

The Impact of Inside Information Manipulation on the Efficiency of Financial Markets: A Case Study of the Amman Stock Exchange

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Abstract:

Through this study, we aim to know the impact of the exploitation of inside information on the efficiency of financial markets by applying to the Amman Stock Exchange, we used the descriptive approach in the theoretical side of the study by introducing the variables contained in the study, while on the applied side, we relied on a case study approach by studying the relationship between the returns of exploiting inside information and the returns of the ASE 100 index, and then deducing the effect of this on the efficiency of Amman Stock Exchange.

We concluded that the exploitation of inside information affects the efficiency of financial markets, and that insider trading by exploiting inside information can achieve higher returns than the market index, which are unfair returns, which violates the hypothesis of the efficiency of financial markets.

Key Words: *financial markets, efficiency of financial markets, inside information, exploitation of inside information, Amman Stock Exchange.*

JEL Classification: *G14, G15*

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1. INTRODUCTION

The Financial markets play an important role in achieving economic development by mobilizing financial savings and redirecting them towards investment, which made them the focus of attention of all countries of the world, whether developed or developing, and gave them great importance to researchers and specialists in economic affairs, by working to develop them to reach effective and efficient markets.

The levels of the latter are determined based on the information received by the market, whether this information is historical or represented in the financial statements or in the reports of financial analysts, it is expected from an efficient market that information reaches all investors at the same time and in a timely manner and that it is reflected in the prices of traded securities. From this standpoint, the importance of information and its relationship to the efficiency of the financial markets is clear as well as its importance for dealers in the financial market, especially with regard to rationalizing their investment decisions.

As information is the mainstay of efficiency and the basis of investment in the financial markets, we find that its dealers are the subject of intense competition and competition between them to obtain new information, which may sometimes push them to do some manipulations in order to access it before others, such as the senior managers in the institution and its owners exploiting inside information before it is published and before it is announced and available to everyone, which earns them extraordinary profits, or avoids losses at the expense of the rest of the dealers, and this manipulation is represented in exploiting inside information would affect the efficiency of financial markets.

The problem: Through the foregoing, the features of the main problem are clear, which were formulated as follows:

What is the impact of insider manipulation on the efficiency of financial markets?

Study hypotheses:

- First hypothesis :

H0: Inside information exploitation (insider trading) cannot yield higher returns than the market index return; That is, the Amman Stock Exchange is efficient;

- Second hypothesis :

H0: Inside Trading Returns follow the return of the market index, that is, the returns of insider trading are 100% explained by the return of the market index, that is, the Amman Stock Exchange is efficient.

In order to answer this problem and its hypotheses, we divided this research paper into the following axes:

- First: the efficiency of financial markets;
- Second: general concepts about the exploitation of inside information;
- Third: An analytical study between the returns of exploiting inside information and the returns of the ASE 100 index and its impact on the efficiency of financial markets.

2. The efficiency of financial markets

2.1 Definition of the efficiency of financial markets:

The efficiency of financial markets is one of the important topics that have aroused the interest of researchers in this field, it is not possible to talk about a financial market without addressing the subject of its efficiency, as it is expected that when the market is characterized by efficiency, all information received by it will be reflected in the prices of shares traded in it.

The efficiency of the financial market has been defined by many formulations and expressions, some of which we mention as follows:

- First definition: An efficient market is defined as that market in which all information about the expected changes in the results of the institution is immediately reflected in the prices of its securities. (Mahfoud, 2017, p. 263)

- Second definition: In an efficient market, the share price issued by a firm reflects all available information about it, whether such information is represented in the financial statements or in information broadcast by the media, or in the historical record of the share price in the past days, weeks and years, or in analyzes or reports on the effects of the general economic situation on the performance of the firm, or other information that affects the market value of the share. (Ibrahim, 1993, p. 489)

- Third definition: The efficiency of the financial market is defined as that market that enjoys a high degree of flexibility and allows to achieve a rapid response in the prices of securities, as a result of changes in the results of the analysis of information and data flowing to the market, which ultimately leads to achieving parity between the market value and the real value of securities. (Khaira, 2012, p. 87)

- Fourth definition: The efficiency of the financial market is defined as "representing the speed of response of prices in it, in an impartial manner to the information available to its dealers, and thus the prices of traded securities become a function of the available information. (Shuqairi Nouri Moussa, 2009, p. 16)

So, through the previous definitions, it is clear to us that the efficiency of the financial market is closely related to the information received by this market and related to the securities traded in it, where the more the response of securities prices to the

information received is quick and immediate, the more efficient the market will be.

2.2 Conditions for achieving efficiency

The efficiency of the financial market is achieved under the following fundamental conditions: (Mubarak & Abdul Wahab, 2017, pp. 87-88)

a. Rationality of investors: Among the conditions for achieving the efficiency of the financial market, the presence of rational investors in this market, and this includes two hypotheses to show the extent of the rationality of investors :

- First: Economic agents act according to the information received by the market, if the information received by the market about a financial asset is pleasant, dealers are willing to buy this asset, but if the opposite, that is, the information received by the market is unpleasant about a financial asset, this prompts dealers to decide to sell this asset;

- Second, investors are looking to maximize their profits by buying and selling financial assets and minimizing the risks resulting from buying and selling.

b. Freedom of information transfer: This condition requires the availability of information in the market, and the freedom of its transmission and access to all dealers without discrimination, in order for the price to reflect all available information, and therefore it is necessary:

- The arrival of information to all economic dealers at the same moment, meaning that there is no time interval between the arrival of information to one of the economic dealers and its arrival to another dealer;

- The analysis of information by economic dealers differs according to the experience and sophistication of each dealer, so it is not necessary for all economic dealers to reach the same results, and make the same decisions from their analysis of the information received into the market, but it depends on how each investor deals with the information, how it is analyzed and the extent of his experience to deal with this information.

c. Free information: All economic agents obtain information without incurring additional costs, if the information is not given to customers free of charge, dealers will argue that the cost of information and obtaining it is greater than the potential loss when they do not obtain this information.

d. No transaction costs: This condition requires that there are no restrictions on dealing in the financial market, represented in transaction costs, taxes and fees of the stock exchange, and stipulates that the investor can buy and sell financial assets of any size with ease, without bearing the costs of this transaction, or any fees or taxes, and also stipulates that there are no legislative restrictions on entering or exiting the market for dealers, or any restrictions of any kind that hinder the conclusion of transactions between dealers .

e. Multiple investors and availability of liquidity: There must be a large number of investors in the market, and in return, the availability of the necessary liquidity for their transactions, with the multiplicity of investors and the absence of liquidity, this reflects negatively on the deals held in the market, which reduces the efficiency of this market. In order for the market to achieve the desired efficiency, it must have two basic characteristics: (Zayer, 2016, p. 246)

- Pricing efficiency: Pricing efficiency is called external efficiency, and it means that new information reaches market dealers without a large time interval, that is, at one time, which makes prices reflect all available information, which makes dealing in the market a fair match, all dealers have the same opportunity to make profits, but it is difficult for any of them to achieve extraordinary profits at the expense of others.
- Operational efficiency: operational Efficiency is termed internal Efficiency, and it means the ability of the market to create a balance between supply and demand, without incurring a high cost of brokerage, and without allowing traders and specialists, that is, market makers, having any opportunity to achieve a large profit margin, and therefore pricing efficiency depends largely on operating efficiency.

In order for prices to reflect all the information received, the costs incurred by investors must be minimal, in order to encourage them to make efforts to obtain new information and analyze it, regardless of the impact of that information on prices. Therefore, if the transaction cost is high, the return may be higher. Behind the search for new information is minimal, and not enough to cover those costs.

2.3 Efficiency of financial markets and their relationship to information

"Information is very important in the financial market [...], The efficiency of the latter depends on the availability of information and data to investors in terms of the speed of its availability and the costs of obtaining it, and on the ability of investors to understand, interpret and analyze this information, as well as on the fairness of opportunities to benefit from it[...],The inability of investors or dealers to obtain them would affect the functioning of the effective financial market. In the event of unequal access to information in the financial market, this case is called asymmetry of information, that is, some dealers have information that others do not have, for example, senior employees of the institution have certain information that they can withhold from investors in order to achieve an extraordinary return for their own account before publishing it in financial reports [...], ". (Mustafa, 2015, pp. 240-246)

On this basis, the success of the stock market requires information based on a set of elements (Moftah Saleh, 2009/2010, p. 182), including:

- Showing the financial announcement and its role in controlling the movement of the financial market, which is known as public disclosure, which provides a sufficient amount of information that can be used to compare between different investment

opportunities;

- Provides financial information that reflects the financial position of the institution concerned to calculate its real value.

3. General concepts about the exploitation of inside information

3.1 Definition of inside information

There are many manipulations that occur within the financial markets, where the exploitation of inside information is one of the most important of these manipulations that affect the work of the financial market.

Many researchers and jurists have dealt with the term inside information, including the following:

- First definition: Inside information is undisclosed information related to one or more issuers, one or more securities, which may affect the price of any security if announced, and this does not include conclusions based on studies, research and financial economic analysis. (Al-Saeed, 2012, p. 9)

- Second definition: Inside information means any information related to a traded security that is not announced to the general public and is not available to them in any other way, and an ordinary person, in view of its nature and content, realizes that its announcement or provision to the public has a material impact on the price or value of the security. (Capital Market Authority, p. 2)

- Third definition: Inside information is undisclosed information that is real and substantial influencing securities prices and trading activity on them. It may come from within the source of the securities whose securities are affected by this information (such as information on dividends or mergers) or from outside this source (such as inside information coming from another source, such as takeover plans, or the competitor's bankruptcy), and in both cases, the party from which the information came is considered a "source of information". (Al-Qusi, 2011, p. 17)

- Fourth definition: Part of the British jurisprudence defined the information subject to exploitation related to the shares of a public shareholding company, which is prohibited from dealing in shares based on them or insider information as: "accurate or specific information, and that it is not disclosed to the public, and that if it is announced, it is likely to have a tangible impact on the prices of shares, and related to those shares, or the source of those shares (companies)". (Zayed & Al-Kharshoum, 2007, pp. 140-141)

So, inside information is every undisclosed, true, material information that has a clear effect on the price of the security, and it may be an internal source or an external one.

3.2 Inside information properties

Through the previous definitions, we deduce the characteristics of inside information, which are: (Zayed & Al-Kharshoum, 2007, pp. 143-150)

- a. Non-public information: the information exploited must be non-public and confidential;
- b. True information: It is not enough for the information to be undisclosed, but rather it must be true, and therefore the rumor is not considered - in the event of dealing based on it - as an exploitation of information, because the term information assumes the validity of the information;
- c. Information that may affect the prices of shares: The information on which trading in shares is prohibited based on must be related to the shares of the public shareholding company, as it is the most important, the most exchanged, and the most widespread, and it must also have an impact on the rising prices of these shares. or a decrease if it is announced
- d. Information relates to shares or the source of those shares (companies): It is not sufficient that the information be undisclosed, true or correct, and have a substantial impact on the prices after announcing it. Rather, the information must be related to the shares or the issuer of those shares (the company), and information related to the source of the shares. Either it is external or internal, and an example of the first is the offer presented to the company issuing the shares from another company to manage it, or a merger with it, and the example of the other is announcing the achievement of more profits.

3.3 Definition of inside information exploitation

The exploitation of inside information is one of the manipulations that occur in the financial market. Several definitions have been given to it as follows:

- First definition: "A person deals in the market when he has material and confidential information, so he makes a profit or avoids a loss by trading securities, which is an unfair practice and therefore must be considered illegal, because it violates the principle of transparency and disclosure that enshrines equality between market dealers in obtaining the necessary information for informed investment". (Al-Qusi, 2011, p. 13)
- Second definition: «The person who is familiar with inside information (leak) that is not published to the investor public, and (substantial) affecting the market price, carries out a trading operation on the stock exchange based on this information before circulating it, with the intention of achieving a guaranteed profit." (Hammam Al-Qusi, 2017, p. 88)

"This practice is also called "insider trading" on the grounds that the insider trades inside information to profit from dealing on its basis, or "insider dealing", which is a non-inclusive designation that may not include making a profit, and it is also called insider trading, and this designation is internal focus or the confidentiality of dealing in particular. As for the name "exploitation of inside information", it explains the fact of dealing based on inside information with the aim of achieving a benefit from it, because the term "exploitation" means an attempt to achieve profit and benefit". (Al-Qusi, 2011,

p. 13)

4. RESULTS AND DISCUSSION: (An analytical study between the returns of exploiting inside information and the returns of the ASE 100 index and its impact on the efficiency of financial markets);

4.1 Study methodology and model used

We will rely on a case study methodology to test the validity of the previous hypotheses, where we will estimate a standard model, which is a linear regression in order to study how the independent variable represented by the return of the Amman Stock Exchange (ASE 100) affects the dependent variable representing the returns on the exploitation of inside information and then deduce the effect of the exploitation of inside information on the efficiency of financial markets .

4.1.1 The model used in the study

The sample size that we will rely on in our study is equal to 15 views, meaning that we will use a time database (time series) as the number of years is equal to 15 annual units, thus covering the annual period from 2007 to 2021 ($T = 15$), and thus the number of views used in this study is 15 views.

In order to be able to carry out an applied study on this phenomenon, we must first define the model used in this study, taking into account the order of variables according to their nature, that is, to identify dependent variables and interpreted variables, and this is what makes the model take the following formula :

$$insider\ trading = f(ASE\ 100)$$

To apply this model, we use a time database (time series) as the number of years is equal to 15 annual units, thus covering the annual period from 2007 to 2021 ($T = 15$), and thus the number of views used in this study is 15 views, so based on the sample used in this study, we can write the basic formula of the model as follows :

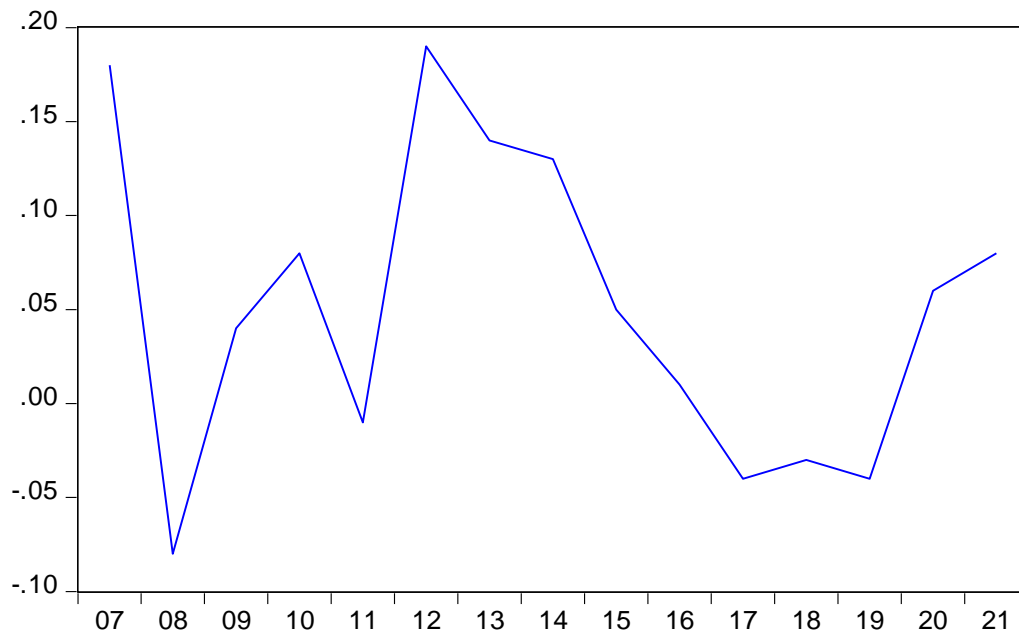
$$insider\ trading_t = C + \beta_1 ASE\ 100 + \varepsilon_t$$

4.1.2 Description and definition of study variables

In this study, it was relied on an independent variable, which is the returns of the Amman Stock Exchange Index (ASE100), as it is the most trusted and watched indicator in the stock exchange and is prepared by the Amman Stock Exchange Authority, in order to determine and evaluate the effect of this variable on the dependent variable represented in the returns of the exploitation of internal information. Below will be a detailed explanation of the various variables used in the standard model

Exploitation of inside information: which represents a person's dealings in the market when he possesses essential and confidential information, then he trades on the basis of it, making profits or avoiding losses, which is an illegal and unfair transaction. The following are the returns achieved in the Amman Stock Exchange resulting from the exploitation of inside information.

Fig.1. Insider Trading Returns
insider trading

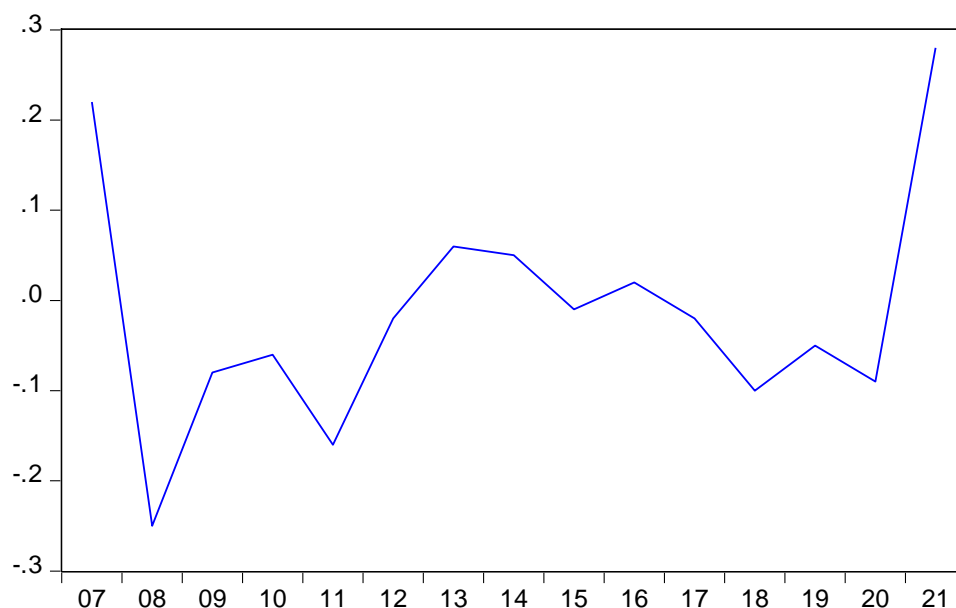


The returns from the exploitation of internal information witnessed a significant fluctuation during the period 2007-2021, and the average returns from the exploitation of internal information during the period 2007-2021 were about 5%, with the highest value reaching 19% in 2012, and the lowest value for returns was -8% in 2008.

ASE 100 Index Returns: This index was used as the most trusted and most viewed in the Amman Stock Exchange and is prepared by the Amman Stock Exchange Authority. Below are the returns of the Amman Stock Exchange Index.

Fig.2. ASE 100 Index Returns

ASE 100



The returns of the ASE100 index witnessed significant fluctuation during the

period 2007-2021, and the average returns of the index during the period 2007-2021 were about -1%, with its highest value reaching 28% in 2021, and the lowest value of it was -25% in 2008.

4.2 Analytical state of the dependent variable and explanatory variables contained in the model

4.2.1 Correlation between variables

At this stage, we will present the matrix of the linear correlation coefficient between the study variables in order to determine the correlation strength between these variables.

Table 1. Linear correlation coefficient matrix between the study variables

	INSIDER_T...	ASE_100
INSIDER_T...	1.000000	0.623548
ASE_100	0.623548	1.000000

Source: Prepared by the researcher using Eviews 10

Through our observation of the previous table, we can say that the correlation coefficient between the returns of the Amman Stock Exchange and the returns on the exploitation of inside information is equal to 0.62, which is statistically significant, and this is consistent with the reality that there is a positive relationship between them, and this gives us the idea that the correlation between these two variables is positive, that is, the correlation relationship that combines them is a positive relationship, and the absolute value of the correlation coefficient is equal to 0.62 which is completely greater than 0.5, which makes the correlation between these two variables Relatively strong, it can be said that there is a correlation between these two variables because the value of the correlation coefficient is exactly greater than 0.5.

4.2.2 Normal distribution test of study variables

The aim of this test is to find out if the dependent variables and explanatory variables follow the normal distribution, so before making any estimate, this property must first be known for the sake of accuracy and impartiality as well.

Table 2. Normal distribution test of study variables

Date: 11/21/22 Time: 20:43
Sample: 2007 2021

	INSIDER_T...	ASE_100
Mean	0.050667	-0.014000
Median	0.050000	-0.020000
Maximum	0.190000	0.280000
Minimum	-0.080000	-0.250000
Std. Dev.	0.083535	0.133620
Skewness	0.202130	0.656039
Kurtosis	1.959527	3.405998
Jarque-Bera Probability	0.778756 0.677478	1.178989 0.554608
Sum	0.760000	-0.210000
Sum Sq. Dev.	0.097693	0.249960
Observations	15	15

Source: Prepared by the researcher using Eviews 10

We note through Table No. 02 that the dependent variable represented by the returns of exploiting internal information follows the normal distribution, which makes us conclude that the regression that we will rely on in the first model is the general linear regression, as well as for explanatory variables that show a probability value greater than 0.05, which makes us accept the null hypothesis and reject the alternative hypothesis, and therefore it can be said that all explanatory variables follow the normal distribution, which makes us conclude that the regression used in this model is Also general linear regression.

4.3 Initial estimate of the standard model

4.3.1 Results of Estimation of the Model by Ordinary Least Squares Method

The results of this estimate are presented in the following table:

Table 3. Results of Estimation of the Model by Ordinary Least Squares Method

Dependent Variable: INSIDER_TRADING				
Method: Least Squares				
Date: 11/21/22 Time: 21:10				
Sample: 2007 2021				
Included observations: 15				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037655	0.015890	2.369736	0.0340
ASE_100	0.464717	0.123827	3.752955	0.0024
R-squared	0.520024	Mean dependent var		0.050667
Adjusted R-squared	0.483102	S.D. dependent var		0.083535
S.E. of regression	0.060058	Akaike info criterion		-2.663447
Sum squared resid	0.046890	Schwarz criterion		-2.569040
Log likelihood	21.97585	Hannan-Quinn criter.		-2.664453
F-statistic	14.08467	Durbin-Watson stat		2.000480
Prob(F-statistic)	0.002414			

Source: Prepared by the researcher using Eviews 10

In this step, the quality criteria necessary to evaluate the model will be determined, that is, we will sift the results obtained in order to decide about the disadvantages and advantages of this model, where we note from the table above that most of the estimated coefficients, that is, the regression coefficients of the explanatory variables and the intersectional parameter, are statistically significant independently at the threshold of one percent and five percent, as the model contains a coefficient of determination greater than 0.5 (0.52) that is, 52 percent, which means that the chosen model or rather the explanatory variables developed in the model or taken in the study have explanatory power and have an effect on the dependent variable.

4.3.2 Testing the overall significance of the model (studying the significance of the explanatory variables in combination)

We can use analysis of variance to test the significance of the effect of explanatory variables as a whole (combined) on the dependent variable, in other words it is possible to test whether the explanatory variables as a group have a substantial effect on the dependent variable, so it can be said that the hypothesis to be tested in this case is the null hypothesis, which states that the regression parameters as a whole, i.e. combined, are equal to zero in the face of the alternative hypothesis, which states that there is at least a regression parameter that differs from zero, if The null hypothesis was accepted, this includes that the explanatory variables as a group do not fundamentally affect the dependent variable, but if the null hypothesis is rejected and the alternative hypothesis is accepted, this includes that the explanatory variables as a group have a substantial effect on the dependent variable, and therefore we can conduct a significance test using Fisher and Wald test, where the results were as follows:

- **Fisher's test:**

Table 4. Results of the Fisher test for the significance of the model parameters

	Value	Df	Probability
Fisher's statistic	14,08467	(13, 2)	0.002414

Source: Prepared by the researcher using Eviews 10

We notice from the previous table that the probability of Fisher's statistic is completely smaller than 0.01 and 0.05, which allows us to say that the model has statistical significance as a whole, that is, all the parameters of the model as a group have a substantial effect on the dependent variable, which indicates the quality and power of the estimated model in explaining the phenomenon.

- **Wald test:**

Table 5. Results of the Wald test for model significance

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	12.38016	(2, 13)	0.0010
Chi-square	24.76033	2	0.0000

Null Hypothesis: C(1)=C(2)=0

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.037655	0.015890
C(2)	0.464717	0.123827

Restrictions are linear in coefficients.

Source: Prepared by the researcher using Eviews 10

We also note from the previous table that the chi-square statistic is completely smaller than 0.01 and 0.05, which allows us to say that the model has statistical

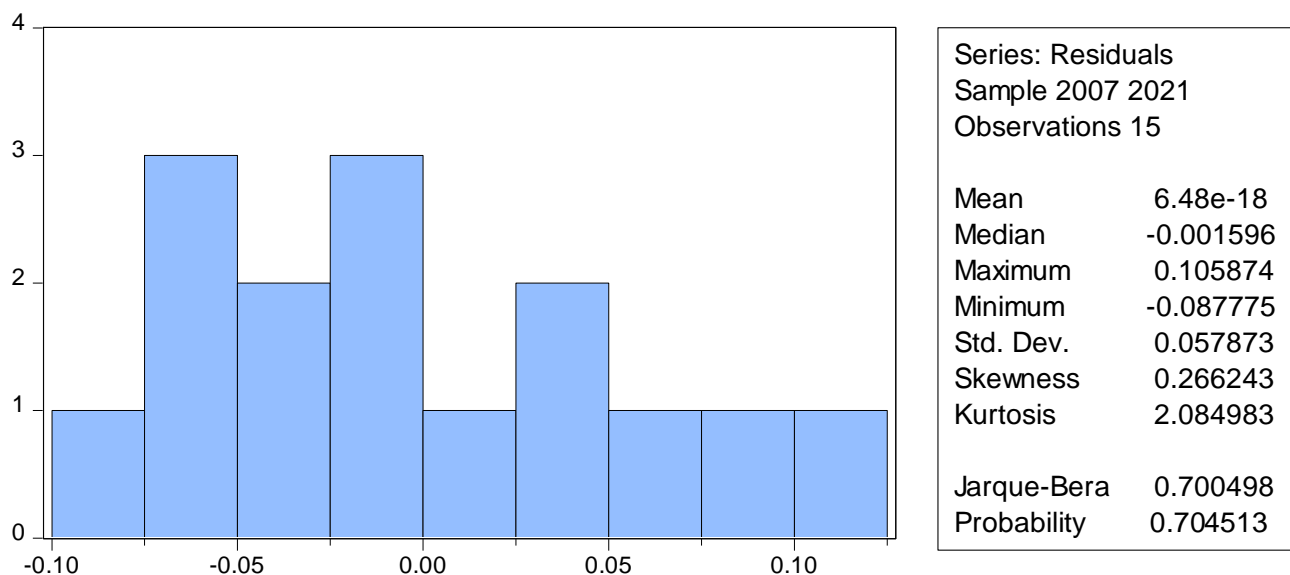
significance as a whole, that is, all model parameters as a group have a substantial effect on the dependent variable, which indicates the quality and power of the estimated model in explaining the phenomenon.

4.4 Standard problem identification tests

4.4.1 Normal residual distribution test

After we made sure that the model has high-quality advantages in estimation, it is time to analyze its residuals, as we will now verify the hypotheses that must and are required to be in the residuals of this model because their lack of availability will put us in many standard problems, so this is the first step we will take, which is to detect whether the remnants of this model follow the normal distribution, and the following table will show us this:

Table 6. Jarque-Bera test results



Source: Prepared by the researcher using Eviews 10

Through the table of descriptive statistics for the series of residuals, we find that the value of the standard deviation equal to 0.057873 is very weak, which suggests that there is no dispersion in the observations with respect to the arithmetic mean, which is approximately equal to zero (which means that the model is characterized by great accuracy in estimation), this gives us a preliminary result that there is no problem The instability of the variance due to the weak value of the deviation and dispersion in the observations, as for the probability of the Jarque-Bera statistic, which shows that it is equal to 0.704513 and is greater than 0.05, which means that we will reject the alternative hypothesis and accept the null hypothesis, which states that the residual series follows a normal distribution and Thus, we have verified the regression hypothesis sheet, which states that the residuals of the estimated model follow a normal distribution.

4.4.2 Detecting the autocorrelation problem

Table 7. Brooch and Godfrey's first-order autocorrelation test
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	6.144804	Prob. F(1,12)	0.2902
Obs*R-squared	5.079805	Prob. Chi-Square(1)	0.2421

Source: Prepared by the researcher using Eviews 10

We notice through the results of the tests shown in the previous table and Table No. 03 that the previously mentioned standard problem has been confirmed to be non-existent, as the Durban-Watson statistic shown in Table No. 03 is very close to the value 2, which suggests to us that the autocorrelation problem is of the first order. Between the errors of the model does not exist, and therefore we can say that we have verified the validity of the hypothesis that the remainder of the model across different periods do not have a correlation, that is, the covariance between them is equal to zero.

4.4.3 Detecting the problem of variance instability

In order to examine or detect this problem, we will use the following tests: Brooch-Paigen-Godfrey test, Harvey test, Glicer test, ARCH test and White test, where the results of these tests are as follows:

Table 8. Brooch, Paigen, and Godfrey test for variance instability in the model remainder
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.670954	Prob. F(1,13)	0.1262
Obs*R-squared	2.556597	Prob. Chi-Square(1)	0.1098
Scaled explained SS	1.041740	Prob. Chi-Square(1)	0.3074

Source: Prepared by the researcher using Eviews 10

We can see from the results of the previous table that the p-value of the Broche, Paigen, and Godfrey test for variance instability is exactly greater than 0.01 and 0.05, which suggests that the problem of variance instability for the remnants of the model does not exist.

Table 9. Harvey test for variance instability in the model remainder

Heteroskedasticity Test: Harvey			
F-statistic	2.614260	Prob. F(1,13)	0.1299
Obs*R-squared	2.511416	Prob. Chi-Square(1)	0.1130
Scaled explained SS	3.786868	Prob. Chi-Square(1)	0.0517

Source: Prepared by the researcher using Eviews 10

We can see from the results of the previous table that its p-value for the Harvey test for variance instability is exactly greater than 0.01 and 0.05, suggesting that the

problem of variance instability for the residuals of the model does not exist.

Table 10. Glicer test for variance instability in the sample remainder

Heteroskedasticity Test: Glejser			
F-statistic	2.753305	Prob. F(1,13)	0.1210
Obs*R-squared	2.621645	Prob. Chi-Square(1)	0.1054
Scaled explained SS	2.063182	Prob. Chi-Square(1)	0.1509

Source: Prepared by the researcher using Eviews 10

From the results of the previous table, we can see that its p-value for the Glicer test for variance instability is exactly greater than 0.01 and 0.05, which suggests that the problem of variance instability for the remnants of the model does not exist.

Table 11. ARCH test for variance instability in the model remainder

Heteroskedasticity Test: ARCH			
F-statistic	0.376907	Prob. F(1,12)	0.5507
Obs*R-squared	0.426334	Prob. Chi-Square(1)	0.5138

Source: Prepared by the researcher using Eviews 10

ARCH models allow modeling of financial variables containing non-constant conditional variance for random errors since conditional volatility that mostly expresses risk is not constant, so this test is based on the Lagrange LM multiplier.

We can see from the results of the previous table that its p-value for the ARCH test for variance instability is exactly greater than 0.01 and 0.05, which suggests that the problem of variance instability for the remnants of the model does not exist, and therefore we can say that there is no effect of ARCH.

Table 12. White's test for instability of variance with the model residual

Heteroskedasticity Test: White			
F-statistic	1.233549	Prob. F(2,12)	0.3257
Obs*R-squared	2.557974	Prob. Chi-Square(2)	0.2783
Scaled explained SS	1.042301	Prob. Chi-Square(2)	0.5938

Source: Prepared by the researcher using Eviews 10

From the results of the previous table, we can see that its p-value for the White test for variance instability is exactly greater than 0.01 and 0.05, which suggests that the problem of variance instability for the remnants of the model does not exist.

Therefore, we can say that the variation of the remainder of the estimated model is constant or homogeneous, which means that the hypothesis or limitation imposed in the estimation by the ordinary least squares method is realized, and in the end we can conclude that the model that we will rely on in our study does not contain standard

problems that would have caused significant biases in the results, this means that the standard model of this study is characterized by a very high explanatory ability and excellent quality.

4.5 Discuss hypotheses

- **Hypothesis I:** Inside information exploitation (insider trading) cannot yield higher returns than the market index return; That is, the Amman Stock Exchange is efficient;

By comparing Figure No. 01 representing the returns on the exploitation of inside information (insider trading returns) and Figure No. 02 representing the returns of the ASE 100 index, we find that the insider trading or returns derived from the exploitation of inside information were greater than the return of the ASE 100 index and in many years, for example in 2013, the return on insider trading was 14%, while the return of the ASE 100 index was 6 %, and so for the years 2014, 2015 ... And the rest of the years.

This leads to rejecting of the null hypothesis and the accepting the alternative hypothesis, that is, the returns on exploiting inside information (insider trading returns) can lead to higher returns than the ASE 100 index, meaning that the Amman Securities Exchange is an inefficient market.

- **The second hypothesis:** Inside Trading Returns follow the return of the market index, that is, the returns of insider trading are 100% explained by the return of the market index, that is, the Amman Stock Exchange is efficient.

It was clear through Table No. 01 that the correlation between the returns of the Amman Securities Exchange ASE 100 and the returns of Inside information exploitation (insider trading) was positive and statistically significant, and through Table No. 03, it was found that the interpreted variable represented in the returns of the Amman Securities Exchange Index ASE 100 was able to explain the changes in the dependent variable represented in the exploitation of inside information by 52%. Only, which confirms once again that insider trading enables higher returns than those of the market index which are extraordinary returns at the expense of other investors.

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, that is, the returns on the exploitation of inside information (insider trading) do not follow 100% the returns of the ASE 100 index, meaning that the Amman Securities Exchange is an inefficient market.

5. CONCLUSION

The efficiency of financial markets is the basic building block of any financial market, as most countries seek to develop them and try to reach their highest levels, and the latter unite based on the information received by the market and the level of its response to that information, and the investors' dealings are based on it, which made competition for it intense and prompted some investors to exploit some internal information and trade through it before it reaches the rest of the investors and thus

achieve unfair profits or avoid losses, as we worked through these The research paper to study the impact of exploiting inside information on the efficiency of financial markets through a case study of the Amman Stock Exchange and we reached the following results:

The exploitation of inside information is prohibited and punishable by various financial market laws;

The exploitation of inside information affects the efficiency of financial markets;

Trading by exploiting inside information (insider trading) leads to higher returns than the financial market index;

Insider returns do not follow the returns of the ASE 100 index;

Amman Stock Exchange is an inefficient market.

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