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MEASURING THE RELATIONSHIP BETWEEN ECONOMIC CRISES AND INVESTMENT PORTFOLIOS - A SAMPLE STUDY OF IRAQI BANKS

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ABSTRACT

Purpose: The study aimed to measure the closing price indicators for the Iraqi bank sector during the period (2010-2020) and using the PMG / ARDL index, which is an acronym for pooled mean group / Autoregressive distributed lag, i.e. self-regression to slow down. Distributed tablet data, to measure the relationship between the components of the economic crises of the dependent variable (closing price) of the Iraqi banks, the study sample, and the independent variables each of (gross domestic product, market value, global oil prices and economic crises).

Theoretical framework: The Iraqi economy is affected by economic crises along with the performance of investment portfolios in Iraqi banks.

Methodology of the study: To highlight the different conclusions taken by the banks that contribute In its success: Barony's co-integration test, according to the four formulas, shows that there is long-term integration between the dependent variable (closing price) and the independent variables (market value, gross domestic product, crude oil prices) during the quarterly period 2010-2020, which means that the PMG method can be applied. /ARDL.

Findings: This study showed that there is an adverse effect from the gross domestic product to the closing prices of the banking sector, and this can be justified by the increase in the gross domestic product associated with the increase in oil revenues. Because the oil sector contributes to 60% of GDP in Iraq.

Practical & Social implications: Study main necessary comes from paying attention to the development of investment portfolios in Iraq by following solid policies in implementing the necessary procedures for investing in portfolios, raising awareness of the culture of investment portfolios within investment communities or investment companies, and establishing the idea of establishing a fund to guarantee investment portfolios in a symbiotic manner that reduces the risks of fluctuations in oil revenues resulting from Crises.

Originality of study: Comes from that decision makers can reach solutions and treatments to mitigate their severity, and address the imbalance in the stock market in a way that achieves an improvement in the contribution formed by the rest sectors in the total GDP, and reduce the risks resulting from dependence on oil revenues.

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MEDINDO A RELAÇÃO ENTRE CRISES ECONÔMICAS E CARTEIRAS DE INVESTIMENTO - UM ESTUDO DE AMOSTRA DE BANCOS IRAQUIANOS

RESUMO

Objetivo: O estudo teve como objetivo medir os indicadores de preço de fechamento para o setor bancário iraquiano durante o período (2010-2020) e usar o índice PMG/ARDL, que é um acrônimo para pooled mean group/autoregressive distributed lag, ou seja, autorregressão para desacelerar. Dados de tábuas distribuídas, para medir a relação entre os componentes das crises econômicas da variável dependente (preço de fechamento) dos bancos iraquianos, a amostra do estudo, e as variáveis independentes de cada um (produto interno bruto, valor de mercado, preços globais do petróleo e crises econômicas).

Estrutura teórica: A economia iraquiana é afetada pelas crises econômicas juntamente com o desempenho das carteiras de investimento dos bancos iraquianos.

Metodologia do estudo: Destacar as diferentes conclusões tomadas pelos bancos que contribuem para seu sucesso: O teste de co-integração de Barony, de acordo com as quatro fórmulas, mostra que há integração de longo prazo entre a variável dependente (preço de fechamento) e as variáveis independentes (valor de mercado, produto interno bruto, preços do petróleo bruto) durante o período trimestral de 2010 a 2020, o que significa que o método PMG pode ser aplicado. /ARDL.

Resultados: Este estudo mostrou que há um efeito adverso do produto interno bruto sobre os preços de fechamento do setor bancário, e isso pode ser justificado pelo aumento do produto interno bruto associado ao aumento das receitas do petróleo. Porque o setor de petróleo contribui com 60% do PIB do Iraque.

Implicações práticas e sociais: A principal necessidade do estudo é prestar atenção ao desenvolvimento de carteiras de investimento no Iraque, seguindo políticas sólidas na implementação dos procedimentos necessários para investir em carteiras, aumentando a conscientização sobre a cultura de carteiras de investimento dentro das comunidades de investimento ou empresas de investimento e estabelecendo a ideia de criar um fundo para garantir carteiras de investimento de forma simbiótica que reduza os riscos de flutuações nas receitas do petróleo resultantes de crises.

Originalidade do estudo: A partir dele, os tomadores de decisão podem chegar a soluções e tratamentos para mitigar sua gravidade e abordar o desequilíbrio no mercado de ações de forma a melhorar a contribuição dos demais setores no PIB total e reduzir os riscos resultantes da dependência das receitas do petróleo.

Palavras-chave: Crises, Carteiras de Investimento, Produto Interno Bruto, Valor de Mercado, Preços Mundiais do Petróleo.

MEDICIÓN DE LA RELACIÓN ENTRE LAS CRISIS ECONÓMICAS Y LAS CARTERAS DE INVERSIÓN - ESTUDIO DE UNA MUESTRA DE BANCOS IRAQUÍES

RESUMEN

Objetivo: El estudio tenía como objetivo medir los indicadores de precios de cierre del sector bancario iraquí durante el periodo (2010-2020) y utilizar el índice PMG/ARDL, que es un acrónimo de pooled mean group/autoregressive distributed lag, es decir, autorregresión a la desaceleración. Datos de tabla distribuida, para medir la relación entre los componentes de las crisis económicas de la variable dependiente (precio de cierre) de los bancos iraquíes, la muestra del estudio, y las variables independientes de cada uno (producto interior bruto, valor de mercado, precios mundiales del petróleo y crisis económicas).

Marco teórico: La economía iraquí se ve afectada por las crisis económicas junto con el rendimiento de las carteras de inversión de los bancos iraquíes.

Metodología del estudio: Destacar las diferentes conclusiones adoptadas por los bancos que contribuyen a su éxito: La prueba de cointegración de Barony según las cuatro fórmulas muestra que existe integración a largo plazo entre la variable dependiente (precio de cierre) y las variables independientes (valor de mercado, producto interior bruto, precios del crudo) durante el periodo trimestral de 2010 a 2020, lo que significa que se puede aplicar el método PMG./ARDL.

Resultados: Este estudio demostró que existe un efecto adverso del producto interior bruto sobre los precios de cierre del sector bancario, y esto puede justificarse por el aumento del producto interior bruto asociado al aumento de los ingresos del petróleo. Porque el sector petrolero aporta el 60% del PIB iraquí.

Implicaciones prácticas y sociales: La principal necesidad del estudio es prestar atención al desarrollo de las carteras de inversión en Iraq, siguiendo políticas sólidas en la aplicación de los procedimientos necesarios para invertir en carteras, concienciando sobre la cultura de las carteras de inversión dentro de las comunidades de inversión o las sociedades de inversión, y estableciendo la idea de crear un fondo para asegurar las carteras de inversión de forma simbiótica que reduzca los riesgos de las fluctuaciones de los ingresos del petróleo derivados de las crisis.

Originalidad del estudio: A partir de él, los responsables de la toma de decisiones pueden llegar a soluciones y tratamientos para mitigar su gravedad y abordar el desequilibrio del mercado de valores con el fin de mejorar la contribución de los demás sectores en el PIB total y reducir los riesgos derivados de la dependencia de los ingresos del petróleo.

Palabras clave: Crisis, Carteras de Inversión, Producto Interior Bruto, Valor de Mercado, Precios Mundiales del Petróleo.

INTRODUCTION

Background: The most important successful investment tools are the investment portfolio as "a combination of securities for a group of companies or sectors of different activity that is selected and diversified according to activity and maturity in order to achieve the best returns with the lowest possible risks." The main objective behind every investment process in the institution is to achieve a return, and therefore future and appropriate financial plans are designed for the optimal investment. Also, this type of investment is subject to the element of risk, as none of the projects is devoid of one of the elements of risk, in the way that it is not possible to keep the funds in a liquid cash form that is risky. Due to the increasing importance of investments in securities in developed economies, the importance of investment portfolios increases during the economic crises that the Iraqi economy witnessed and which it will witness later. There is a clear interest from Iraq to study the economic crises that faced the Iraqi markets in light of the crisis of the fall of some Iraqi provinces in 2014 when terrorist gangs entered Iraq. Where the terrorist gangs took over all the banks, markets and government departments in the governorates; Which led to the looting of money from banks, equipment and supplies from the departments in those provinces that fell into their hands. This led to very large economic losses for the Iraqi economy. After recovering from this economic and financial crisis that faced Iraq, another crisis emerged that faced the countries of the world, which is the Corona crisis (COVID-19). As that crisis led to the cessation of a large number of economic activities and the bodies in charge of them from the impact of the crisis on the markets in general. **Study problem**: The Iraqi private banking sector suffers from a low degree of competition in it and a low percentage of its positive participation in the developmental environment and society due to the rentier nature of the Iraqi economy, which made the banking sector a marginal importance in the overall economic activities and is greatly affected by the external economic and financial crises. This is what makes it difficult for investment decision makers to diagnose the investment that achieves the highest return with the least risk by building investment portfolios that achieve the desired goals that lead to reducing the severity of economic crises and the success of

investment decisions for economic units. From the foregoing, a set of problems that will be addressed in this study can be presented by answering the following inquiries:

1- What is the relationship between economic crises and investment portfolios?

2- Analysis of the relationship between the two variables of the study in Iraq for the period 2010-2020?

3- What is the investment portfolio and the optimal portfolio?

The importance of the study: The importance of the study lies in trying to adopt the best methods in building the optimal investment portfolio in the study sample banks in financial crises. This is because it represents a container for collecting investments and meeting the requirements of various categories of investors who have sufficient experience in the methods of dealing in securities, despite the economic crises that they may face. **Study Objective**: The study aims at the relationship between the crises in Iraq, and building investment portfolios that help achieve the highest return with the least risk in light of the economic crises. **Study hypothesis**: The method of managing investment portfolios is greatly affected by economic crises as a result of the technological interdependence that exists today between markets and financial transactions. Thus, the study assumes that there is a correlation between the indicators of the study sample banks with the crises that Iraq witnessed during the specified period during the years 2010-2020. The hypothesis of the study states the following: There is an impact of the practice of financial and economic crises on the development of the performance of investment portfolios in Iraqi banks. **Study methodology**: The study adopted the descriptive approach and the inferential experimental approach in order to test its hypotheses and achieve its objectives. The Malmquist mathematical model was used to measure dynamic productivity in the Iraqi private banking sector. The PMG / ARDL (Pooled Mean Group / AR Distributed Lag Models) model was also used in order to measure the impact of dynamic productivity on banking indicators for the Iraqi private banking sector.

LITERATURE AND BACKGROUND REVIEW

Previous Studies

1. **Study (Shushang, Duan, Xiaoling: 2010):** The study was titled: (Portfolio selection with marginal risk control). The study aimed to choose the optimal portfolio while controlling marginal risks. Risk represents the risk contribution of an individual asset and is an important criterion in portfolio selection and risk management. However, the use of the study is only a measure of marginal risk in the ex post analysis of portfolio

policy. In addressing a new problem, the study hypothesized to choose the optimal investment portfolio with direct (relative) control of marginal risks within the framework of average variance, and accounting for asset return correlations. The study reached several results, the most important of which are: The resulting optimization model is a non-convex quadratic programming problem. One of the results of the pilot study is that the model with risk control is an appropriate analytical tool for good portfolio risk management. It also shows many advantages of this new model over the traditional mean of variance model in risk management. The selection of the method and comparison with up to hundreds of assets and dozens of margin risk restrictions.

2. **Study (Oleg S. Sukharev: 2019):** Title (portfolio restructuring: risks and impact of the emergence of new investment portfolios / new groups). Through the restructuring of the investment portfolio, the researcher deals with: the risks and impact of the emergence of new investment portfolios / new groups. The research aims to study the problem of restructuring the investment portfolio with the identification of risks and profitability and the impact of the emergence of a new portfolio on changing the structure of the portfolio. The research also aims to identify the most important characteristics of the allocation / distribution of the investment portfolio in a simple model. To solve the problem of finding the maximum return function and total risk. Which is estimated by the value of the variance in the return on investment between the investment portfolios through the use of the gradient projection method, which allows its algorithm to obtain the iterative picture of the changes in the total risk. Which is estimated by the value of the discrepancy in return on investment between investment portfolios. The stepwise projection method is used, which allows an algorithm to obtain the iterative picture of the changes in risk and return for the components/components and for the investment portfolio as a whole. The result of the research was to obtain different distribution structures for the investment portfolio and to identify the characteristics of its restructuring with the advent of the new portfolio. .

Methodological Framework of the Panel Data Model: The Concept of Tablet Data and its Importance

The concept of tablet data

Panel data is considered from cross-sectional views in (countries or companies) during a specific period of observation. That is, the data is of two dimensions, the first: for cross-

sections. The second: for the time series (Diebold, 2017: 6). For cross-sectional data, it takes the behavior of a number of items over a single period of time. As for the time series, this describes the behavior of a single individual over a specific period of time. Which takes the panel data that is either balanced or unbalanced (Balanced Panel data). It is unbalanced (Unbalanced Panel data) when observations are missing for some of the study sample. It should be noted that panel data has a synonymous term, as it may also be called longitudinal data. This tablet data model has taken great interest, especially in economic studies. Because it takes into account the effect of the difference facing cross-sections and the effect of time change (Al-Dulaimi, 2018: 107-108). Some points can be mentioned for the importance of the tablet data, including (Baltagi, 2005: 7):

1-1-1 Control in case of individual heterogeneity. This is where the status of time series or cross-sectional data can emerge. This may result in biased results.

1-1-2 This tabular data takes more information in addition to it and less collinearity between these variables. The plate data is characterized by a greater number of degrees of freedom and better efficiency.

1-1-3 Tablet data is more accurate in the study of adaptive dynamics. which the cross-sectional data may hide. It is also suitable for studying unemployment rates and competition is better. Tablet data can also be suitable for examining the duration of economic cycles such as poverty and unemployment. Even when the data is long enough it can shed light on the speed of adjustments to economic policy changes.

1-1-4 This panel data may be more accurate at identifying and quantifying effects that simply cannot be detected in cross-sections or time-series data.

1-1-5 Tablet data models may allow building and testing more complex behavioral models from cross-sectional or time-series data. For example technical competence is better studied.

1-1-6 For panel data for individual units such as companies may be better than similar data at the macro level.

1-1-7 At the macro level, the panel data takes on larger time series. It may be suggested that with this data, methods of co-integration of plate data models be used.

PANEL DATA UNIT ROOT TESTS

These stability tests of the tablet data are one of the most important stages in building the standard model. This is due to the presence of the unit root that can lead to false results due

to the false regression between the variables, as well as the unit root tests for the tablet data, which are:

Test (LLC) Levin, Lin and Chu

LLC takes the first to propose unit root testing in tablet data, as well as through a series of works they did during (1992), (1993), and (2002). Their starting point was taken from unit root tests in time series. Through this test, LLC developed into three modules to test the unit root, namely (Levin, Fu Lin, CHIA, 2002: 108):

The first form (1) y i,t = pyi,t-1 + ϵi,t …….. Δ

The second form (2) y i,t = αi + pyi,t-1 + ϵi,t ……. Δ

The third form (3) y i, t = αi + βi, t + pyi, t-1 + ϵi, t …….. Δ

It is through these previous models that LLC proposes to test the following hypotheses:

- The first pattern is H0: P=0 H1:P<0
- The second model is H0: P=0 H1: P<0
- The third model is H0: P=0 H1: P<0

In the general case when there is an autocorrelation between the residuals, the LLC test is based on the Augmented Dickey - Fuller Test ADF model, the test can allow the residuals to be placed in known distributions for individual t statistics, and the three models take the form The following explains this:

The first model.... (4) $\Delta Y_{i.t-s} + U_{it}$ $y_{i,t} = py_{i,t-1} + \sum_{s=1}^{pt} yi\ ,t\ \Delta$

The second model….(5) $\Delta\gamma_{i.t} = a_i + \Delta\gamma_{i,t} + P\gamma_{i,t-1} + \sum_{s=1}^{Pt} \gamma i\ ,s\Delta\gamma_{i,t-s+Uit}$

The third form …….(6) $\Delta\gamma_{i.t} = a_i + \beta_{i,t} + \Delta\gamma_{i,t} + P\gamma_{i,t-1} + \sum_{s=1}^{Pt} \gamma i\ \gamma i,s\Delta\gamma_{i,t-s}$

- Since: (i.i.d$(0,\sigma^2{}_{u,i} \sim u_{it}$)

Test (IPS) Im, Pesaran and Shin: IPS is a model for testing the unit root of tablet data, through a study in (1997). Which is the opposite of the LLC test. The IPS test allows for inhomogeneity in the value of Pi under the alternative hypothesis and the formula is as follows (Strauss, Yigit, 2003: 309):

$$\Delta\gamma_{i,t=a_i+P_iY_{i.t-1}+\sum_{Z=1}^{Pi}\beta i,z\Delta\gamma_{i,t-z}+\epsilon_{i,t}} \text{.....(7)}$$

Since:

H0: Pi = 0
H1: Pi < 0

IPS takes on expanded Deckey–Fuller statistics averaged across groups. Accordingly, the IPS statistic that is used to test the unit root of tablet data is: Hurlin Mignon, 2007: 5.

$$t\_bar_{NT} = \frac{1}{N}\sum_{i=1}^{N} tp_{it} \text{ ..... (8)}$$

- As: (〖tp〗_(it)): The individual statistic that relates to the (t) statistic associated with the null hypothesis.

Through the absence of autocorrelation of errors, IPS indicates that this average statistic follows the natural law in the case of (T.N ∞), and accordingly, IPS defines a standard statistic W tbar and is written in the following form: (2007: Hurlin Mignon, 6)

$$W_{tbar} = \frac{\sqrt{N}[t-bar_{NT}-N^{-1}\sum_{i-1}^{N}E[t_{iT}(Pi.0)]]\rho_{i=0}}{\sqrt{N^{-1}\sum_{i-1}^{N}Var[t_{iT}(p_i,0)p_i=0]}} \text{.....(9)}$$

The Wu and Maddala test

This test is an illustration of Fisher's test developed in (1932). As the Maddala and Wu test in (1999) is simple and depends on a combination of the levels of significance of the study sample.

Let it be {Pi = Fti (Gi)}, which is a (P-value) related to the Gi statistic, which expresses a test statistic for the null hypothesis of the unit root. As for Fti, this expresses the statistical density Gi with respect to the time dimension Ti. Maddala and Wu put the statistics for this test: (Asteriou, Hall, 2011: 445):

$$P = -2\sum_{i=1}^{N} 1n\rho i \text{ ..... (10)}$$

As (Maddala and Wu) statistics follow the distribution of (X2) by the square of the degree of freedom if it is (T ∞), hence when the statistical result is greater than the value (X2) by the square of the degree of freedom, the null hypothesis of the unit root is rejected, and the alternative hypothesis is accepted. Likewise, the opposite occurs in the event that the result of the and Maddala Wu test statistic is less than (X2) by the squared degree of freedom, and the null hypothesis of the unit root is accepted, and the alternative hypothesis is rejected (Fahad, Abdurrazaq, 2022).

Description of the standard analysis methodology and the model used in the study to measure the impact or refer to it as variables that reflect the financial crises of Iraqi private banks:

Model description stage

It relied on a set of tests and based on the nature of the data to be analyzed, which is called tablet data, which is:

Cross section dependence test

There are many tests that have been employed in detecting dependence between cross sections, the most important of which are (Pesaran, 2007:266, as well as (De - Hoyos and Sarafidi, 2006). These tests are considered to suggest the emergence of this dependence between cross sections (N) due to the presence of invisible kinks that can increase the size of the error (Pesaran, 2007:266). If there is a dependency between these cross-sections and it is not taken into account, this will lead to inconsistency of the standard error and thus make these estimated parameters inconsistent (Driscoll and Krauy,1998).This case is increasing, especially if the number of cross sections is greater than the time series (T) in the plate data (Al-Smadi, 2023).This takes one of the new tests to detect the dependence on cross section errors after estimating the linear dynamic plate data model using the generalized method For moments *(GMM)(The Generalized Method of Moments).The test is valid when the plate cross-section length is large relative to the length of the section time series.This test can check if there is any dependence of the error between the cross-sections over time. In addition, it turns out that the estimation by the General Momentum Method (GMM), which is based on autoregressive and can be an excellent alternative under the adoption of inhomogeneous cross-sectional errors (Alenezi, 2019: 133). It can be assumed that there is a model for the following tablet data:

$Y_{IT} = a_I + B_I X_{IT} + U_{IT}$ ……(11)
N …… i = 1،2
T ..... t =1، 2

Where,

i: represents the indices of the length of time of the cross-section
t: the length of time for the string
Xit: autoregressive vector
ai: the individual intersection coefficients of the cross section
Bi: transactional mile
Uit: wrong

Uit may assume cross-section dependency and e it is estimated by least squares method as follows:

e it=yit-ai-Bixit …….(12)

Calculate ai, Bi using the OLS method with the intersection of Yit regression and X it for each cross section (i) separately and The Lagrange Multiplier test (LM) is generally applicable and does not require a particular command for the units of the cross section . However, it is valid for small samples and large samples. In this test, Breusch and Pagan show that under the null hypothesis there is no dependence between the cross-sectional sections determined by the following hypothesis (Lee, 2005: 415-427):

H_0: COV (u_{it}، u_{jt}) = 0 for all $_t$، i ≠ j

H_1: COV (u_{it}، u_{jt}) = 0 for some t and some i ≠ j

Hence, the most important test that is employed to detect reliability is the test (Pesaran, 2004). This test is also used especially if the number of cross-sections is greater than the length of the time series. So it is appropriate with the nature of our study. The Pesaran statistic can be calculated according to the following formula (Sakyi, 2011: 26):

$$CD = \sqrt{\frac{2T}{N(N-1)}}\left(\sum_{j=1}^{N-1}\sum_{j=i+1}^{N} \acute{P}_{ij}\right) \ldots\ldots\ldots\ldots (13)$$

As Ṕ_ij is estimated from the following equation (Hoyos, 2006: 482-496):

$$p_{ij} = \frac{\sum_{t=1}^{T} \varepsilon_{it}\varepsilon_{jt}}{(\sum_{t=1}^{T} \varepsilon_{it}^2)^{\frac{1}{2}}(\sum_{t=1}^{T} \varepsilon_{it}^2)^{\frac{1}{2}}} \text{ ……..(14)}$$

So the null hypothesis is

H_0 : Pij = Pji = corr (εit، εjt) = 0

So that for each i ≠ j, against the alternative hypothesis which is:

H_0 : Pij ≠ Pji ≠ C ≠ 0

such that i ≠ j

Tablet data sleep tests

The inertia test for dynamic models is based on estimating the inertia of the time series, assuming smoothing of the cross-sections in order to use nested methods involving very subtle changes. In the case of heterogeneity, the accumulated common factors of lagging dependent variables do not converge (Al-Enezi, 2022: 135). The general form of the model can be formulated as follows (Peiyuan, Yongda, 2004: 17-18):

$$\Delta y_{it} = a_i + \emptyset_i \Delta y_{it-1} + u_{it} \text{ … … (15)}$$

$$\emptyset = \emptyset + \text{ηi } \sim iid\ (o، \sigma^2 \text{η }) ، \sigma \text{^2 η } < \infty / \emptyset_{\text{ i}}| < 1 \forall i،$$

The interaction can affect the dynamics of static transition $\emptyset_{\text{ i}}$ and here it refers to the estimated parameter vector, which the dynamic interaction of cross-sections i is aggregated in the estimation process so that it takes the following estimate (Raza, Riaz, 2019:35):

$$\Delta y_{it} = a_i + \emptyset \Delta y_{it-1} + v_{it} \text{ … … (16)}$$

Assuming homogeneity holds $\emptyset_{\text{ i}}$ = 1∀i when Øi = Ø + ηi this is estimated consistently for the mean estimate. Here it is noted that the estimated remainder can be obtained as follows (Reza, Riyadh, 2019:35):

$$v_{it} = u_{it} + \eta_i \Delta y_{it-1} \text{ … …. . (17)}$$

Which,

consists of all the original random variable u_it. As well as the remainders for the other variables η_i Δy_(it-1).

Hence the importance of testing whether y it and y_(it-1) are correlated. If the linear combination is constant. such that e it is stable and eit (0) is denoted ~I. Which indicates that there is no relationship between y it and y_(it-1). Whereas if the linear combination here means that the unit root is unstable so that it follows eit for the unit root process it is unstable and here the reference is to (1) ~I e it. Which indicates the existence of a relationship y it and y_(it-1).

One of the most important stillness tests for tablet data is the test (Im, Pesaran, and Shin, 2003). This test is an upgraded version of the traditional ADF test and is calculated as follows (Neal, Keane, 2016: 523-549):

$$\Delta y_{it} = w_i y_{it-1} + \sum_{j=1}^{ki} \delta_{il} \Delta y_{it-j} + \varphi_i z_{it} + \varepsilon_{it} \dots\dots\dots (18)$$

Where,

K: Periods of slowing down
Zit: is the vector of the intersection boundary and it refers to the fixed traces in the tablet data.
: φ_i denotes the vector of the estimated parameters.
:w_i represent parameters of 1 – p

Here, the zeroness of the test is that the series is unstable, as follows (Karlsson, Lothgren, 2000: 250):

H0: Wi = 0 for all ..... (19)

As for the alternative hypothesis, the chain is stable, as follows (Karlsson & Lothgren, 2000:200):

H1: Wi < 0 for at least one i …….(20)

Hence a test is based on the basic premise that the parameters have first-order autoregressiveness and a t-test is computed for them. (Levin, Lin, Chu, 2002) as indicated in the following formula: Christopoulos & Tsionas, 2004:60):

$$\tau_{IPS} = \frac{\sqrt{N\left[\frac{1}{N}\sum_{i=1}^{N} t_i - \frac{1}{N}\sum_{i=1}^{N} E\left(\frac{t_i}{\rho_i}\right)\right]}}{\sqrt{\frac{1}{N}\sum_{i=1}^{N} var\left(\frac{t_i}{p_i} = 1\right)}} \Longrightarrow N(0،1) \ldots . (21)$$

〖_IPS〗 evokes Im, Pesaran, and Shin's test of static time series. The statistic of this test expresses the average of the individual values of the ADF test and for each cross section. Then it is converted to standard values and they are distributed normally with the large sample size.

Tablet data co-integration test

One of the most important of these tests is co-integration of tablet data. As the test (Pedroni, 1999, 2004), the fact that this test is based on the methodology of Engel - Cranger for two-step cointegration. Pedroni developed seven tests for this integration of tablet data. Four of them are based on the within estimate method. This alternative hypothesis, which assumes homogeneity between cross-sections, is tested. These tests are (Panel - V), (Panel - t), and (Panel - P), which are non-parametric tests. And the (Panel - ADF) test, which is my teacher. The four tests fit into small time series as in our study. The other three tests are based on the betweenween estimation method. It depends on the average variance of the segments, which are (group - ADF), (group - p), (group - t), and all of these tests are normally distributed, and compared with appropriate critical values (Al-Enezi, 2022: 137).

And that the estimation process will be done by assembling the direction of the slope of the cointegration of the i-sections, it will take the following formula: Pedroni, 2018:9):

y_it=a_i+βx_it+v_it…….(22)

Assuming the consistency of homogeneity ∀i I = β +β when ηi I = β +β, the errors are estimated according to the following formula (Pedroni 9:2018):

v_it=u_it+η_i x_it…….(23)

Here the original random variable 〖_it〗 is formed as well as the errors of the other variables η_i x_it, In this case the aspect we would like to take into account is the determination of the correlation test between x_it and y_it. And in the event that the linear combination is fixed so that eit is stable, the reference is made to (0) eit ~I, which means that there is no

integration relationship between x_it and y_it. In the case of a linear combination, which proves the existence of a non-static unit root, as eit follows the non-static unit root process, reference is made to (1) eit ~I, which is explained by the existence of an internal integration relationship between x_it and y_it .

MEASURING THE RELATIONSHIP BETWEEN ECONOMIC CRISES AND INVESTMENT PORTFOLIOS: FIRST: (PMG / ARDL) TEST (MODELS (POOLED MEAN GROUP/ AR DISTRIBUTED LAG)

Most unit root tests show that most of the variables are stable at the first level of the data (1)I. It means that it has a unit root, so we will apply the (Auto regressive Distributed Lag) ARDL model proposed by Pesaran (1997) and Paseran (1990). This provides an effective estimate of both short and long-term effects on the basis of a series of tablet data that includes a relatively large number of units and time periods, but provided that these variables that are analyzed are stable at a level less than the second difference (2) I. Here it should be noted That (PMG ARDL) is more effective than other linear regression models in avoiding homogeneity of the independent and dependent variables. Here, the dynamic ARDL model can be defined by the following formula (Gligoric, borovic & vujanic, 2018:23-35):

$$y_{it} = \sum_{j=1}^{p} \lambda_{ij} y_{i,j} - j + \sum_{j=0}^{q} \delta_{ij} x_{i.t} - j + u_i + \varepsilon_{ij} \ \ldots\ldots (24)$$

Second: Stillness Tests for Variables

Table (1) shows the sedation test according to the methodology (Im, Pesaran and Shin) for the variable closing prices of banks.

Table (1): The sedation test according to the methodology of (Im, Pesaran and Shin) for the closing prices

Method					Statistic		Prob.**
Im، Pesaran and Shin W-stat					-0.2306		0.4088
** Probabilities are computed assuming asympotic normality							
Intermediate ADF test results							
Cross Section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
b1	-1.2200	0.6572	-1.524	0.767	0	4	43
b2	-1.2332	0.6514	-1.524	0.767	0	4	43
b3	-2.3594	0.1590	-1.524	0.767	0	4	43
b4	-1.2678	0.6359	-1.524	0.767	0	4	43
b5	-0.8024	0.8078	-1.478	0.827	2	4	41
b6	-2.1519	0.2263	-1.524	0.767	0	4	43
b7	-3.3232	0.0199	-1.524	0.767	0	4	43
b8	-1.1784	0.6752	-1.524	0.767	0	4	43
b9	-0.5273	0.8757	-1.524	0.767	0	4	43

b10	-1.2592	0.6398	-1.524	0.767	0	4	43
b11	-2.1621	0.2226	-1.524	0.767	0	4	43
b12	-1.5931	0.4772	-1.521	0.799	1	4	42
b13	-1.9117	0.3240	-1.524	0.767	0	4	43
b14	-1.0137	0.7395	-1.478	0.827	2	4	41

Null Hypothesis: Unit root (individual unit root process)/ Series: Y/ Date: 10/13/22 /Time: 09:08/Sample: 2010Q1 2020Q4/Exogenous variables: Individual effects/User-specified maximum lags/Automatic lag length selection based on SIC: 0 to 2/Total number of observations: 597/Cross-sections included: 14
Source: Output from Eviews version 12

The results of the summative test for stillness show that the summative time series is not static at the level according to (Im, Pesaran and Shin); Because the value of Prob. greater than (0.1). Also, most of the time series at the level of each bank are not static at the level according to the ADF formula because Prob. greater than (0.1). As Table (15) shows, after taking the first difference of the dependent variable (D (Y)), the results appear on Table (2), the quiescent test of the closing prices of banks.

Table (2) Quiet test of closing prices in the case of (D(Y))

Method	Statistic	Prob.**
Im، Pesaran and Shin W-stat	-24.780	0.0000

** Probabilities are computed assuming asympotic normality
Intermediate ADF test results

Cross Section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
b1	-7.1458	0.0000	-1.524	0.768	0	4	42
b2	-5.1522	0.0001	-1.524	0.768	0	4	42
b3	-10.090	0.0000	-1.524	0.768	0	4	42
b4	-7.0507	0.0000	-1.524	0.768	0	4	42
b5	-7.8268	0.0000	-1.520	0.801	1	4	41
b6	-6.2109	0.0000	-1.520	0.801	1	4	41
b7	-10.112	0.0000	-1.524	0.768	0	4	42
b8	-6.9039	0.0000	-1.524	0.768	0	4	42
b9	-7.5192	0.0000	-1.524	0.768	0	4	42
b10	-5.2083	0.0001	-1.476	0.830	2	4	40
b11	-9.1230	0.0000	-1.524	0.768	0	4	42
b12	-9.7861	0.0000	-1.524	0.768	0	4	42

Null Hypothesis: Unit root (individual unit root process)
Source: Output from Eviews version 12

The results of the summative test for stillness show that the summative time series is stationary at the first difference according to (Im, Pesaran and Shin); Because the value of Prob. less than (0.1). Also, the time series at the level of each bank are stationary at the first difference according to the ADF formula because Prob. less than (0.1). As shown in table (1)

Table (3) shows the sedation test according to the methodology (Im, Pesaran and Shin) for the market value.

Table (3) Stagnation test according to (Im, Pesaran and Shin) methodology for the market value Null Hypothesis: Unit root (individual unit root process)

Method		Statistic	Prob.**
Im‹ Pesaran and Shin W-stat		-3.00238	0.0013
Im‹ Pesaran and Shin t-bar		-2.22695	
T-bar critical values ***:	1% level	-2.06640	
	5% level	-1.91360	
	10% level	-1.82400	

** Probabilities are computed assuming asympotic normality
*** Critical values from original paper
Intermediate ADF test results

Cross Section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
b1	-2.2269	0.2001	-1.524	0.767	0	4	43
b2	-2.2269	0.2001	-1.524	0.767	0	4	43
b3	-2.2269	0.2001	-1.524	0.767	0	4	43
b4	-2.2269	0.2001	-1.524	0.767	0	4	43
b5	-2.2269	0.2001	-1.524	0.767	0	4	43
b6	-2.2269	0.2001	-1.524	0.767	0	4	43
b7	-2.2269	0.2001	-1.524	0.767	0	4	43
b8	-2.2269	0.2001	-1.524	0.767	0	4	43
b9	-2.2269	0.2001	-1.524	0.767	0	4	43
b10	-2.2269	0.2001	-1.524	0.767	0	4	43
b11	-2.2269	0.2001	-1.524	0.767	0	4	43
b12	-2.2269	0.2001	-1.524	0.767	0	4	43
b13	-2.2269	0.2001	-1.524	0.767	0	4	43
b14	-2.2269	0.2001	-1.524	0.767	0	4	43

Source: Output from Eviews version 12

The results of the summative test for stillness show that the summative time series is stationary at the level according to (Im, Pesaran and Shin); Because the value of Prob. less than (0.1). Also, the time series at the level of each bank is not static at the level according to the ADF formula because Prob. greater than (0.1). As shown in Table (2)

Table (4) shows the first difference quiescent test (D(X1)) according to the methodology (Im, Pesaran and Shin) for the market value.

Table (4) Stagnation test according to (Im, Pesaran and Shin) methodology for market value (D(X1))Null Hypothesis: Unit root (individual unit root process)

Method		**Statistic**	Prob.**
Im‹ Pesaran and Shin W-stat		**-12.4701**	0.0000
Im‹ Pesaran and Shin t-bar		**-4.44450**	
T-bar critical values ***:	1% level	**-2.06560**	
	5% level	**-1.91440**	
	10% level	**-1.82400**	

** Probabilities are computed assuming asympotic normality

*** Critical values from original paper
Intermediate ADF test results

Cross Section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
b1	-4.4445	0.0009	-1.524	0.768	0	4	42
b2	-4.4445	0.0009	-1.524	0.768	0	4	42
b3	-4.4445	0.0009	-1.524	0.768	0	4	42
b4	-4.4445	0.0009	-1.524	0.768	0	4	42
b5	-4.4445	0.0009	-1.524	0.768	0	4	42
b6	-4.4445	0.0009	-1.524	0.768	0	4	42
b7	-4.4445	0.0009	-1.524	0.768	0	4	42
b8	-4.4445	0.0009	-1.524	0.768	0	4	42
b9	-4.4445	0.0009	-1.524	0.768	0	4	42
b10	-4.4445	0.0009	-1.524	0.768	0	4	42
b11	-4.4445	0.0009	-1.524	0.768	0	4	42
b12	-4.4445	0.0009	-1.524	0.768	0	4	42
b14	-4.4445	0.0009	-1.524	0.768	0	4	42

Source: Output from Eviews version 12

The results of the summative test for stillness show that the summative time series is stationary at the first difference according to (Im, Pesaran and Shin) because the value of Prob. less than (0.1). Also, the time series at the level of each bank are static at the first difference according to the ADF formula; Because Prob. less than (0.1). As shown in Table (4).

Table (5) shows the static test according to the methodology (Im, Pesaran and Shin) for GDP.

Table (5) Sleep test according to (Im, Pesaran and Shin) methodology for GDP

Method	Statistic	Prob.**
Im، Pesaran and Shin W-stat	1.33156	0.9085

** Probabilities are computed assuming asympotic normality
Intermediate ADF test results

Cross section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
b1	-1.8841	0.6450	-2.178	0.680	1	19	42
b2	-1.8841	0.6450	-2.178	0.680	1	19	42
b3	-1.8841	0.6450	-2.178	0.680	1	19	42
b4	-1.8841	0.6450	-2.178	0.680	1	19	42
b5	-1.8841	0.6450	-2.178	0.680	1	19	42
b6	-1.8841	0.6450	-2.178	0.680	1	19	42
b7	-1.8841	0.6450	-2.178	0.680	1	19	42
b8	-1.8841	0.6450	-2.178	0.680	1	19	42
b9	-1.8841	0.6450	-2.178	0.680	1	19	42
b10	-1.8841	0.6450	-2.178	0.680	1	19	42
b11	-1.8841	0.6450	-2.178	0.680	1	19	42
b12	-1.8841	0.6450	-2.178	0.680	1	19	42
b13	-1.8841	0.6450	-2.178	0.680	1	19	42
b14	-1.8841	0.6450	-2.178	0.680	1	19	42

Null Hypothesis: Unit root (individual unit root process)
Source: Output from Eviews version 12

The results of the summative test for stillness show that the summative time series is not stationary at the level according to (Im, Pesaran and Shin); Because the value of Prob. greater than (0.1). Also, the time series at the level of each bank is not static at the level according to the ADF formula because Prob. greater than (0.1). As shown in Table (4)

Table (6) shows the static test according to the methodology (Im, Pesaran and Shin) for the GDP at the first difference.

Table (6) Sleep test according to (Im, Pesaran and Shin) methodology for GDP D (X2)

Method	Statistic	Prob.**
Im‹ Pesaran and Shin W-stat	-2.4E+12	0.0000

** Probabilities are computed assuming asympotic normality
Intermediate ADF test results

Cross section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
b1	-7.E+11	0.0000	-1.768	1.222	19	19	23
b2	-7.E+11	0.0000	-1.768	1.222	19	19	23
b3	-7.E+11	0.0000	-1.768	1.222	19	19	23
b4	-7.E+11	0.0000	-1.768	1.222	19	19	23
b5	-7.E+11	0.0000	-1.768	1.222	19	19	23
b6	-7.E+11	0.0000	-1.768	1.222	19	19	23
b7	-7.E+11	0.0000	-1.768	1.222	19	19	23
b8	-7.E+11	0.0000	-1.768	1.222	19	19	23
b9	-7.E+11	0.0000	-1.768	1.222	19	19	23
b10	-7.E+11	0.0000	-1.768	1.222	19	19	23
b11	-7.E+11	0.0000	-1.768	1.222	19	19	23
b12	-7.E+11	0.0000	-1.768	1.222	19	19	23
b13	-7.E+11	0.0000	-1.768	1.222	19	19	23
b14	-7.E+11	0.0000	-1.768	1.222	19	19	23

Null Hypothesis: Unit root (individual unit root process)
Source: Output from Eviews version 12

The results of the summative static test show that the ensemble time series is static at difference according to (Im, Pesaran and Shin); Because the value of Prob. less than (0.1). Also, the time series at the level of each bank are static at the level according to the ADF formula; Because Prob. less than (0.1). As shown in Table (5)

Table (7) shows the sedation test according to the methodology (Im, Pesaran and Shin) for crude oil prices in the global market.

Table (7) Stillness test according to (Im, Pesaran and Shin) methodology for crude oil prices

Method	Statistic	Prob.**
Im‹ Pesaran and Shin W-stat	-6.6887	0.0000

** Probabilities are computed assuming asympotic normality
Intermediate ADF test results
Cross Max

Section	t-Stat	Prob.	E(t)	E(Var)	Lag	Lag	Obs
b1	-3.6781	0.0397	-1.835	1.063	13	19	30
b2	-3.6781	0.0397	-1.835	1.063	13	19	30
b3	-3.6781	0.0397	-1.835	1.063	13	19	30
b4	-3.6781	0.0397	-1.835	1.063	13	19	30
b5	-3.6781	0.0397	-1.835	1.063	13	19	30
b6	-3.6781	0.0397	-1.835	1.063	13	19	30
b7	-3.6781	0.0397	-1.835	1.063	13	19	30
b8	-3.6781	0.0397	-1.835	1.063	13	19	30
b9	-3.6781	0.0397	-1.835	1.063	13	19	30
b10	-3.6781	0.0397	-1.835	1.063	13	19	30
b11	-3.6781	0.0397	-1.835	1.063	13	19	30
b12	-3.6781	0.0397	-1.835	1.063	13	19	30
b13	-3.6781	0.0397	-1.835	1.063	13	19	30
b14	-3.6781	0.0397	-1.835	1.063	13	19	30

Null Hypothesis: Unit root (individual unit root process)
Source: Output from Eviews version 12

The results of the summative test for stillness show that the summative time series is stationary at the level according to (Im, Pesaran and Shin) because the value of Prob. less than (0.1). Also, the time series at the level of each bank are static at the level according to the ADF formula; Because Prob. less than (0.1). As shown in Table (22). So there is no need to take the first difference of the data (Al-Ameri, Abadi, 2022).

Based on the tests of static at the level and the first difference from Table (1) to (7), the variables appear, some of which are static at the first difference (y, X1.X2). While the variable (X3) is stationary at the level. Therefore, the ARDL method can be applied to tablet data or the PMG / ARDL method, which is abbreviated pooled mean group / Autoregressive distributed lag. i.e. autoregressive lag distributed for tablet data.

Applying the PMG/ARDL Method to Determine the Impact of Economic Crises and their Repercussions on Investment Portfolios

Test cointegration according to a method

Table (8) shows the results of the integration test for the tablet data according to the Pedroni method.

Table (8) The results of the cointegration test according to the Pedroni method
Pedroni Residual Cointegration Test
Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	19.77048	0.0000	19.84864	0.0000
Panel rho-Statistic	-7.871935	0.0000	-7.756832	0.0000
Panel PP-Statistic	-2.710189	0.0034	-2.563963	0.0052
Panel ADF-Statistic	1.064768	0.8565	1.075484	0.8589

Source: Output from Eviews version 12

Badroni's co-integration test, according to the four formulas, shows the existence of long-term integration between the dependent variable (closing price) and the independent variables (market value, GDP, and crude oil prices) during the quarterly period 2010-2020. Which means that the PMG/ARDL method can be applied

Determine the optimal deceleration period for the ARDL model

Table (9) shows the optimal deceleration times according to different tests.

Table (9) Optimum deceleration times tests according to different tests. Model Selection Criteria Table

Model	LogL	AIC*	BIC	HQ	Specification
5	187.759000	-0.306282	0.482021	0.001530	ARDL(2، 1، 1، 1، 1)
9	199.119701	-0.296856	0.599645	0.053205	ARDL(3، 1، 1، 1، 1)
1	170.867479	-0.295955	0.384149	-0.030392	ARDL(1، 1، 1، 1، 1)
13	205.898628	-0.271067	0.733633	0.121243	ARDL(4، 1، 1، 1، 1)
6	225.067171	-0.239526	0.981571	0.237281	ARDL(2، 2، 2، 2، 2)
10	236.979325	-0.232069	1.097226	0.286987	ARDL(3، 2، 2، 2، 2)
14	249.825534	-0.227948	1.209545	0.333356	ARDL(4، 2، 2، 2، 2)
2	201.726455	-0.206166	0.906732	0.228392	ARDL(1، 2، 2، 2، 2)
7	263.167261	-0.175597	1.478293	0.470204	ARDL(2، 3، 3، 3، 3)
11	275.188242	-0.168529	1.593559	0.519521	ARDL(3، 3، 3، 3، 3)
15	288.794713	-0.167124	1.703163	0.563175	ARDL(4، 3، 3، 3، 3)
12	329.410404	-0.162180	2.032702	0.694865	ARDL(3، 4، 4، 4، 4)
3	235.518880	-0.126853	1.418839	0.476700	ARDL(1، 3، 3، 3، 3)
8	291.388464	-0.076387	2.010296	0.738409	ARDL(2، 4، 4، 4، 4)
16	317.431757	-0.069399	2.233682	0.829895	ARDL(4، 4، 4، 4، 4)
4	259.502951	-0.012511	1.965975	0.760037	ARDL(1، 4، 4، 4، 4)

Source: Output from Eviews version 12

The above table shows that the best delay period for the relationship between search variables is the ARDL period (2, 1, 1, 1, 1). ARDL indicates that the optimal relationship between the variables is that the rank of the slowing period of the dependent variable 2 and the independent variables is one period.

Long-term and short-term response outcomes according to ARDL

Table (10) Estimation of long and short term response according to ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
	Long Run Equation			
X1	-0.060522	0.016070	-3.766228	0.0002
X2	-0.003287	0.000424	-7.760390	0.0000
X3	0.015915	0.000967	16.46326	0.0000
X4	0.202638	0.056688	3.574610	0.0004
	Short Run Equation			
COINTEQ01	-0.393411	0.067657	-5.814799	0.0000
D(Y(-1))	0.039822	0.052932	0.752318	0.4522
D(X1)	0.058892	0.022934	2.567921	0.0105
D(X2)	0.013159	0.011825	1.112831	0.2663
D(X3)	-0.024170	0.023110	-1.045886	0.2961
D(X4)	-0.106171	0.051763	-2.051116	0.0408
C	0.285224	0.146738	1.943764	0.0525
Mean dependent var	-0.020391	S.D. dependent var		4.338107

S.E. of regression	3.104007	Akaike info criterion	-0.314652
Sum squared resid	4952.318	Schwarz criterion	0.417769
Log likelihood	198.9128	Hannan-Quinn criter.	-0.029872

Dependent Variable: D(Y)
Method: ARDL
Note: final equation sample is larger than selection sample
Source: Output from Eviews version 12

The Long-Run Equation Indicates

• The existence of an adverse effect from the market value to the closing prices of the banking sector. That is, if the market value increases by one unit, the closing price will decrease by (0.06). This effect is significant at a lower level (0.05)

• The presence of an adverse effect from the gross domestic product to the closing prices of the banking sector. That is, if the GDP increases by one unit, the closing price will decrease by (0.003). This effect is significant at a lower level (0.05).

• The existence of a direct effect from crude oil prices to the closing prices of the banking sector. That is, if the price of crude oil increases by one unit, the closing price will increase by (0.01). This effect is significant at a lower level (0.05).

• Existence of a direct effect from the economic crises to the closing prices of the banking sector. That is, the existence of it contributes to raising the closing price by (0.20). This effect is significant at a lower level (0.05).

While the error correction and short-term response parameter indicates the following:

• The correction parameter is negative and significant at the level (0.05). The value of the error correction parameter is (-0.39). It is an indication that the return to long-term equilibrium needs (0.39) of time.

• There is a significant effect of the market value, the economic crises and the share price for the previous period on the current closing prices in the short term.

• There is no significant effect of GDP and crude oil prices on current stock prices in the short term.

CONCLUSION

Results

Crude oil prices and gross domestic product in Iraq have fluctuations in crude oil prices, and this is clearly reflected in macroeconomic variables, especially on gross domestic product. Also, the results of instability appear in the market value, especially for the fourth quarter of 2020. Based on the tests of static at the first difference and the variables, some of them are static at the first difference (closing price, market value, gross domestic product). While the

variable (international crude oil prices) is static at the level. Therefore, the ARDL method can be applied to tablet data or the PMG/ARDL method, which is pooled mean group / Autoregressive distributed lag. i.e. autoregressive distributed lag for tablet data. Badroni's co-integration test, according to the four formulas, shows that there is long-term integration between the dependent variable (closing price) and the independent variables (market value, gross domestic product, crude oil prices) during the quarterly period 2010-2020, which means that the PMG method can be applied. ARDL. The results of the (PMG / ARDL) test proved that there is an adverse effect that moves from the market value to the closing prices of the banking sector. That is, an increase in the market value contributes to a decrease in the closing price, and this is contrary to economic theory. The justification for this is due to the banks listed in the Iraqi market increasing the issuance of new shares during the years (2013 and 2014) due to the request of the Central Bank of Iraq from banks to increase their capital to 250 billion Iraqi dinars. The results also showed that there is an opposite effect from the gross domestic product to the closing prices of the banking sector. This can be justified by the increase in GDP associated with the increase in oil revenues; Because the oil sector contributes to 60% of GDP in Iraq.

Discussion

Paying attention to developing investment portfolios in Iraq by following sound policies in implementing the necessary procedures for investing in portfolios. Raising awareness of the culture of investment portfolios, spreading awareness about investment portfolios within investment communities or investment companies, and establishing the idea of establishing a fund to guarantee investment portfolios in a symbiotic manner that mitigate the risks of fluctuations in oil revenues resulting from crises. Paying attention to modern trends in managing investment portfolios in Iraq and finding very important incentives to take care of investment portfolios. Work on developing and expanding the activity of investment banks, given that their current role is not encouraging to manage the national economy as a whole. Work to get rid of the restrictions imposed by the economic investment environment and the general investment environment in the Iraqi economy. Paying attention to forecasting local and global economic crises, whose effects can be overcome in the future in a wider way to contain the economic effects reflected by these adverse crises so that decision makers can reach solutions and remedies to mitigate their severity. And addressing the imbalance in the stock market in order to achieve an increase in the contribution of other non-oil sectors to the gross

domestic product and reduce the risks resulting from dependence on the revenues of the oil source.

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