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The Relationship between Trading Volume and Stock Returns Index of Amman Stocks Exchange Analytical Study (2000-2014)

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Introduction- Jordan know trading in shares since the beginning of the thirties of the twentieth century, where trading was done through the market irregularly by some brokerage firms, until issued Law No. (31) of 1976, under which was established Amman financial market as a market regulator and as a supervisor and an executive at the one (Khatib, 2006).

Both the trading volume and stock prices basic rule by which describe the state of the financial market, and investors are keep it out to trace these two variables constantly and alarmingly somewhat due to the adoption of their investment decisions on them, along with the use of these two variables in assessing the performance of the financial market through the volume of information available (Karpio, et-al, 2012).

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T H E R E L A T I O N S H I P B E T W E E N T R A D I N G V O L U M E A N D S T O C K R E T U R N S I N D E X O F A M M A N S T O C K E X C H A N G E A N A L Y T I C A L S T U D Y 2 0 0 0 - 2 0 1 4

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I. INTRODUCTION

Jordan know trading in shares since the beginning of the thirties of the twentieth century, where trading was done through the market irregularly by some brokerage firms, until issued Law No. (31) of 1976, under which was established Amman financial market as a market regulator and as a supervisor and an executive at the one (Khatib, 2006).

Both the trading volume and stock prices basic rule by which describe the state of the financial market, and investors are keep it out to trace these two variables constantly and alarmingly somewhat due to the adoption of their investment decisions on them, along with the use of these two variables in assessing the performance of the financial market through the volume of information available (Karpio, et-al, 2012).

Where the Sun Illustrates (2003) to understand the relationship between trading volume and stock returns in the futures markets and speculative markets is essential for traders in these markets, because the fluctuation in prices affect the volume of trading in futures contracts, as well as the rate of return to take distribution is normal.

This study has received the relationship between trading volume and stock returns attention of many researchers, economists, and there are many studies that have been made in different markets in order to test the relationship between trading volume and stock returns, but these studies have been mostly applied in the development financial markets, while it did not have markets emerging among which Arabic enough research into the relationship (Al-Zubaidi and others, 2008).

Therefore, this study was to look at the nature of the correlation between trading volume and stock prices in the Amman Stock Exchange.

II. PROBLEM OF THE STUDY

The problem with the this study is related to the lack of clarity in the quality of information that reflects the volume of trading in the financial market and the variability from one investor to another, which leads to

poor efficiency of the financial market. As is known, the stock prices are determined on the basis of the quality of information available and its size, through which the investor will build expectations about future price, which reflects on the role of trading volume. And the absence of information concerning the size of the trading and stock prices lead to the inability of investors to identify companies that are turning to investing in shares.

III. IMPORTANCE OF THE STUDY

The importance of this study depends on giving ways to investors (individual, company) in order to maximize their returns by getting optimal investments decisions which depends on understanding the correlation between stock prices and trading volume basis through which to provide the appropriate information to make investment decisions, it is through this relationship facilitates the construction of a short-term outlook on the future price volatility, which helps companies to contribute to the strengthening of profitability.

It also helps to examine the relationship between stock prices and trading volume to increase understanding and management restructuring of the financial market in terms of the rate of flow of information, and the degree of reflection of the information in the price of normal Securities Exchange, as well as increase the ability to distinguish between the various theories concerning the structure of the financial market (Karpoff, 1987).

Besides the above, this study contributes to help the investors to put their investment decisions and selected by choosing the correct timing and appropriate for clients buying and selling of shares they own.

IV. OBJECTIVES OF THE STUDY

This study aims to achieve the following goals

1. To identify the nature of the relationship between trading volume and volatility in stock prices.
2. Determine the direction of the causal relationship between trading volume and volatility in stock prices.

V. HYPOTHESES OF THE STUDY

Ha0: There is no a positive relationship statistically significant differences between trading volume and volatility in stock prices.

Ha1: There is a positive relationship statistically significant differences between trading volume and volatility in stock prices.

Ha0: The volume is not causing volatility in stock prices

Ha2: The volume is causing volatility in stock prices

VI. PREVIOUS STUDIES

The purpose of the study (Ananzeh, et-al, 2013) to identify the nature of the relationship between the volatility of market returns and trading volume during the period (2002-2012) the application on the Amman Stock Exchange. The study sample consisted of 27 companies listed on the Amman Stock Exchange have been selected at random, taking into account the difference in the size of the company and the volume traded. Data were analyzed using a model GARCH-M, and the use of a set of descriptive statistics. The results indicated that the volume of trade contributes significantly to the volatility of stock returns process in the Amman Stock Exchange.

While aim of the study of (Assan & Thomas, 2013) was find out the nature of the relationship between trading volume and stock returns during the period (1997-2012) in the local stock exchange in India. The study was based on a series of data consisting of (3778) View the Stock Exchange of India. Where was the use of vector auto-regression analysis (VAR), and tests of the stability data, and causality tests, to analyze the data collected. The results indicated that the equity returns that are causing the volume, and that there is a causal relationship between the size of a bi-directional trading and equity returns.

On the other hand came study (Choi & Kang, 2013) to clarify the relationship between trading volume and stock returns during the period (2004-2012) in Asian stock exchange financial market . The study sample consisted of four Asian stock exchanges, namely: Japan Stock Exchange, and the Stock Exchange of Hong Kong, and Korea Exchange, and the Stock Exchange of China. The data were collected and analyzed daily necessary through the use of descriptive statistics, and the stability test data, test the causal relationship between variables. The results indicated that the volume of trading at the Stock Exchange in Japan affects both: Stock Exchange of Hong Kong, and Korea Exchange, and the Stock Exchange of China, the Japanese stock returns has been shown that they do not lead to a causal relationship with the trading volume. Also the results show that stock returns in the Chinese stock market have no effect causal direction of the rest of the financial markets.

The study (Choi, et-al, 2012) was aimed to know the nature of the relationship between trading volume

and returns will fluctuate in the Korea Stock Exchange during the period (2000-2010). The data were collected and analyzed necessary depending on the test Exponential GARCH (EGARCH).

The results indicated the existence of a positive relationship between trading volume and returns will fluctuate, and trading volume is causing volatility in equity returns.

As for the studies that have been conducted in Jordan and the Arab states in the limits of science researcher has not been given enough attention to this issue by the researchers, which is considered studies that looked at the relationship between trading volume and stock prices is somewhat limited.

It has the (Al-Jafari & Tliti, 2013) studied English looked at the nature of the relationship between trading volume and stock returns during the period (2006-2011) in the Amman Stock Exchange. The study sample consisted of all banks within the banking sector in the Amman Stock Exchange, so you are relying on the sector index in the collection of data on the volume of daily trading and returns.

As was to build a model of linear regression analysis linking the variables of the study, relying on test linear regression analysis, and testing of the stability data, descriptive statistics, to analyze the data for the study. The results of the study to the lack of a statistically significant relationship between trading volume and stock returns at the level of the banking sector index. While showing a statistically significant relationship between trading volume and volatility of returns in the Jordanian commercial banks. In addition, the results showed a relationship long-term integration between trading volume and stock returns, and that stock returns are caused by volume.

And held (Al-Zubaidi and others, 2008) study aimed to test the relationship between trading volume and stock returns for Arab financial markets during the period (1994-2003). This study has relied on the monthly data was used so that a set of statistical methods for the analysis of assets to the results, and it was the most important of these methods the stability test data and test Granger to get to know the direction of causality.

The results indicated the presence of a positive correlation between trading volume and stock returns in each of the Amman Financial Market and the Bahrain Stock Exchange, and the Public Authority for the capital of Egypt. And the existence of a causal relationship is moving from volume to stock returns.

VII. THE THEORETICAL FRAMEWORK FOR THE STUDY

The trading volume of the stock one of the main factors that are relied upon in making investment declining share price down demand for the stock, while in the event of increased demand on the stock rising price. In the sense that trading volume reflects the

decisions in the stock market, and is determined by the price of any shares through the number of shares offered and the number of shares required, where declining share price down demand for the stock, while in the event of increased demand on the stock rising price. In the sense that trading volume reflects the liquidity of the stock, as an increase in trading volume indicates that the stock has high liquidity, which in turn leads to a rise in its price.

And measures the level of trading volume of shares traded during a certain period of time, whether the period daily, or monthly, or yearly.

And it is influenced by the quality of the volume of information, where the quality of the resulting mismatch of information and differing expectations about the stock price to increase trading volume (Ravikant, 2011).

The relationship between trading volume and stock prices:

There are many studies that have looked at the nature of the relationship between trading volume and stock prices, has agreed to most of the studies on the existence of a positive relationship between these two variables, but the results have been mixed in terms of the direction of causality, and the most prominent of those studies study Karpoff (1987), which showed that the nature of this relationship depends on the size of the flow of information to the financial market, as this study has identified four important reasons to study the relationship between trading volume and stock prices, and represented these reasons, including the following:

- This relationship provides an insight into the structure of the financial markets, through it helps to distinguish between competing theories on how the dissemination of information in the financial markets.
- This relationship is useful for the study of the event (Event Study), which is relied upon to use a combination of price data and trading volume to draw conclusions related to the event under study.
- This relationship represents a level of importance to the members of the dealers in the speculative markets.
- This relationship represents a level of importance to the members of the dealers in the futures markets.
- Previous studies have become a group of theoretical explanations that explain the relationship between trading volume and stock prices through a set of hypotheses. These assumptions are (Darwish, 2012):

First, the premise distribution mixed (The Mixture of Distribution Hypothesis)

Explains Clark (1973) through the premise distribution mixed that stock prices associated with positive relationship and with strong trading volume, but the nature of this relationship is causal, where prices are

linked to the stock with trading volume as a result of its dependence on the volume of information and to variable represents the joint between them, the more the volume of information whenever led to a strong tendency for the change in prices.

Second, hypothesis. sequential access information (Sequential Arrival Information Hypothesis).

Illustrates Copeland (1976) through his hypothesis sequential access information that there is a causal relationship between positive bi-directional trading volume and stock prices. And assume this hypothesis and access information to the market in a sequential, nor distribute information to all traders in the financial market at one time, which results in the presence of several points of balance in the information, and spoke balance point recent Upon arrival information for all investors and traders in the financial market.

Third: Form a trader spam (The Noise-Trader Model).

According to this model assumes De Long et.al (1990) that the activities of traders and their trading noise, meaning they are not based on economic fundamentals, but rather based on mispricing temporary stock prices in the short term, and long-term moves the price to the average value so down the value of returns and unchanged volumes.

In this model assumes a positive causal relationship between stock returns and trading volume, so that the revenues that are causing the circulation, and this is in line with the trading strategy for the positive feedback from dealers and irksome who based their decisions on price movements in the past period of time. This also assumes the form of a causal relationship between positive stock returns and trading volume so that trade is causing yields, which depending on the price changes resulting from reactions dealers irksome.

Fourth: the motives of tax and non-tax (Tax and Non-Tax- Related Trading Motives).

Explains Lakonishok and Smidth (1989) that the size of the current trading could be related to the change in stock prices the past because of the motives of trading tax and non-tax. Where the nature of the relationship between stock prices and trading volume in the event of a negative tax motivated trading, while this relationship is positive in the event of non-tax motivated trading.

Coincides motives tax with the occurrence of capital gains or losses, where some fund managers to sell financial assets in order to avoid the distribution of earnings to shareholders, including the motives is tax the investors to trade in order to obtain liquidity for personal purposes such as buying a house or a car through the sale of some financial assets (Al-Zubaidi and others, 2008).

VIII. METHODOLOGY OF THE STUDY

This study followed with method descriptive analytical method to identify the nature of the correlation between stock prices and trading volume, and is a test GARCH (1,1) of more tests are common and that are used to measure the fluctuation of stock prices, but in

this study has been to rely on test EGARCH (The Exponential GARCH), which was developed by Nelson (1991), and is characterized by this test that assumes a normal error structure conditional errors.

The test is expressed EGARCH (The Exponential GARCH) by the following equation (Taskin & Kapucugil, 2013).

$$\log \left[\frac{\sigma_t^2}{\sigma_{t-1}^2} \right] = \omega + \alpha \left(\frac{\epsilon_{t-1}}{\sigma_{t-1}} \right) + \beta \log \left[\frac{\sigma_{t-1}^2}{\sigma_{t-2}^2} \right] + \gamma \left(\frac{\epsilon_{t-1}}{\sigma_{t-1}} \right)^2$$

Where:

$\omega, \alpha, \gamma, \beta$: independent transactions.
 ϵ_t : coefficient of error

To ensure the stability of the data it is supposed to be less than the value of β (1), and the coefficient of error ϵ_t distributed normally distributed

Within the model, it is assumed EGARCH asymmetry of information, in the sense that if the negative relationship between price volatility and negative returns, the value of γ will be negative.

IX. DATA OF THE STUDY

This study has been relying in the data daily trading volume and stock prices, which extended its data from January 2000 to March 2014. Has been taking

the logarithm of both variables for the purposes of statistical analysis. Where was the use of statistical tests in the following program E-Views:

- Descriptive statistics (mean, standard deviation, the highest value, and less valuable).
- Unit root test for the stability of time-series (Dickey Fuller test (ADF))
- Testing EGARCH (The Exponential GARCH).
- Test Angel - Granger (Engle-Granger) to test the causal relationship. Descriptive statistics:

Table (1) The following presents a summary of the results of descriptive statistics for the variables of the study.

Table 1 : Summary results of descriptive statistics

| lowest value | highest value | standard deviation | mean stood | Variable |
|--------------|---------------|--------------------|------------|---------------------------|
| 12.6438 | 20.09118 | 1.394226 | 16.35132 | (Ln V.T) Volume trding |
| 6.675483 | 8.525899 | 0.495303 | 7.621663 | (Ln Index) Stock prices |

According to the result of table (1) By the results in Table (1) shows us the following:

- Logarithm Volume: The highest value of the logarithm of the trading volume around (20.09), while the lowest value around (12.64), while the mean stood around (16.35), and a standard deviation of approximately (1.39), it which reflects the disparity in the size of the trading on the ASE.
- The logarithm of stock price index: The highest value of the logarithm of the stock price index of about

(8,525), while the lowest value of about (6.675), while the mean totaled approximately (7,621), and a standard deviation of approximately (0495), and thus we can see that there is a stable the movement of the stock price index in the Amman Stock Exchange.

Test the stability of the data:

This study used time-series data, and to ensure the stability study data related to stock prices has been relying on Dickey Fuller test (ADF). The table (2) below shows the result of this test:

Table 2 : Unit root test results for the stability of time-series using the Dickey Fuller test (ADF)

| the value of probabilistic | value (t) | (Variable) |
|----------------------------|-----------|--------------------------------|
| 0.000 | -3.432029 | The fluctuation of stock price |

Through Table (2) Previous shows us that stock prices in a stable level, this means rejecting the null hypothesis which states that no stillness variables, that is, static variables in level.

Table 3 : Test results EGARCH (1,1)

| Variable | Coefficient | Std. Error |
|---------------------------------------|------------------------------------|---|
| Mean Equation | -14.188 | 387.2724 |
| C | -0.98265 *** | 0.085616 |
| Variance Equation | 0.284148*** | 0.015666 |
| ω | -0.021904 *** | 0.008159 |
| α | 0.952408 *** | 0.004452 |
| γ | 0.018289 *** | 0.002635 |
| β | | |
| Ln Vol. | | |
| statistically significant at the 1% * | Statistically significant at 5% ** | ***statistically significant at the 10% |

Through the table (3) Previous notice the presence of a statistically significant relationship between trading volume and stock price index in the Amman Stock Exchange, and this relationship is statistically significant at the significance level (1%), as

the value of coefficient of oscillation (0.018289). And it is the first to accept the hypothesis of the study. This result has been agreed with the study (Choi, et-al, 2012), and the study of (Al-Zubaidi and others, 2008).

The following figure shows

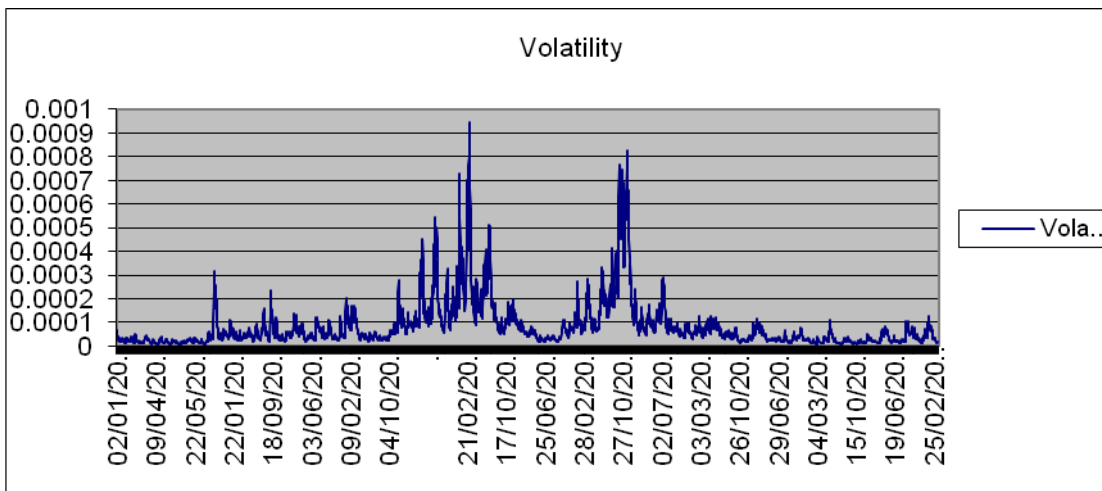


Table 4 : Test Angel - Granger (Engle-Granger)

| Prob. | F-Statistic | Null Hypothesis |
|--|------------------------------------|---|
| 0.0015*** | 3.94038 | LNVT does not Granger Cause GARCH02 |
| 0.9386 | 0.2527 | GARCH02 does not Granger Cause LNVT |
| statistically significant at the 01% * | Statistically significant at 5% ** | *** statistically significant at the 1% |

Through the table (4) Previous shows us that there is a causal relationship one-way between each of the trading volume, and stock price index, it was found that the volume of trading is causing the stock price index. It is clear that the value of the probability of the test (F), which was significant and statistically significant at the level (1%). Accordingly, we accept the second hypothesis of the study. Have agreed as a result of this study with the study (Ananzeh, et-al, 2013), and study (Choi, et-al, 2012), and the study of (Al-Zubaidi and

others, 2008), while disagreed with the study (Al-Jafari & Tliti, 2013), which she explained that the returns that are causing the volume.

X. Results and Recommendations

a) Results

This study aimed to identify the nature of the relationship between trading volume and stock price index in Amman Stock Exchange during the period (2000-2014), has been reached following results.

1. No statistically significant relationship between trading volume and stock price index at the Amman Stock Exchange, has been has totally this result with model trader spam (The Noise-Trader Model) which assumes that investors and traders in the financial market rely on rumors and inaccurate information without relying on foundations economic, scientific in the trading process, which leads to increased trading volume and price changes. As a result this has totally with the motives of tax and non-tax (Tax and Non-Tax-Related Trading Motives), which shows that the nature of the relationship between trading volume and stock price index is positive in the event of non-tax motivated trading.
2. There is a causal relationship one-way between each of the trading volume, and stock price index, it was found that the volume of trading is causing the stock price index

b) Recommendations

This study recommends the need for future studies illustrate the nature of the relationship between trading volume, and revenue shares of joint stock companies listed on the Amman Stock Exchange, so identify the nature of the relationship between trading volume and revenue shares of joint stock companies in each sector separately, as well as to identify the extent of the differences in between sectors in terms of the nature of this relationship

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