

Analysis of the Reciprocal Relationship between Stock Market Indicators and Economic Stability Indicators: A Case from Iraq

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The paper aims to test the relationship between some indicators of the stock market and variables of economic stability in Iraq. The study seeks to test the validity of the hypothesis of a reciprocal relationship between some indicators of the stock market and the variables of economic stability represented by (growth, inflation and unemployment). To achieve this, some statistical models were used: the Dickey Fuller extended methodology (ADF) and the ARDL test to test the joint integration between the variables, in addition to the Granger causality test to measure the mutual effect between the study variables. The study uses quarterly data for the period (2004-2018). The results were analysed accurately to reach the objectives of the study and to discover the nature of the direction of the relationship between the variables. The results show that there is a common integration relationship between the indicators of the Iraq Stock Exchange and the variables of economic stability. The results also show that there is a reciprocal relationship between the market value index and both gross domestic product and unemployment. The results also show the absence of a reciprocal relationship between the Trading Volume Index and the variables of economic stability in Iraq.

Keywords: *Iraq stock market, Stock market indicators, Economic stability, Economic stability indicators.*

Introduction

In recent decades, there has been increasing interest in stock exchanges in developing and developed countries alike, given the great role these markets play in the field of economic life. Most of the countries' financial resources go to the financial markets as the container through which these resources are directed towards economic activities. These markets are therefore linked to the level of economic activity of the state, as they are affected by and affected by economic activity. Developed countries certainly have active and developed financial markets, unlike developing countries. Their financial markets are somewhat late due to the economic level of these countries (Ali, Hameedi, & Almagtome, 2019). The authors have been interested in studying financial economics on a large scale in order to identify the performance of the stock market and its impact on macroeconomic variables. The stock market performance determinants were well reliable. The wide interest in the stock markets and the great role resulting from this institution has encouraged investments and promoting economic growth through the distribution of financial resources between the various economic sectors with high efficiency. The importance of this topic derives from the need to know the obstacles facing the work of the Iraqi market for securities by analysing the direction of the causal relationship between some of the main indicators of the stock market (market value and volume of trading) and between variables of economic stability (growth, inflation and unemployment). In addition, it is necessary to know the effect of fluctuations in these variables on the nature of the performance of the stock market in the short and long term. Financial markets have a major role in the process of economic growth through the mobilisation of resources and their involvement in the production process (Almagtome, Shaker, Al-Fatlawi, & Bekheet, 2019). This leads to more efficient allocation of financial resources and an expansion of the production process. Thus, it creates jobs and improves the economic level. However, the financial and economic crises that passed on the Iraqi economy have somewhat affected the work of these markets and led to their inability to perform their functions. This study aims to identify the factors that affect the performance of the stock market in Iraq. It also seeks to study the relationship between some indicators of financial markets and indicators of economic stability (growth, inflation, unemployment) in Iraq.

Literature Review

Iraq Stock Exchange

The first steps towards the emergence of the stock market in Iraq were in 1992 under Law No. (24) for the year 1991, known as the (Baghdad Stock Exchange). It was considered a government market, which at that time was able to list (113) Iraqi private and mixed joint stock companies. It has managed to attract annual trading rates in excess of (17.5) million dollars in its last year. Because of the conditions in Iraq and the war conditions, this driver was closed in 2003 by a decision of its board of directors. In 2004, the Coalition Provisional Authority issued,

based on Law No. (74), the establishment of two financial institutions to regulate the work of the financial sector (Mahdi, Jaber, & Mashkour, 2018):

Securities Commission Iraq Stock Exchange

The Securities Commission is an independent governmental body linked to the Council of Ministers. It is responsible for supervising, granting licenses, monitoring market participants, the movement of companies' establishment and trading of their securities in the regular market and the second market, as well as issuing laws and instructions aimed at protecting all dealers in the market (Al-Taie, Flayyih, & Talab, 2017). The Iraq Stock Exchange is an independent economic market, financially and administratively, not affiliated with any government agency (Khaghaany, Kbelah, & Almagtome, 2019). It is managed by the Board of Governors for those who represent the various economic sectors of the investment sector (Almagtome & Abbas, 2020). According to Law No. (74), Article No. (6) of Section (5), the Iraq Stock Exchange authorised the work of brokers authorised by the disbanded Baghdad Stock Exchange. The number of companies and offices dealing in the market is (51) between a company and an office, of which (29) are specific brokerage firms and (22) banks distributed between government banks and there are five banks and private ones, and they number (17) banks. In addition, it permits trading for Iraqi shareholding companies that were listed in the dissolved Baghdad market (Al-Wattar, Almagtome, & AL-Shafeay, 2019). With regard to the new joint stock companies which have not been listed on the Baghdad market, the Iraqi Stock Exchange allows these companies to trade after obtaining the approval of the Iraqi Securities Commission to list them (Ali, Almagtome, & Hameedi, 2019).

According to N. S. Jabbar (2018), the most important functions of the Iraqi stock market can be identified as follows:

- 1- Organising and facilitating the trading of securities in a fair and efficient manner.
- 2- Helping to increase the capital of companies intended for investment.
- 3- Preparing educational and investment programs to guide investors in investing in the financial market.
- 4- Collecting and analysing data, and publishing all statistics and important information to achieve the desired goals.
- 5- Communicating with Arab and international stock markets in order to transfer experiences in order to develop the financial market.
- 6- Organising and arranging the companies listed in the market in a way that suits the goals of the investors and enhances their confidence in the financial market.
- 7- Regulating the members' dealings regarding securities trading and specifying the rights and duties of the concerned brokers, and the means to protect their legal and legitimate interests.

On the other hand, Yaqoob, Mohammed, and Hassan (2020) indicate that the Iraq Stock Exchange consists of the following:

- 1) Banks and subsidiaries. The number of banks in Iraq is (54), and it has (972) branch banks and exchange offices.
- 2) Insurance companies, numbering (29) companies, including three government companies, namely (the National Insurance Company, the Iraqi Insurance Company and the Iraqi Company for Reinsurance).
- 3) Iraq Stock Exchange. It was established under Law No. (74) of 2004 for the purpose of regulating the trading of securities.
- 4) Exchange firms that were founded in the 1980s and managed by the Central Bank of Iraq. Its work is limited to buying and selling foreign currency inside Iraq, as it numbers (450), most of which were concentrated in Baghdad.
- 5) Money transfer companies. They are non-banking financial institutions that rely on their instructions from the Central Bank of Iraq
- 6) Companies specialising in buying and selling securities, and they number (48) companies under the supervision of the Iraq Stock Exchange, and they are called brokerage companies. Its mission is to mediate between stock sellers and those willing to buy them in exchange for a commission they receive from both parties.
- 7) The Retirement Fund. It is a large financial institution and includes salaries of the social care network for retirees.
- 8) Credit companies. It is one of the financial institutions that provide short and medium loans.

Reality of Iraqi Economy

The Iraqi economy suffers from structural problems and imbalances as a result of the conditions it went through from international economic sanctions and wars in addition to mismanagement by the successive government authorities that ruled the country and which contributed in one way or another to faltering economic growth and stalling the wheel of development. Although the country possesses enormous material, human and natural resources in addition to the distinguished geographical location, the mismanagement and the lack of a fertile investment and institutional environment led to the depletion of these capabilities and the state's inability to provide the most basic needs of society (education, health, adequate housing, infrastructure, energy, etc.). It also led to the disintegration of the social fabric, high crime rates, sectarian conflict, youth migration, high numbers of unemployed, widespread corruption and high poverty rates, which negatively affected the reality of the Iraqi economy. Despite the vast wealth of the country, precious metals and large reserves of crude oil, what the country does not possess in some countries that outperform it in terms of economic growth and the level of social welfare unless it is considered an economic and urban backward country that cannot

keep pace with economic development and progress (Ridha, 2016). Some of the most important imbalances facing the Iraqi economy:

Imbalances of the Productive Structure (Rentier Economy)

The Iraqi economy suffers from a major problem, which is its dependence on one source as the main financier of the country's general revenues. The oil sector contributes more than 90% to financing public expenditures, with the contribution of other economic sectors such as industry, agriculture, and other sectors that are considered a primary source for the economies of developed countries declining. Moreover, there are no clear policies for the optimal use of financial resources from oil exports, and the absence of the necessary development plans to build the economic foundation of the country. Moreover, foreign oil companies dominate the oil sector and the failure of national companies to lead the way. The operations of exporting crude oil are carried out through the Foreign Tankers Company (I. J. Jabbar & Tuama, 2019).

Imbalances in the Structure of Public Expenditure

The size of public expenditures must work to achieve the goals set for the implementation of investment projects and the development of infrastructure and service. This is what we do not see on the ground in Iraq, as the economic sectors are still underdeveloped and unable to carry out these necessary actions due to the underdevelopment of the private sector. Moreover, there is no clear vision to provide the appropriate investment climate that makes the investment sector a real tool for supplying the public budget with the necessary financial resources, increasing the rate of GDP growth and contributing to addressing the phenomenon of unemployment. Most of the state's revenues directed to spending are mostly allocated as current expenditures to finance employee salaries, pensioners' pensions, and benefits provided to the social protection network, in addition to other expenses that are within current expenditures. Whereas, the allocation for investment is the least part, and the funds allocated for investment were not directed properly to make the necessary real investments, but those funds are subject to corruption and waste of public money. Consequently, the situation remains as it is, and therefore the development process in Iraq rotates in a vicious circle (Salmana, Majeedb, & Ameen, 2019).

Methodology

This paper aims to measure the extent of the ability of the Iraqi stock exchange to influence variables of economic stability. It assumes that there is a correlation between stock market indicators and indicators of economic stability (growth, inflation and unemployment). The paper adopts the inductive approach to determining the nature of the relationship between stock market indicators and economic stability variables. In order to reach accurate results, a

quantitative method was used to extract statistical results to know the degree of this relationship and what the stock market variables cause to economic stability.

Results

This section shows the results of this study divided into three subsections.

Unit Root Test: Dickey–Fuller Test

This test differs from the previous one. This test has the potential to bypass the problem of self-correlation between random variables that it ignores (AD). (Dickey-Fuller) added time-lingual values to the dependent variable. Therefore, the ADF test is according to the following regression equation:

$$Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{t-1}^n a_i \Delta Y_{t-1} + \varepsilon_t \dots \dots \dots (1)$$

This is called the extended Dickey-Fuller test as random variables become unrelated (self-related) and have the desired properties. The silence of the time series is tested according to the ADF test through a statistic test (T) for the parameter (β) and compared with the tabular values. Whereas, if the value of (t) is statistically insignificant, we accept the null hypothesis and reject the alternative hypothesis ($1 \neq \beta: H1$), meaning that the time series is not static and to avoid a problem. Lack of silence We went to take the first difference of the chain, then we take the first difference so the chain will be integrated from the first degree. (1). Whereas, if it is not static then we take the second difference. Thus, the chain is second-degree static (2) (Jubair & Alhiyali, 2018). The tables below show the stability results for each of the variables represented by the market size index (MV), trading volume (TV), gross domestic product (GDP), inflation (NFL), and unemployment (UN). These results did not stabilise at the level, but were stable when taking the first difference according to Dickie Fuller's expanded test, and at a significant level at (1%, 5%, 10%), respectively, whether it is cross-sectional or cross-sectional and time trend or without interrupt and direction, as shown In tables (1 and 2).

Table 1: Stability Test at Level (0)

Without timeline or time trend			Definitive timeline and direction			timeline			Variable
The result	Critical-stat	t-stat	The result	Critical-stat	t-stat	The result	Critical-stat	t-stat	
unstable	-2.608490 -1.946996 -1.612934	0.310982	Stable at 10%	-4.137279 -3.495295 -3.176618	-3.376668	unstable	-3.557472 -2.916566 -2.596116	-0.959058	MV
unstable	-2.612033 -1.947520 -1.612650	-0.603841	unstable	-4.152511 -3.502373 -3.180699	-1.430500	unstable	-3.568308 -2.921175 -2.598551	-1.981026	TV
unstable	-2.608490 -1.946996 -1.612934	0.455101	unstable	-4.137279 -3.495295 -3.176618	-2.550130	unstable	-3.557472 -2.916566 -2.596116	-1.599414	GDP
unstable	-2.608490 -1.946996	0.455101	unstable	-4.137279 -3.495295	-2.550130	unstable	-3.557472 -2.916566	-1.599414	NFL

	1.612934			3.176618			2.596116		
unstable	-2.608490 -1.946996 -1.612934	-1.399027	unstable	-4.137279 -3.495295 -3.176618	-1.000761	unstable	-3.557472 -2.916566 -2.596116	-1.352878	UN

Table 2: Stability Test at Level (1)

Without timeline or time trend			Definitive timeline and direction			timeline			Variable
The result	Critical -stat	t-stat	The result	Critical -stat	t-stat	The result	Critical -stat	t-stat	
Stable at the level of 1%	-2.608490 -1.946996 -1.612934	-2.78267	unstable	-4.137279 -3.495295 -3.176618	-2.94375	Stable at the level of 5%	-3.557472 -2.916566 -2.596116	-2.952819	MV
Stable at 1% level	-2.612033 -1.947520 -1.612650	-2.77225	Unstable	-4.152511 -3.502373 -3.180699	-3.10618	Stable at 5%	-3.568308 -2.921175 -2.598551	-2.741389	TV
Stable at 5%	-2.608490	-2.00949	Unstable	-4.137279	-2.30988	Unstable	-3.557472	-2.315912	GDP

	- 1.9469 96 - 1.6129 34			- 3.4952 95 - 3.1766 18			72 - 2.9165 66 - 2.5961 16		
Stable at 5%	- 2.6162 03 - 1.9481 40 - 1.6123 20	- 2.400 68	Unst abl e	- 4.1705 83 - 3.5107 40 - 3.1855 12	-2.36534	Unst abl e	- 2.1462 14 - 3.5811 52 - 2.9266 22 - 2.6014 24	- 2.1462 14	NFL
Stable at 5%	- 2.6084 90 - 1.9469 96 - 1.6129 34	- 2.087 57	Unst abl e	- 4.1372 79 - 3.4952 95 - 3.1766 18	-2.28208	Unst abl e	- 2.1326 51 - 3.5574 72 - 2.9165 66 - 2.5961 16	- 2.1326 51	UN

The ARDL Method of Co-integration Test

The ARDL regression methodology for testing limits became common in previous periods to address what other tests could not address (Pesaran, Shin, & Smith, 1999). According to Menegaki (2019), the ARDL model has the following features:

1. The model is flexible because it deals with data whether it is stable at the level (0), or the first difference (1).
2. (ARDL) can be used with big and small views, unlike other models dealing with big data only.

3. ARDL provides an unbiased estimate of the short-term relationship between the input variables, as well as a measure of the relationship between parameters in the short and long term.
4. It helps to get rid of the problem of self-association and the problem of heterogeneity of variance.

To apply the boundary test for joint integration using the ARDL methodology, four steps are required (Bildirici, 2013):

The First Step

ARDL is tested to obtain the optimal deceleration for each variable, after which the optimum slowdown period is chosen based on the AIC Akaike criterion. Then, a long-term relationship between the specified variables is verified by the joint integration procedure of the unrestricted error correction model (UECM) through the equation below:

$$\Delta Y_t = a_0 + \sum_{i=1}^m \beta_1 \Delta Y_{t-i} + \sum_{i=0}^n \phi_i \Delta EC_{t-i} + \delta_1 Y_{t-i} + \delta_2 EC_{t-1} + \varepsilon_t \dots \dots \dots (2)$$

Where; (δ_1, δ_2) represents long-term relationship coefficients (δ) and (Δ) represents the first difference, the boundary test depends on a statistic (F) or a statistic (WALD) that explains the integration methodology by:

- Null Hypothesis ($H_0: \delta_1 = \delta_2 = 0$), i.e., no integration
- Alternative Hypothesis ($0 \neq H_1: \delta_1 \neq \delta_2$), i.e., the presence of polytheistic integration

The Second Step

After verifying the existence of joint integration in the first step, so the second step means assessing a long-term equation, by:

$$Y = \lambda_0 + \sum_{i=1}^m \alpha_i Y_{t=i} + \sum_{i=0}^n \vartheta_i EC + u_t \dots \dots \dots (3)$$

(m, n): represents the slow down period
 (α_0, λ_0) : coefficients of variables
 U_i : The random error limit

The Third Step

The short-term dynamic parameters are obtained using the estimate of the long-term error correction model, by the following equation:

$$\Delta Y = \chi_0 + \sum_{i=1}^m \beta_1 \Delta Y_{t=i} + \sum_{i=0}^n \theta_i \Delta EC_{t=i} + \zeta ECM_{t-1} + e_t \dots \dots \dots (4)$$

The random residual (et) is distributed independently and naturally with zero mean and constant variation and ECMt-1 is the term error correction, ζ is a parameter that indicates the speed of adjustment to the equilibrium level after the shock. It shows how quickly the variables converge in equilibrium and should have a statistically significant coefficient with a negative signal. The common integration between stock market indicators and economic stability variables can be analysed as follows:

Market Value Index

The boundary test for joint integration according to the ARDL test is based on a comparison of the calculated and tabulated (F) statistic at the upper and lower limits. If the calculated is greater than the tabular at the binomial, we say that there is a long-term balance relationship between the two variables and vice versa. From Table (3), we notice that the calculated value of (F) of (4.743652) is greater than (F) of the table at the upper limit I ~ 1 and the minimum I ~ 0 ., So, we accept the alternative hypothesis and say there is a long-term balance relationship between the market value index and the variables of economic stability.

Table 3: ARDL Results

ARDL Bounds Test		
Date: 04/17/20 Time: 21:37		
Sample: 2005Q2 2018Q1		
Included observations: 52		
Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	4.743652	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Table (4) shows the results of estimating the model with time lags of (2,0,0,4), based on the AIC standard. It is automatically determined for by the program and the value (2) indicates the time defaults for a period of two units and (0) indicates the absence of time defaults and (4) means a time defaults for a period of four units and so on according to the number of units determined by the program. The ECM-1 threshold represents the short-term relationship between variables. It measures how quickly a short-term imbalance responds to a long-term balance. We notice from the table that the CointEq error correction value was negative and morphological. It is (-0.151240) with a moral level of less than 1%. This indicates a common complementarity between the variables of economic stability as independent variables and the market value index as a dependent variable. Whereas, the estimated parameters are not significant in the short term in influencing the market value index.

Table 4: *ARDL Error Correction Model*

ARDL Cointegrating And Long Run Form				
Dependent Variable: MV				
Selected Model: ARDL(2, 0, 0, 4)				
Date: 04/17/20 Time: 21:54				
Sample: 2004Q1 2018Q4				
Included observations: 52				
Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MV(-1))	0.706118	0.096874	7.289043	0.0000
D(GDP)	0.001687	0.002185	0.771961	0.4445
D(NFL)	1.798887	4.814652	0.373628	0.7106
D(UN)	-194.8144...	394.381046	-0.493975	0.6239
D(UN(-1))	437.17493...	763.048265	0.572932	0.5697
D(UN(-2))	-526.8571...	713.897562	-0.738001	0.4646
D(UN(-3))	496.96342...	343.096222	1.448467	0.1549
CointEq(-1)	-0.151240	0.035390	-4.273517	0.0001

Trading Volume Index

From Table (5), we note that the calculated value of (F) (5.019697) is greater than (Table F) at the upper limit $I \sim 1$ and the minimum $I \sim 0$., So, we reject the null hypothesis that there is no common complementarity between the variables and accept the alternative hypothesis. We say there is a long-term balance relationship between the Trading Volume Index and the variables of economic stability at the level of 5%.

Table 5: ARDL Methodology Results

ARDL Bounds Test

Date: 04/17/20 Time: 21:44

Sample: 2004Q4 2018Q1

Included observations: 54

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	5.019697	3

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

We discover the short-term relationship between the independent variables (GDP, inflation, and unemployment) and the volume indicator by estimating the ECM error correction model according to the ARDL test. We notice from Table (6) the error correction model and the parameters of the estimated variables, that the line correction factor is (-0.203782). This value is negative and the level of significance is much less than 1%. This indicates a common complementarity between the independent and dependent variables, that is, the existence of a long-term balance relationship in the short term. Whereas, the estimated parameters for the independent variables in the results table indicate a significant effect on the Trading Volume Index.

Table 6: ARDL Error Correction Model

ARDL Cointegrating And Long Run Form

Dependent Variable: TV

Selected Model: ARDL(2, 0, 0, 1)

Date: 04/17/20 Time: 21:51

Sample: 2004Q1 2018Q4

Included observations: 54

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TV(-1))	0.625463	0.103431	6.047162	0.0000
D(GDP)	0.000630	0.000386	1.633476	0.1091
D(NFL)	1.637184	0.863906	1.895094	0.0642
D(UN)	-148.4751...	45.745420	-3.245684	0.0022
CointEq(-1)	-0.203782	0.048231	-4.225171	0.0001

Granger Causality Test

According to the Granger concept, causality refers to the change in the current and past values of a variable that causes the change in another variable. Therefore, a change in current and previous (X_t) values causes a change in (Y_t). This test is often exposed to problems, including that the time series data for one of the variables are often correlated, and there is a self-correlation between the values of the random variable over time. In order to exclude this effect, values from the same variable of a number of time gaps should be included as explanatory variables in the causal relationship to be measured, in addition to listing the values of the other explanatory variable for a number of gaps (Dastgir, Demir, Downing, Gozgor, & Lau, 2019). Granger's Causality model can be formulated according to the following (Pradhan, Arvin, & Bahmani, 2018):

$$Y_t = \sum_{i=1}^n a_i X_{t-i} + \sum_{j=1}^n \beta_j Y_{t-j} + U_t \dots \dots \dots (5)$$

$$X_t = \sum_{i=1}^n \lambda_i X_{t-i} + \sum_{j=1}^n \delta_j Y_{t-j} + V_t \dots \dots \dots (6)$$

Whereas, ($\beta_j, \lambda_i, \delta_j, \alpha$) are parameters that are to be estimated

UtVt: two random variables that have a constant variance and an arithmetic mean equal to zero, and the two equations are estimated using (OLS), and accordingly there are four cases of a causal test (Lopez & Weber, 2017):

- 1- Causality in one direction from (Xt) to (Yt), and it occurs if the calculated values for the coefficients of the time decelerating periods for (x) are statistically different from zero, i.e. ($0 \neq 0\alpha \sum$), and the coefficients of the time decelerating periods for (y) are not different. On the ground zero, that is ($0 = 1\delta \sum$).
- 2- Causation in the opposite direction, one-way from (Y) to (X) is present if the set of coefficients (X) is not statistically different from zero i.e. ($0 = 0\alpha \sum$) and the coefficient of (Y) is different from zero ($I \neq 0\delta \sum$).
- 3- Dual causation: This condition occurs when the set of coefficients (X, Y) is statistically significant in each of the two previous cases.
- 4- Independence: When the set of coefficients (X, Y) is not significant in each of the previous two regressions.

Causation (Granger) can be discovered through the variables included in the research, as follows:

1. Market Value Index

1- The causality test (Granger) represents the short-term relationship between variables. Therefore, Table (7) shows us this relationship between the market value index (MV) and the gross domestic product (GDP) based on statistic (F) and one slowdown period, as its value reached (6.01418) and with a level of significance less than (0.05), so we accept the hypothesis. The alternative is that there is a reciprocal relationship between the two variables.

Table 7: Granger Causality Results between MV and GDP

Pairwise Granger Causality Tests

Date: 04/19/20 Time: 05:55

Sample: 2004Q1 2018Q4

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
MV does not Granger Cause GDP	56	3.93905	0.0524
GDP does not Granger Cause MV		6.01418	0.0175

2- Table (8) shows us the short-term relationship between the market value index (MV) and the inflation rate (NFL). We note a statistical value (F) of (0.57596) which is not statistically significant. It exceeds the level of (0.05), therefore we accept the assumption that there is no causal relationship between the market value and the rate of inflation.

Table 8: *Granger Causality Results between MV and NFL*

Pairwise Granger Causality Tests			
Date: 04/18/20 Time: 21:59			
Sample: 2004Q1 2018Q4			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
NFL does not Granger Cause MV	54	0.57596	0.5659
MV does not Granger Cause NFL		0.32814	0.7218

3- Table (9) shows that the statistic of (F) is (6.16383) and with a level of significance less than (0.05), so we accept the alternative hypothesis, that is, there is a causal relationship between the index of the market value (MV) and the unemployment rate (UN).

Table 9: *Granger Causality Results between MV and UN*

Pairwise Granger Causality Tests			
Date: 04/18/20 Time: 22:03			
Sample: 2004Q1 2018Q4			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
UN does not Granger Cause MV	54	6.16383	0.0041
MV does not Granger Cause UN		0.75223	0.4767

Trading Volume Index

1- Table (10) shows that there is no causality between the trading volume (TV) and the gross domestic product (GDP), the value of (F) is not statistically significant.

Table 10: *Granger Causality Results between TV and GDP*

Pairwise Granger Causality Tests

Date: 04/18/20 Time: 22:08

Sample: 2004Q1 2018Q4

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause TV	54	1.39355	0.2579
TV does not Granger Cause GDP		0.32849	0.7216

2- Table (11) shows the causal relationship between (TV) and unemployment rate (NFL). The value of (F) is statistically insignificant. This indicates that there is no reciprocal relationship between the two variables.

Table 11: *Granger Causality Results between TV and NFL*

Pairwise Granger Causality Tests

Date: 07/03/20 Time: 21:09

Sample: 2004Q1 2018Q4

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
UN does not Granger Cause TV	55	2.71023	0.0763
TV does not Granger Cause UN		0.61647	0.5439

3- Table (12) shows the causal relationship between (TV) and the inflation rate (UN). The value of (F) is statistically insignificant. This indicates that there is no reciprocal relationship between the two variables.

Table 12: *Granger Causality Results between TV and UN*

Pairwise Granger Causality Tests

Date: 07/03/20 Time: 21:09

Sample: 2004Q1 2018Q4

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
UN does not Granger Cause TV	55	2.71023	0.0763
TV does not Granger Cause UN		0.61647	0.5439

Conclusions

The results of the paper show that there is a long-term balance relationship between the performance indicators of the Iraq Stock Exchange and the variables of economic stability. Moreover, there is a correlation between the variables of economic stability (gross domestic product and unemployment) and the market value index on the Iraq Stock Exchange. The results also indicate that there is no causal relationship between the index of trading volume in the Iraqi market for securities and variables of economic stability. Therefore, it should upgrade the required levels of disclosure from companies listed on the market. Therefore, it should not stop at the limits of providing deaf accounting data, but rather to analyse the performance indicators of companies, their market share, potentials for expansion and growth, risks to which they are exposed, and other data necessary to protect investors. In addition, the local public debt should be converted into government bonds that will be offered for trading on the Iraq Stock Exchange. This will deepen and revitalise the bond market and then the stock market. It is also necessary to encourage the merger of small brokerage firms in light of the formation of large entities. This, in turn, will contribute to reducing transaction costs and thereby stimulating trading activity. Finally, it is important to establish a sovereign wealth fund similar to the experiences of some oil producing countries to counter fluctuations in the state's revenues resulting from changes in oil prices.

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