio theory, people in their financial portfolio, in addition to shares, also hold different combinations of cash, bank deposit, currency, and gold. Any fluctuation in one of these assets can affect the stock price index and its return. The importance of studying the effect of changes in money supply, bank interest rates, exchange rates, gold prices, and housing prices on the stock price index is determined. Any change in these assets as competing and substitute assets in the investors' portfolio has affected the demand for shares in the portfolio and As a result, it affects the stock price index (Sharp, 1995)

Given the importance of this issue in the theoretical framework of the portfolio and also considering that one of the most important priorities of the stock exchange is to identify different sources affecting the stock and evaluate the impact of different stocks of these resources, To be able to create a relationship between these variables and the share of investors to encourage more investment in the stock market and thus have a share in the economic growth of the country.

Therefore, studying how the stock of active industries in the Iraqi Stock Exchange is affected by these assets has been very important, and considering that today investors place a wide range of factors for choosing an investment, The results can pave the way for investors seeking to maximize their wealth (Bahramfar and Shams Alam, 2004) and also lead to improved investor decision-making and optimal resource allocation (Pourheidari, 2010).

- Iraq Stock Exchange Structure

There are two categories of markets on the Iraq Stock Exchange. The first market is the main market. Only recently issued stocks are traded on the primary market, which serves as a means of capital raising for corporations and is where



buyers and sellers interact directly. The second category consists of stocks that have already been issued and are being traded on the secondary market (Guerard, 2013). This company offers a market for securities, debtors' shares, and company shares. This procedure and system allows companies to obtain funding and makes it easier for ownership of the investments to transfer (Edmonds, Tsay, Olds, 2009).

In the primary markets, securities and initial public offerings are made available to consumers and investors for the first time. The goal is to make the most money out of these recently issued securities that are traded between buyers and sellers in the primary market. Stocks and shares will be traded on the secondary market after the initial public offering. In order to balance the surplus and deficit in the various needs of the industry, this process and mechanism serve as a conduit for the transfer of investments and funds from the various economic sectors. Additionally, the primary market traders are motivated to purchase shares in order to profit from them later on by the secondary market trading (Guerard, 2013).

Up until now, the Iraq Stock Exchange has not been able to effectively transfer resources in support of the Iraqi economy or play a significant role in facilitating the growth of enterprises and industries. The Stock Exchange Commission and the companies negotiate the price of the new share offering. The majority of newly traded companies' shares are valued at one Iraqi dinar, but when Asia Cell, an Iraqi telecommunications company, made its first public offering, the parties were able to negotiate a successful price for the shares, which were then valued at twenty-two Iraqi dinars.

- **Asset portfolio theory**

A significant part of the literature and financial theories has emerged since the 1950s (Ghaemi and Moeini, 2007). In 1952, Harry Markowitz introduced the basic model of the portfolio. Until the 1950s, risk was considered a qualitative factor until risk was quantified by Markowitz's efforts, and the standard deviation of cash flows from investment plans under various conditions was also introduced as a quantification of risk. Markowitz's theory was the origin of the portfolio theory (the new portfolio theory) and its main approach was the effect of portfolio diversification along with a number of securities (such as stocks) in the portfolio and covariance of assets. The goal of modern portfolio theory is to expand the appropriate diversified portfolio, rather than creating a set of individual high-correlation securities. According to Markowitz, because assets are not uniformly affected by economic conditions, they do not always move in the same direction. Significantly reduced. Markowitz's model is relation number 1:

$$\begin{aligned} \text{Minimize: } & -\lambda E_p + V_p & E_p &= \sum_{i=1}^N X_i E_i \\ V_p &= \sum_{i=1}^N \sum_{j=1}^N X_i X_j COV_{(i,j)} & \sum_{i=1}^N X_i &= 1 \quad \lambda \geq 0 \end{aligned}$$

λ : Degree of investor risk aversion;

E_p : Expected revenue portfolio;

V_p : Portfolio risk;

$X_i X_j$: Part of the total budget allocated to investment j, i ;

E_i : Expected revenue of the i th plan

$COV_{(i,j)}$: Covariance of investment i with investment j .

In view of the above, it can be concluded that price changes in alternative assets can lead to a change in the relative share of a particular asset in the portfolio and thus create a new composition in this portfolio. Therefore, considering the behavior of alternative assets and affecting the explanation of the behavior of a particular asset is important and, in this study, will be examined in terms of the effect on the stock price index.

- **Relationships of the studied variables with stocks**

Given that individuals hold different combinations of cash, stocks, bank deposits, gold, and foreign exchange in their portfolio, these assets are considered as competing assets in the investor portfolio and changes in each are expected. Of these, the demand for the stock affects the asset base and, as a result, affects the stock price index. This section seeks to answer the question of how the stock price index of the stock exchange is affected by the above variables, as well as how changes in money supply, bank interest rates, gold prices and exchange rates affect stocks within the theoretical framework. In investing (portfolio theory) will be examined.

- **Exchange Rate**

Since the exchange rate is one of the most uncertain and risky assets in the capital of investors, changes in this variable can be examined in the context of the Markowitz model (Sharp, 1995). According to Markowitz model, currency changes as one of the assets in the asset of individuals can affect the demand for it and, consequently, change the price of the stock.

In addition, depending on the degree to which companies rely on exports or imports and the extent to which they depend on exchange rates, an increase or decrease in the exchange rate can have different effects on listed resources



and companies (Batacharya and Mukherjee, 2002). The decrease in the exchange rate in mainly export industries leads to a decrease in profits and, consequently, a decrease in the company's stock price. In the event of a decrease in the exchange rate, one must pay attention to the outcome between the increase in stock prices due to the decrease in the cost of production and the decrease in stock prices due to the decrease in the value of exports of each company. It is expected that this result in negatively exporting companies will have a negative effect on the exchange rate of their shares and in contrast to positive in import-based companies.

How stocks are affected by the exchange rate can also be explained on the basis of the purchasing power parity (PPP) hypothesis. According to this hypothesis, exchange rate fluctuations are determined by the general level of relative prices between the two countries. This relationship is always assumed that the quantity of the goods is constant. Therefore, the only way to change the price of the market basket is to change the price of goods. As a result, changes in price levels indicate the rate of inflation. Therefore, changes in the inflation rate, based on the theory of purchasing power parity, will cause exchange rate changes. Exchange rate fluctuations and the purchasing power of money in comparison with each other, clarify the importance and intensity of the impact of exchange rate fluctuations on the economic situation of any society

doing. International money markets, on the other hand, have policies in place to address this risk. As mentioned, based on the equation of purchasing power parity, exchange rate fluctuations affect the cost of goods and the investments of listed companies. Based on these changes, the exchange rate is determined by changing the general level of relative prices between the two countries. Now, if we look at this relationship upside down, changes in exchange rates will indicate changes in the general level of prices between the two countries. On the other hand, according to the FAMA model, since the changes in the logarithm of the exchange rate are equal to the difference in the changes in the logarithm of the foreign and domestic price index, if the exchange rate fluctuates, the ratio of the foreign index to the domestic index must also change (Poitras, 2004).

- Interest rate

Investors are looking for an efficient investment portfolio and are filling their assets with combinations such as bank deposits. Considering the experiences gained from the results of investing in the Iranian stock market and its riskiness, investors do not consider the return received from investing in the stock market to be sufficient for its risk. On the other hand, the existence of interest-free long-term bank deposit interest rates in Iran has led to this economic variable being considered a competitor for stock market investment. On the other hand, economists believe that by reducing interest rates, the amount of investment in society increases; Because if the interest rate decreases, it will seem cost-effective to implement a set of investment plans that have a low rate of return, and vice versa in case of an increase in interest rates. Therefore, considering the above relations, it is expected that the increase in the real bank interest rate (nominal bank interest rate minus inflation rate) (or interest rate) will have a negative relationship with the growth rate of the total stock price (Rezaghilzadeh et al., 2013).

- Gold

Traditionally, gold is the first option to maintain the value of money in different periods such as inflation, crises, etc., which due to its intrinsic value and high liquidity, is a relatively safe asset and capital to maintain the value of assets. It is considered (Islami Bidgoli and Bigdelou, 2006). This precious metal has always had a special place in the asset basket and any fluctuation in its price can affect the diversity of assets in the portfolio. The gold market is a competitive market for the stock market and gold is considered an alternative asset to the stock. In Iran, this asset, mostly in the form of gold coins, has a special place in the portfolio of individuals and any fluctuation in its price can lead to a change in the amount of stock in the basket and as a result, a change in its price index.

In addition to the demand for holding this type of asset, in order to maintain the value of individuals's assets, speculation motives in the coin market are also one of the reasons that affect the demand for coins and the major short-term price fluctuations in this market are due to this. Type of application. (Islamoyian and Zare, 2006).

Research method

In this study, the effect of stock's alternative assets on the stock market in Iraq will be investigated using time series models. The model we used to investigate this study is:

$$TPX = f(LnIQ, LnINT, LnEXR, LnCOP, LnIQ)$$

Where,

TPX=Stock price index , INT=Interest rate, EXR=exchange rate , COP= gold price and Lq: Liquidity

Table 1- variables

| Variable | Symbol | Source |
|--------------------------------|--------|----------------------|
| Logarithm of Stock Price Index | LnTPX | Central Bank of Iraq |
| Logarithm of Interest rate | INT | Central Bank of Iraq |
| Logarithm of exchange rate | EXR | Central Bank of Iraq |



| | | |
|-------------------------|------|----------------------|
| Logarithm of gold price | COP | Central Bank of Iraq |
| Logarithm of Liquidity | LnIQ | Central Bank of Iraq |

Time series models, often used for short-term forecasting, attempt to explain the behavior of a variable based on past values of that variable (and possibly past values of other variables we wish to predict). These models are able to provide accurate predictions of the desired variable even in cases where the economic model has an uncertain infrastructure. Unlike econometric models that benefit from information related to economic theories and statistical data, time series models only use information related to statistical data and do not pay attention to the theoretical foundations of economic theories. Models that try to explain the behavior of a variable based on the past values of that variable and a number of different variables simultaneously are called multivariate time series models. The vector autoregression or VAR model is one of these (Nofarsti, 2007).

Vector Autoregressive Model

Every variable in a VAR vector autoregressive model is regressed on both its own intercept values and the intercept values of every other variable in the model. As a result, the model is autoregressive because the dependent variable appears at different times, and it is referred to as a vector because it contains multiple variables, it is known as a vector autoregression model.

Proponents of VAR emphasize that this method:

- 1- Because all variables are endogenous, with the exception of the width of the origin, trend variable, and virtual variables that are occasionally included in the model, the method is very straightforward and does not require the researcher to distinguish between endogenous and exogenous variables of the model.
- 2- The estimation of model coefficients can be easily done with the help of OLS method. If each equation of the model has the same number of variables with an equal interval, the estimates of the OLS method are as good as the systematic estimates such as the two-stage OLS method and the seemingly unrelated regressions (SUR) method.
- 3- Generally speaking, predictions made using VAR models outperformed those made using more intricate simultaneous equation models.

And on the other hand, the critics of this model also consider some problems for VAR models:

- 1- Unlike simultaneous equation models, which have structural equations based on economic theories, VAR models lack economic theoretical foundations. As a result, they are not very suitable for policy analysis (Nofarsti, 2017).
- 2- One of the problems in VAR modeling is determining the number of lags of model variables.
- 3- The idea is that all k variables in a VAR model with k endogenous variables are stationary. Since the results obtained on this basis may not be favorable, Harvey (1990) states that if these variables are non-stationary, they must be converted into stationary variables (for example, by differentiation). For this reason, many supporters of the VAR method tend to use the level of the variables even though they are aware that some model variables are non-stationary. It is important to consider how a unit root's presence affects the estimators' distribution in this situation.
- 4- Interpreting the estimated VAR model coefficients is typically challenging, particularly when the coefficients exhibit sign changes within a single variable interval. Because of this, shock-response functions are estimated to examine how variables behave over time as a result of a standard deviation change in the equations' disturbance term. As previously stated, we must consider the relationships between these variables in the form of a system of simultaneous equations when analyzing the behavior of multiple time series variables. This model is referred to as the model of the system of dynamic equations if its equations contain variable intervals. Classifying the variables into endogenous and exogenous categories and applying constraints on the coefficients of the model variables to identify the model are the two steps that must be completed before estimating the system of simultaneous equations.

Consider the relationships between the self-explanatory model and the two time series variables of money volume growth (M) and inflation rate (P) when each of them has only one lag in the model. This serves as a basic example of the model. They appear as follows:

$$M_t = \alpha_1 M_{t-1} + \beta_1 p_{t-1} + v_{1,t} \tag{1}$$

$$p_t = \alpha_2 p_{t-1} + \beta_2 M_{t-1} + v_{2,t} \tag{2}$$

The above pattern is written in its matrix form as follows:

$$\begin{bmatrix} M_t \\ P_t \end{bmatrix} = \begin{bmatrix} \alpha_1 & \beta_1 \\ \alpha_2 & \beta_2 \end{bmatrix} \begin{bmatrix} M_{t-1} \\ P_{t-1} \end{bmatrix} + \begin{bmatrix} v_{1,t} \\ v_{2,t} \end{bmatrix} \tag{3}$$

$$Y_t = AY_{t-1} + U_t \tag{4}$$

where Y_t , Y_{t-1} and U_t are 2 x 1 vector and A is a 2 x 2 matrix of pattern coefficients to be estimated. In practice, the system of simultaneous equations usually has more than two endogenous variables, and at the same time, the number of variable lags is more than one. In this case, with k endogenous variables and p time intervals for each, the VAR model will be as follows in the form of a matrix:



$$y_t = A_1y_{t-1} + \dots + A_p y_{t-p} + U_t \quad (5).$$

- Findings:

- Stationary Test

In research based on time series data, it is assumed that the time series is stationary. But the belief that many time series variables in economics are non-stationary makes us make sure before using these variables to avoid false regression regarding the stationary and non-stationary of variables. Therefore, we use the Augmented Dickey-Fuller unit root test (ADF) to check the stationary of time series variables in the model.

Table (2) Augmented Dickey-Fuller unit root test

| Variable | Dickey-Fuller statistics | Critical values at 10% | Critical values at 5% | Critical values at 1% |
|-----------------|--------------------------|------------------------|-----------------------|-----------------------|
| Stock price | -2.172201 | -2.574874 | -2.876595 | -3.464827 |
| D Stock price | -7.292785 | -2.574874 | -2.876595 | -3.464827 |
| Interest rate | -0.592823 | -2.574831 | -2.876515 | -3.464643 |
| D Interest rate | -7.701621 | -2.574917 | -2.876677 | -3.465014 |
| Gold price | -1.811874 | -2.575189 | -2.877186 | -3.466176 |
| D gold price | -11.05049 | -2.575284 | -2.877363 | -3.466580 |
| Exchange rate | -2.172201 | -2.574874 | -2.876595 | -3.464827 |
| D Exchange rate | -7.292785 | -2.574874 | -2.876595 | -3.464827 |

Source: research findings

As seen in the above table, the hypothesis of having a unit root is not rejected in any of the variables. In the following, for the first difference of all variables, the Augmented Dickey-Fuller test is performed, the result of which is noted in table (2). Repeating the Augmented Dickey-Fuller test for the first-order difference of variables shows that the hypothesis of the existence of a unit root for all variables is rejected at critical levels of 5%, 10%, and 1%.

- Optimal Lag Selection

In order to determine the optimal lag length, we use the Akaike criterion (AIC), Schwartz Bayesian (SBC) and Hanan Quine (HQC) criteria.

Table (3) Optimal lag Selection

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|-----|----------|----------|----------|------------|------------|------------|
| 0 | -15.9394 | NA | 8.74e-07 | 0.239308 | 0.329731 | 0.275986 |
| 1 | 1199.495 | 2347.526 | 1.08e-1* | -13.36566* | -12.82313* | -13.14560* |
| 2 | 1221.848 | 41.89549 | 1.11e-12 | -13.33541 | -12.34076 | -12.93195 |
| 3 | 1234.155 | 22.36304 | 1.29e-12 | -13.19034 | -11.74358 | -12.60350 |

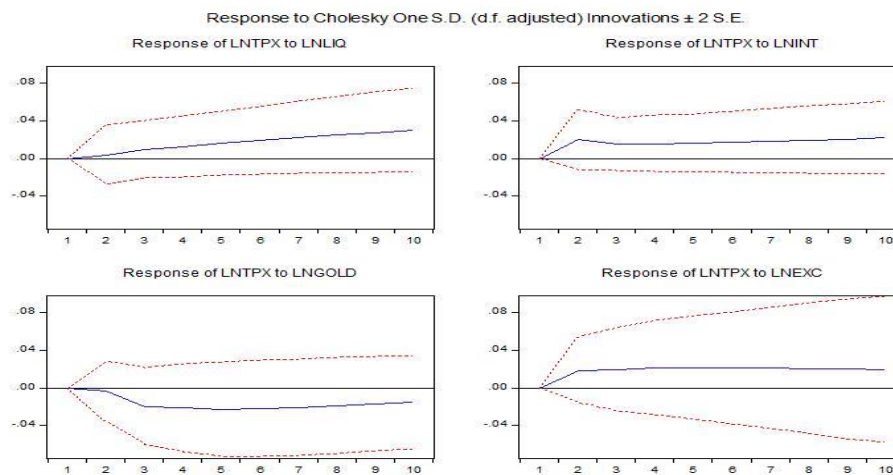
Source: research findings

In this research, Akaike's criterion is used to determine the optimal interval, so based on this statistic, interval 2 is determined as the optimal interval.

- Impulse Response Functions

The figure (1) shows the reaction of the total stock price index in the model to a shock of the variables over 10 periods and stated that if a sudden shock of one standard deviation occurs in each variable, its effect how does it affect the stock price index in the following periods?

Figure 1- impulse response functions



The first graph shows the reaction of the total stock price index to the sudden change in liquidity over 10 periods. A sudden shock in liquidity leads to an increase in the stock price with an upward trend until the third period, and after that, the increase in the stock price continues with a constant trend. An increase in liquidity in society leads to an increase in demand and increases the stock price index. The increase in the stock price due to the increase in liquidity in the short term due to the sudden entry of liquidity into the economy and the stock market is accompanied by an upward trend that reaches relative stability after several periods and increases continuously and at a constant rate.

The second graph shows the impact of the interest rate shock on the total index. This shock leads to an increase in the index with its upward trend. The risk-free nature of bank deposit interest has turned this variable into a competitor for stocks, and any increase in it has led to a decrease in investment demand in the stock market, but since the general price level has grown a lot in the studied period, some depositors in the long term, they have withdrawn their resources from bank deposits and transferred them to markets, including the stock market. Therefore, in the long term, the increase in the interest rate has not only led to a decrease in the stock price index, but due to the transfer of available resources from this sector to markets including the stock market, it has led to an increase in demand and an increase in this index.

The third graph shows the reaction of the total stock price index to the exchange rate shock. The shock of the exchange rate increased the index from the beginning of the period with an increasing trend and after that it continues to increase with a constant rate. The effect of the total price index is a result of the effect of the index of different industries on the exchange rate. According to the degree of dependence of companies on the exchange rate, its increase or decrease can have a different effect on the total index. Some industries rely on imports to supply their raw materials and equipment, and some of them export their manufactured products. On the other hand, the exchange rate shock causes an increase in exports and increases the stock price index following the increase in profitability. Therefore, the currency shock leads to an increase in the index, which may be caused by the efforts of industries to reduce the need for imported items and self-sufficiency or by encouraging industries to export more.

The fourth graph shows the effect of the gold coin price shock on the total index. The coin price shock initially reduces the stock index at an increasing rate, and after some time this negative effect continues at a constant rate. Since the coin competes with stocks and has a special position in the asset portfolio, any positive shock in its price encourages investors to transfer their capital from the stock market to the coin market in order to gain more profit. This reduces investment in the stock market and lowers the stock price index.

Evaluation of analysis of variance

The results presented in Table 3-4 show that in the first period, 100% of the changes in the total stock price index are caused by the changes in this index itself. In the 15th period, 92% of the changes are caused by the index itself, 2.94% are caused by changes in liquidity, 1.74% are caused by interest rates, 1.06% are caused by the price of gold coins, and 1.4% are caused by changes in exchange rates. At the end of the period, 83% of the changes in the total stock price index are due to changes in the index itself, 9.94% are due to changes in liquidity, 4.25% are due to interest rates, 0.9% are due to the price of gold coins, and 1.5% are due to changes in exchange rates. .

Table 4- Variance Analyze

| Period | S.E | LnTPX | LnIQ | LnINT | LnGOLD | LnEXC |
|--------|----------|----------|----------|----------|----------|----------|
| 1 | 0.213459 | 100.0000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| 2 | 0.288455 | 99.06293 | 0.015009 | 0.480506 | 0.013958 | 0.427595 |



| | | | | | | |
|----|----------|----------|----------|----------|----------|----------|
| 3 | 0.342861 | 98.43034 | 0.087210 | 0.533175 | 0.334652 | 0.614622 |
| 4 | 0.385414 | 97.87554 | 0.176462 | 0.592495 | 0.571315 | 0.784191 |
| 5 | 0.420464 | 97.36237 | 0.295723 | 0.652142 | 0.774596 | 0.915165 |
| 6 | 0.449974 | 96.89750 | 0.442377 | 0.721763 | 0.915912 | 1.022447 |
| 7 | 0.475244 | 96.45853 | 0.617121 | 0.801286 | 1.011821 | 1.111244 |
| 8 | 0.497125 | 96.03186 | 0.819420 | 0.890639 | 1.071787 | 1.186292 |
| 9 | 0.516232 | 95.60568 | 1.048798 | 0.989217 | 1.105786 | 1.250518 |
| 10 | 0.533027 | 95.17204 | 1.304526 | 1.096427 | 1.121017 | 1.305988 |
| 11 | 0.547871 | 94.72549 | 1.585743 | 1.211679 | 1.122968 | 1.354124 |
| 12 | 0.561050 | 94.26251 | 1.891455 | 1.334426 | 1.115657 | 1.395951 |
| 13 | 0.572800 | 93.78101 | 2.220549 | 1.464147 | 1.102063 | 1.432229 |
| 14 | 0.583314 | 93.27991 | 2.571802 | 1.600340 | 1.084403 | 1.463548 |
| 15 | 0.592756 | 92.75886 | 2.943898 | 1.742516 | 1.064344 | 1.490380 |
| 16 | 0.601266 | 92.21811 | 3.335426 | 1.890186 | 1.043152 | 1.513124 |
| 17 | 0.608963 | 91.65833 | 3.744898 | 2.042859 | 1.021794 | 1.532122 |
| 18 | 0.615951 | 91.08051 | 4.170753 | 2.200041 | 1.001011 | 1.547685 |
| 19 | 0.622319 | 90.48593 | 4.611373 | 2.361227 | 0.981376 | 1.560095 |
| 20 | 0.628145 | 89.87606 | 5.065090 | 2.525908 | 0.963327 | 1.569616 |
| 21 | 0.633499 | 89.25254 | 5.530202 | 2.693567 | 0.947193 | 1.576497 |
| 22 | 0.638441 | 88.61714 | 6.004981 | 2.863684 | 0.933224 | 1.580974 |
| 23 | 0.643023 | 87.97171 | 6.487692 | 3.035734 | 0.921596 | 1.583273 |
| 24 | 0.647292 | 87.31816 | 6.976601 | 3.209196 | 0.912429 | 1.583609 |
| 25 | 0.651290 | 86.65847 | 7.469992 | 3.383550 | 0.905797 | 1.582190 |
| 26 | 0.655051 | 85.99460 | 7.966177 | 3.558286 | 0.901732 | 1.579209 |
| 27 | 0.658609 | 85.32851 | 8.463508 | 3.732901 | 0.900232 | 1.574852 |
| 28 | 0.661990 | 84.66214 | 8.960391 | 3.906907 | 0.901269 | 1.569296 |
| 29 | 0.665220 | 83.99738 | 9.455293 | 4.079835 | 0.904789 | 1.562703 |
| 30 | 0.668318 | 83.33607 | 9.946754 | 4.251232 | 0.910719 | 1.555228 |

Resource: research findings

Co-integration test and estimation of long-term relationship based on Johanson test

In order to be sure of the long-term vector between the variables of the model, we will use the Johanson test. If the studied series are not stationary, the difference of the data should be used for estimation; But if we can determine a long-term vector between the non-stationary series, there is no need to use the difference of the data and the time series of the data can be used at the level. The results are shown in table (5).

Table (5) Johanson co-integration test

| Quadratic Intercept Trend | Linear Intercept Trend | Linear Intercept No Trend | None Intercept No Trend | None No Intercept No Trend | Data Trend: Test Type |
|--|------------------------|---------------------------|-------------------------|----------------------------|-----------------------|
| 2 | 1 | 2 | 2 | 2 | Trace |
| 1 | 1 | 1 | 1 | 1 | Max-Eig |
| *Critical values based on MacKinnon-Haug-Michelis (1999) | | | | | |

Based on the obtained results, the existence of a long-term vector in the model is confirmed. As a result, we will proceed to present the model based on the vector error correction model

Table (6) Vector error correction test results

| CointEq1 | Cointegrating Eq: |
|------------------------------------|-------------------|
| 1.000000 | TPX |
| 0.688313 (0.28092) [2.45079] | EXC |



| | |
|---|------|
| -0.884039 (0.1957948055) [-4.51513] | GOLD |
| 0.461234 (0.072268) [6.38222] | INT |
| 0.487134 (0.13318) [3.65749] | LIQ |
| 3.59679 | C |

In this way, the long-term equilibrium relationship between the total stock price index and the variables of the model is obtained as the following relationship:

$$LTPX = 3.59 + 0.68LEXC - 0.88LGOLD + 0.46LINT + 0.48LIQ$$

In the above equation, all coefficients of the variables are statistically significant at the 5% confidence level, so the existence of a balanced relationship between the variables is confirmed. The long-term equilibrium relationship in the above equation between the studied variables indicates the existence of a positive relationship between the volume of liquidity, interest rate, exchange rate with the total stock price index and a negative relationship between the gold coin price and this index.

Liquidity Variable Coefficient (LIQ) shows that in the long term, if this variable changes by one percent, the stock price index (TPX) will increase by 48 percent.

The interest rate coefficient (LINT) indicates that in the long term, a one percent change in the interest rate leads to an increase in the stock price index by 46 percent.

The exchange rate coefficient (EXR) is equal to 0.68, which indicates a 68% increase in the total stock price index due to a 1% change in the exchange rate in the long term.

The variable coefficient of the Gold coin price in the above equation indicates that a one percent change in the coin price leads to an 88 percent decrease in the stock price index in the long term.

- Conclusion

Based on the theoretical discussions, it is expected that the fluctuations of the alternative assets of stocks have significant effects on stocks. This issue has been confirmed in the experimental studies of Yahizadeh Far and Babaei (2012), Sojadi et al. (2008), Alamluiyan and Zare (2008), Islamluiyan and Zare (2009 and...) and it has been concluded that alternative assets have had a significant impact on the stock market. The findings of the model estimation in the present study, like previous studies, indicate the impact of the Iraqi stock market on other markets such as currency, gold, etc. Based on these results, shocks due to all the studied alternative assets (except gold coins) have a positive effect on the stock price index in the long term and the gold coin price shock has a negative effect on this index. Based on the impulse functions and variance analysis, these results has been confirmed.

Suggestions

According to the results of the current research on the negative impact of the stock price index on the gold coin price in the long term, in order to reduce the risk and reduce the speculations and fluctuations of the country's free gold market, the importance of developing all kinds of gold coin transactions in the country's commodity exchange is doubled. The policy makers and stock exchange practitioners of the country should try to expand the tools to eliminate the unrealistic price of this commodity in the market by reducing the possibility of speculation and speculation in the coin market and similarly in the market of other goods.

According to the results of this study on the influence of the stock price index on the fluctuations of the investigated assets, those involved in the stock exchange who are responsible for pricing the shares of the listed companies should take this point into consideration. have that the fluctuations of the variables examined in this study are also included in the stock pricing.

It is obvious that active investors in the stock exchange as well as new investors should be aware of their long-term effects in addition to the short-term effects of the studied variables on the stock price index, and only one-time changes of the price index in the short-term should be considered as criteria. Do not put profitability and new stock selection.

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