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The Effect of Announcing Private Offering Placement on Stock Exchange on Stock Returns in Amman Stock Exchange at Semi-Strong Level(Jordan Case)

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The importance of this research is to highlight the motives that make the managements of the companies registered at ASE tend more to financing through stock issuance than to debt financing.

Results showed that the abnormal Returns after the event don't have statistical significance , its graph shows that Amman Stock Exchange is inefficient at the Semi- Strong level and these a leak in the information pertaining to stock offering before the approval of Commission on the offering at the Semi – Strong Level. However these results are consistent with evidence provided in (Siswesik 2002, Costello 2004, and Malhotra 2010.)

The study presented a number of recommendations that may be helpful in improving the efficiency of the ASE, which in turn increases its role in the Jordanian economy as whole.

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Chapter One

I. General Framework of the Study

a) Introduction

The company can obtain long –term financing in the form of stocks, debts, or retained earnings or through a combination of these resources. The process of Capital Financing through the issuance of stocks is the highest cost choice in comparison todebt financing. Different economic sectors vary in the debt rate, for example high-tech industries in the United States are characterized by low debt rate of approximately 21%, while service companies are characterized by highdebt rate of approximately 60% (Ehrhardt, 2005). However, the companies working in the same sector vary in this percentage. The theory of Capital Structure tries to find the reasons behind such variation and to determine the ability of the company to raise its value by selecting the optimum debt weight in the Capital Structure.

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The companies working in the developing countries are characterized by a low debt rate comparing with the debt rate of the companies working in industrial countries. At the local level, for example, the average debt rate for forty one Jordanian industrial companies representing the most important companies in the industrial sector listed in Amman Stock Exchange is approximately 28%, including Petroleum Refinery Company and Phosphate Mines Company, both of which are characterized by unusual high debt rate, while the rate is 26% without these two companies, which is considered a weak rate (see Table 1 in the Appendix of Tables).

By examining these figures, the researcher believes that there is a preference for decision-makers at Jordanian public shareholding companies to using Stock Offering as a source for long-term financing[1], which may be due to the fact that they are not obliged, according to the Jordanian Companies Act, to distribute the profits of such stocks, and consequently regard it, mistakenly, a source of financing at no cost, even though it is more expensive, compared with debt financing. They also may not realize the fact confirmed by the theory of Financial Structure that stock offering incorporates informational content that has negative effects on stock value [2].

The theoretical basis suggests that sudden announcement of new stock offering gives an indication to the investors outside the company that the returns are less than expected, since it did not resort to financing through Capitalization of Profits (Retained Profits) in financing its new projects. Moreover, the investors from outside the company may attribute the Private Placement offering to a motive by directors to make use of the internal information they have obtained, by issuing

[1] This notion confirms the data related to stock-issuance companies, where a continuous repetition of stock offering is noticed when a decision is taken to increase the Capital.

[2] These two notions need to be proved through the use of a questionnaire. This has been confirmed for the researcher by the general impression of the workers in the financial sector that announcing stock offering is good information, which indicates that the company is in a good situation and the stocks of such companies actually witness a noticeable movement.

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stocks they already know they are priced higher than they should be, thus external investors will infer non-positive conclusions about the actual value of the company assets as well as its development opportunities, which negatively affects the stock prices in the market. Other financing choices available for company's management, of low debt rate, give an indication to external investors on the low confidence of creditors regarding potential future profit available for the company.

This study will try, by using Event Methodology, to examine the effect of announcement of stock offering for private placement on the stock returns at Amman Stock Exchange for the period from 2011 to 2012 in order to identify the efficiency of Amman Stock Exchange at the semi-strong level. The study will also try to shed light on the informational content to announce for stock offering for private placement, in an attempt to prove the negative content included in stock offering for private placement, which goes in line with the theoretical framework of stock offering, or the opposite as the common belief that stock offering contains positive content.

b) Significance of Study

The studies that investigate markets efficiency at the semi-strong level are considered of great importance, since proving the possibility of achieving abnormal returns through an announcement enables investors to build investment strategy based on such announcement, which enables them to achieve abnormal returns, and if the investor was able to achieve this, then the Amman Stock Exchange would be inefficient market at the semi-strong level.

Furthermore, repeating such studies is also important since the size of the market in terms of number of stocks and their trading volume, particularly in emerging markets, passes through a continuous change and increase, so that markets that proved to be inefficient in a certain period of time may become efficient in another period of time, And vice versa. Proving that the market is inefficient at the semi-strong level gives a motive to interpret the deviation in the abnormal returns resulting from this announcement. There are various Western studies in this field, some of which try to interpret this deviation in terms of behavior, while others relate it to what is known as (anomalies) in financial markets.

In addition, what gives this study an additional significance is that it tries to highlight the motives that make the managements of the companies registered at Amman Stock Exchange tend more to financing through stock issuance than to debt financing, which is the least costly source of financing according to financial theories. Finally, the lack of studies oriented towards efficiency at the semi-strong level in Jordan gives this study more significance.

c) Objectives of Study

This study aims at investigating the efficiency of Amman Stock Exchange at the semi-strong level and examining the effect of announcement of stock offering for placement by the existing companies on stock prices at Amman Stock Exchange, in order to make sure of reactions on such type of announcements. Empirical studies conducted in different countries have shown mixed results; for example the study of Nelson (1965), which used monthly data of returns and examined (380) private placement in the United States, did not find any effect for placement announcements. Hou and Meyers (2002) examined (69) private placement issuance and have found that the issuance is connected to negative abnormal returns. McConnell and Muscarella (1985) and Tan, Chng & Tong (2002) found that stock prices react positively to companies' announcement for investment opportunities as well as to investment expenditures during the periods of stock issuances.

d) Statement of the Problem

The issue of efficiency, especially at the weak level and semi-stronglevel[3], represents an important research case, which has received a remarkable attention in the financial literature. Thus, the inefficient market at these two levels means that the market does not reflect the real actual value of the stock, and efficiency should be achieved so that the markets can achieve their goals in the proper allocation of financial resources for the most productive projects. The prices of the stocks should reflect their real values for the following reasons:

1. Lack of monopoly power on prices able to impose prices on the market, i.e. the prices move randomly without the ability to control them by dealers.
2. Lack of spread of reliance on authenticated information and spread of effect of rumors or false information in taking the investment decision.
3. Preventing sharp fluctuations that take place at inefficient markets that would reach up to the breakdown point or the spread of Price Bubble phenomenon.

Accordingly, this study will try to answer the following questions:

1. Is Amman Stock Exchange efficient at the semi-strong level, regarding the announcement of stock offering for private placement for company shareholders?
2. Does the effect of stock offering for private placement that aims to finance investment projects

[3] the case of efficiency on the strong and very strong levels, which represents the trade of insiders and market specialists and professional money managers, is considered the maximum (absolute) hypothetical case for the hypothesis of market efficiency, consequently the hypothesis of efficiency within this level may not apply, i.e. the market within this type of (special) information is likely to be inefficient.

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by public shareholding companies registered at Amman Stock Exchange have a positive or negative effect on prices?

e) Review of Related Literature

Malhotra et al (2010) investigated the reactions of abnormal returns of stock prices for the announcements of stock offering for private placement at Indian stock markets. It also examined information hypothesis, price squeeze hypothesis, market conditions hypothesis, and market efficiency hypothesis at the semi-strong level. The methodology of Event Study has been used, in addition to Multivariate Regression Analysis. Results of study have revealed that the Indian market responds positively to the announcements of stock issuances and that there is no leak of information prior to stock issuance at the Indian markets, and there is a weak evidence that the Indian market is efficient at the semi-strong level. The study has not also found any evidence supporting market conditions hypothesis and information hypothesis, whereas the study has found evidences on price squeeze hypothesis.

Samuel siswesik (2002) investigated the effect of announcing stock offering and the bonds that are convertible to shares as well as normal bonds during the period from the year1980 to 1993 at New York Stock Exchange. The results have shown that the average abnormal return for the announcing companies is negative and statistically important for each of the public shares and the bonds convertible to shares. The average abnormal return for conventional bonds was negative but not statically important, and the average rate of the abnormal return for the non-announcing companies was negative and statistically important for the three types of public offering. Besides, the Correlation Coefficient for the abnormal returns of companies as well as the abnormal return of the industrial sector as a whole were positive, which means that the investors deduce certain connotations about the general capabilities of industry as a whole, not from shifts in the competitive advantage between announcing and non-announcing companies.

Augusto Costello (2004) discussed the effect of announcement of offering bonds and stocks in the case of Chile. This study examined the effect of announcement of offering of securities on stock prices for a sample of (172) issuances of securities at the Chilean Financial Market during the period from 1993-2003. The study found that the bond issuance has not resulted in any abnormal profits that are statistically important, while the stock issuance has resulted in negative abnormal returns that are statistically important. The researcher has also found that the size of the negative abnormal returns was directly connected to the size of stock issuance. This study is considered a leading one in investigating the effect of announcement of offering securities for private placement in the developing countries. Regarding bond issuance, the results were in line with the (No News Theory), or with (No Impact Theory). These results are also in harmony with Myers and Majlov (1984), owners of "Asymmetry of Information Theory" which states that the announcement of debt issuance should not have any effect on stock prices, or has very slight negative effect, as indicated by the study of the Chilean market.

The model of Myers and Majlov (1984) suggests that, in the presence of asymmetry of information between the company directors and the market, there would be a motive for stock issuance when the stocks are priced more than they should be, then the market would connect to the event positive possibilities, represented by that the company is priced higher than it should be when the company issues new stocks, and hence comes the result that stock prices must fall when companies announce stock issuance, which makes such financing more costly. The study revealed that approving the stock issuance results in negative abnormal returns, which is compatible with the Asymmetry of Information model suggested by Myers and Majlov (1984) and Millerorruk (1985).

The evidences offered in the study of Carmen Coty & Tarun Mukherjee (2004) confirm the theoretical predictions of Rama Krishnan & Thakur (1984) and Gorton (1985) who predicted that banks announcements have Externalities Effect on other banks and that the Initial Public Offerings (IPO's) of banks may offer valuable information about future potential in the banking industry, since the bank value depends partially on the potential of the sector as a whole, as the value of the competing banks may become affected in response to the announcement of initial public offerings. The analyses of announcements of IPO's for the banks located in 45 U.S. states, divided into five regions, during the period from 1983-2000 from regional competitors and intrastate competitors have positive and important reactions for the majority of the sample of IPO's announcements. However, the differences between the regions in terms of reactions are significantly noticeable, as there are positive important reactions in two regions, while a third region has shown negative important reactions. These contradictory effects explain the total unimportant reactions of regional competitors in response to the announcement of IPO's during the period from 1997-2000, but they have also shown that the regional location of the announced bank has a role in the regional effects accompanying the announcement of IPO's. It is also important to notice to what extent the regional considerations can affect the reactions of stock prices of the announcing banks. With regard to Jordan, there are two refereed studies conducted by Dr. khoury & sevlek (1993) and Dr. Kamal Al-Qudah (1996) related to the efficiency of the Jordanian stock market at the weak

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level. However, in the field of market efficiency at the semi-strong level, subject of our study, there is a single study conducted by Khalayleh & Istanbuli (1997) which examined the effect of announcement of change in capital expenditures on returns during the Event Window, and whether there was a relationship between the change in capital expenditures and the change in trading volume of the company's stocks regarding the date of announcing for the change in capital expenditures. The study concluded with the confirmation of the presence of abnormal returns on the stocks during the Event Window that extends to four weeks. However, the study of Khalayleh and Istanbuli is different from this study as it has not examined the effect of announcements of profits on stock returns.

The researcher believes that the study in question is considered the first in terms of examining the effect of stock offering announcement for the purpose of investments financing, or what is called "Private Placement" at Amman Stock Exchange.

f) Hypotheses of Study

i. *First nihilistic hypothesis*

It is expected that Amman Stock Exchange would react upon the announcement of stock issuances by the public shareholding companies registered at Amman Stock Exchange immediately and rapidly, in other words Amman Stock Exchange is an efficient market.

ii. *Second nihilistic hypothesis*

Abnormal returns do not respond positively or negatively to stock offering announcement for placement at Amman Stock Exchange.

g) Methodology of Study

In order to verify the hypotheses of the study, the Event Study methodology will be used. This methodology was firstly used by each of Jensen, Fisher, Fama and Roll as well as Fuller J. & Farrell Jr. (1987) who were interested in examining the effect of stock split on stock prices. The same methodology used by them will be used, as follows:

Equation (1) will be used to calculate the Abnormal Return:

$$\text{Abnormal Return} = \text{Actual Return} - \text{Normal Return} \quad (1)$$

In order to calculate the Abnormal Return, we follow the steps below;

1. First we find the Actual Return by using equation (2):

$$\text{Actual Return } (R_{jt}) = \frac{P_{jt} + D_{jt} - P_{jt-1}}{P_{jt-1}} \quad (2)$$

Where:

P_{jt}: *closing price for stock (J) at the end of period (t)*

D_{jt}: *distributed profits during the period (t)*

P_{jt-1}: *closing price for stock (J) at the end of the period (t-1)*

The Test Period has been considered nine days before the event and nine days after the event, and the distributed profits(D_{jt}) have been assumed to equal to zero.

2. With regard to the Normal Return, it can be calculated using the equation of Single Index Model, as follows:

$$\text{Normal Return (NR)} = \alpha_j + \beta_j R_{mt} \quad (3)$$

Where:

R_{mt}: *Market Index for the period t*

$\alpha_t \beta_t$: *Coefficients of Single Index Model*

3. Using the information collected in the Estimation Period, represented by the closing price and market index for each stock for one hundred days prior to the first day of Event Window for the purpose of estimating α_t β_t .The program of Social Sciences Statistical Package for SPSS will be used to make the regressions required to estimate the coefficients.
4. By applying equation (3), the Normal Return can be calculated for each company of the study samples.
5. By applying equation (3), the Abnormal Return can be calculated for each company of the study samples, for each day of the Event Window.
6. To calculate the Average Abnormal Return on a specific day, we use the following equation for each day of the Test Period days:

$$AAR_{j-9} = \frac{AR_{(1)t=-9} + AR_{(2)t=-9} + AR_{(3)t=-9} + \Lambda\Lambda\Lambda + AR_{(n)t=-9}}{N}$$

Where:

AAR_{j-9}: Average Abnormal Return (AAR) for the companies of sample (j) on the ninth day prior to the Event Day, and in the same way this average is calculated for the rest of the days of the Test Period.

N: no. of companies representing the sample.

After estimating the average for each day of the Event Window, this average will be tested using the T-test and by using the One-Sample test. The following formula will be used to calculate the Cumulative Average Abnormal Return (CAAR):

$$\text{CAAR} = \sum_{TP}^{j=n} AARjt$$

(For the purpose of drawing the curve of Cumulative Abnormal Return before and after the Event).

i. *Selection of the Event Day*

There are several dates related to the announcement of stock offering for placement (which does not include stock offering for the first time). These dates are:

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- Date of Board of Directors meeting and taking a decision of raising the Capital of the public shareholding company.
- Date of approval of the Ministry of Industry and Trade on raising the Capital of the public shareholding company.
- Date of approval of Securities Commission on the registration of the securities issued by the public shareholding company.
- Date of publication in the daily newspapers of the offering of the company's stocks for private placement.
- The researcher has chosen the date of approval of Securities Commission, as it is the date of the Event Day, for the following reasons[4]:
- The company's stock is witnessing a movement of sale and purchase since the meeting of the Board of Directors to take a decision in this matter.
- Offering shall not be legal except after the approval of Securities Commission, and thus offering may not take place in case of non-approval.
- Intermediaries, speculators and owners of companies wait the approval on the meeting day of Board of Commissioners of Securities Commission to consider the issue of stock offering.
- Accordingly, the researcher has taken a decision to consider the day of approval of Securities Commission to be the day on which the information has become announced and available for the public.

ii. *Population and Sample of Study*

The population of study includes all the issuances of private placement for the companies listed in the industrial and services sectors at Amman Stock Exchange during the period between 2005 -2006. The sample includes (21) issuances over two years from 2005- 2006, taking into account availability of trading movement on the issuance when selecting such issuance. The sectors of banks, insurance and public utilities, such as communications, electricity and water will be excluded, due to the specific nature of these companies.

iii. *Limitations of Study*

The short period of the study over two years from 2011-2012 is the main limitation of the study. This period was chosen because of the difficulties pertaining to the poor quality of historical data, which is before the end of 2005, prior to the automation of the data storage at the Stock Exchange, especially regarding the dates of stock issuances. Furthermore, the old data of prices are suddenly interrupted, or is fixed for long periods, or there are no data at all. In some cases, there is no full mentioning for the companies that have announced stock offering for placement on the schedules of prices.

iv. *Definition of Terms*

- **Event Study:** a methodology used to test the effect of the information announced and available for public on the stock returns
- **Actual Return**: the capital profit of the stock plus the distributions of profits, where distributed profits were assumed to equal to zero.
- **Normal Return**: the return estimated by the single index model.
- **Abnormal Return**: the difference between the Actual Return and the Normal Return, which represents the remainders resulting from the single index model.
- **Private Placement**: the placement carried out by the companies listed in Amman Stock Exchange, whether for the purposes of Recapitalization, financing expansion projects or settling debts, where the purchase option is confined to shareholders in the period of offering.

v. *Structural Framework of Study*

The study will contain three chapters; the first one discusses the general framework of the study, including objectives of study, significance of study, statement of the problem, review of literature, methodology of the study, population and sample of study, limitations, hypotheses, and definition of the terms used in the study. The second chapter contains the theoretical literature of the study, where the topic of market efficiency will be discussed at the three levels as well as how to test such hypotheses at each level. The topic of stock issuance will also be discussed for the purpose of financing in addition to its relation to the debt rate. Finally, the third chapter will examine the analysis of the Event methodology, test of study hypotheses, results and recommendations.

Chapter Two

II. Theoretical Literature

a) Informational Content of the Announcement of Stock Offering for Private Placement

Researches related to the effects of stock offering indicate that this type of announcement for such financial events includes new information for the investor. Negative reactions have been documented to stock prices after the announcement of stock offering. Researchers generally agree that such reactions reflect more than the direct effect of financing on the cash flow of the announcing company, as the announcement of stock offering seems to give connotations of internal non-preferential information pertaining to the announcing company.

Several studies provide theoretical bases for this interpretation, including that the announcement of

[4] An Event mini-study can be conducted to choose the best date from the above mentioned four dates.

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stock offering suggests that returns are less than expected, or suggests the existence of a motive for directors to exploit their internal information in the issuance of stocks which they know they are priced more than they should be. Consequently, the external investors will receive undesirable signals about the value of the company and its available growth opportunities. Moreover, the financing strategies that reduce the debt rate, such as stock issuance, give indications about the decline in the administration confidence in future profit opportunities for the company.

Administrations of public shareholding companies in Jordan have an excessive tendency towards financing by stock issuance, which is confirmed by the data of issuances as there are cases for more than two issuances per year for the same company due to considering this financial source as cost-lacking source, as the researcher believes, despite its known cost for the financial literature represented in the return that the company should pay for the shareholder or the drop in stock value which may occur in the event the return has not been distributed to shareholder as well as the drop in the return that affects the old shareholder due to entry of new shareholders, not to mention the cost of issuance. Besides, financial management literature confirms that the cost of financing by stock is higher than the cost of debt, which is considered the least costly source among the sources of finance.

The drop in the debt rate for the public shareholding companies, previously mentioned, confirms also the excessive use of the source of finance by stocks, since this source reduces the debt rate.

It is worth mentioning here that, according to the Securities Law, the opening price is modified on the sixteenth day from the approval of Securities Commission on the offering of the private placement for the company shareholders, i.e. after determining the right of private placement, according to the following formula:

$$\frac{closing\ price * no.of\ securities + (issuance\ price + issuance\ premium) * no.of\ securities}{no.of\ the\ total\ old\ securities\ and\ the\ new\ issuance}$$

And that this change in price may not affect the Event Study since the Event Window comes within the abovementioned fifteen days and it does not affect the returns of the nine days that come after the event.

b) Market Efficiency

The issue of Market Efficiency is considered one of the important issues which has prevailed the academic literature since the sixties and has gained a specific meaning in the field of financial management , as the efficient market is the one that the prices of securities reflects all the necessary information available, rapidly and accurately. In other words, the market efficiency investigates in demonstrating whether investors' expectations regarding the future cash flow and the risks related to these expectations for certain securities are reflected rapidly and accurately on the prices of such securities.

In an article published in 1970, Jensen defined the market for a certain set of information as the market in which it is impossible for the investor to achieve, through trading in information (or its knowledge), a profit of economic value (Fuller, J. & Farrell Jr., 1987).

Prices available at an efficient market represent unbiased estimations for the fair value of securities. If all securities were assessed fairly, investors would gain a return that fits the proposed level of risks for these securities, i.e. the Normal Return, regardless of the securities that have been purchased, that is; all securities at the efficient market are assessed fully and appropriately, and there are no securities priced less or more than they should be, and the investor would only gain a suitable return for the risks, and any return exceeding such return would be unjustified, as in the efficient market the expected return is equal to the required return.

Prices at the rational and efficient market would not follow an expectable pattern, rather the change in prices would be a random change since in such type of markets the prices of securities will be renewed depending on the information related to certain events at a specific time, as the change in price is a function of new appearing information.

$$\Delta P_t = f\ (\Delta\ inf.set\ @\ t)$$

Provided that there is a speed, accuracy and response in the market for the new information as well as efficiency in the interpretation of information correctly and reflecting it on prices.

c) Significance of Market Efficiency

Why Market Efficiency is considered an important issue:

- The idea of Market Efficiency would have a direct effect on mechanisms and strategies made by investor. If the market was efficient at the three levels, then the time, the money and the effort spent on the analysis of securities would be a waste of time, and if there was sectors ineffective or less effective than others in the market, then efforts should be made to detect the securities that are improperly priced at those sectors.
- The issue of Market Efficiency affects the quality of the information that the investor or the financial analyst would care about. If the market was effective at the weak level and ineffective at the semi-strong level, the financial analyst would neglect the historical events and focus on the

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present information that are announced for public and may decide to follow an investment strategy based on imitation of insiders.

- The issue of Market Efficiency sheds light on the role of the financial analyst and the role of "Market specialists" and insiders.

d) Factors that should be available in the effective market

1. Prices should respond rapidly and accurately to the new information, which prevents the exploitation of information by a certain investor.
2. The prices of consecutive transactions of securities should be close to the previous one, i.e. lack of gaps between the purchase price and the sale price (Ghunaim and Khalifeh, 1998).
3. To be able to absorb a large quantity of securities, in supply or demand, without affecting the price of securities, i.e. the fluctuation in market occurs due to information, not to supply and demand.
4. It should be possible to buy and sell securities rapidly and in quantities without affecting their prices. This liquidity is available whenever the continuous trading is available with a large number of investors in the market and few market constraints, such as taxes and transaction costs.

i. *Forms of the Efficient Market Hypothesis (EMH)*

Information set available for investor can be divided into three main types:

1. Past Information Set
2. Present Information Set
3. Future Information Set

According to this classification of information, the theory of Efficient Market has been divided into three levels:

1. Weak Form EMH.
2. Semi-Strong EMH.
3. Strong EMH, which is divided into Near Strong EMH and Super Strong EMH.

ii. *Weak Form EMH*

This level suggests that securities prices at the stock exchange reflect all historical information (past information) and that investors cannot achieve abnormal (unjustified)profits through attention to historical information.

The technical analysis based on graphs of stock prices versus time and the data like previous stock prices, previous trading volume and the financial figures on the financial lists would not have feasibility if it was proved that the market is efficient at this level.

e) How can we judge whether the market is efficient or inefficient at this level?

The proper test of this level of efficiency is the test through which it is possible to know whether it is possible to use a past information about the price or the change in price as a basis to set an investment strategy through which an unjustified return can be achieved, and if that was possible then we can say that the market is inefficient at the weak level.

The approach or method of such expectation would be the test that helps identify a steady path or track for securities prices. However, if the changes in prices follow the pattern of random path with time, this means that each observation is independent from the previous one. Accordingly, if prices follow a random path and were high yesterday, this will not offer any information about the changes in prices on this day.

i. *Auto-Correlation*

One of the methodologies used in the test of random changes in stock prices is the Autocorrelation, i.e. the study of the correlation between the prices over a period of time and the changes in the prices of the same stocks in another period of time. If the autocorrelation was close to zero, we conclude that the changes in prices are independent, i.e. they follow a random path. After finding the autocorrelation, the result will be tested to identify whether it has a statistical significance or not.

In most field studies that have investigated this issue, and regarding New York Stock Exchange, it has been found efficient at the weak level and the autocorrelation of different stocks does not have statistical significance and the end lies between +10 to -10, which is a strong evidence that investment strategies based on historical information are not capable to predict the changes in future prices.[5]

ii. *Occurrence Test (Run-Test)*

Most tests used to test the usefulness of historical information in predicting future returns use the Autocorrelation, yet it tends to be affected by extreme observation. Therefore, results may be attributed to one or two extreme observations, thus the Run Test is considered one of the tests that gets rid of the effect of large observations. This test works as follows:

Through stock prices series, signs are calculated by subtracting the first observation from the second one. If the answer was greater than zero, we put a positive sign before the second, and if it was less than zero then we put a negative sign before the second. Each similar set of signs are called (Run) where the number of (Runs) indicates the number of changes in sign.

If the number of (Runs) in the prices series was equal to the number of (Runs) in a Random Series, this means that the market is efficient at the weak level.
Random Series can be obtained through the computer. If there was a difference in the number of (Runs) between two series, it should be verified whether this difference has a statistical significance or not.

[5] This result was stated in: Fuller J., Farrell Jr. James, Modern Investments and Security Analysis. McGraw Hill Inc, Washington. 1987 p100.

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iii. *Test by Filter Rules*

This type of tests depends on following the strategies that are based on the historical data used by market dealers and verifying that they achieve profits. If such strategies were successful, the market is considered inefficient at the weak level. One of the strategies used is the filter rules method. To describe this method, we assume that, for example, the filter rule is 10%, and the stock prices were falling. If prices stopped declining and increased by 10% higher than the lowest point it has reached, this gives indication to buy the stock. However, if the price was increasing then stopped increasing and dropped by 10% from the higher value it has reached previously, this gives an indication to sell the stock.

Thus, buy the stock when it rises by 10% from its previous low level, and retain it until it falls by 10% from its previous high level.

Several studies have examined this type of trading strategies using filter rates ranging from 0.5% to 50% and have found after deducting commissions that this strategy leads to results that are less than normal. In all cases, these studies have found that using a small purchase and retention strategy, for a well-diversified investment portfolio, outperforms the performance of filter rules.

f) Why technicians are available

Despite the existence of massive evidences that historical prices data do not have predictive value and that the market is efficient at the weak level, then why are investors willing to pay for obtaining the predictions that depend on historical data? And how did market technicians manage to survive and even prosper despite the negative effects by academics relating to the lack of historical data effect on the investment decision?

The existence of technicians at financial markets can be attributed to the following reasons:

1. It is impossible to test all the strategies used by each technician separately.
2. Most, if not all, technicians use, in addition to the historical data, information of another type which may have predictive power.
3. Despite technological advancement, technicians are considered the market sorcerers and many investors resort to them, although the market is efficient. Despite the progress in medicine, a lot of people still refer to sorcerers for healing (a human nature).

g) Semi-Strong EMH

This level of efficiency suggests that securities prices change rapidly and accurately for all available and fully announced information, i.e. the current prices not only reflect prices historical information, but also other information such as revenues reports, profit distribution announcements, annual and quarterly reports, and topic news in financial newspapers. This means that any information available to the public must reflect rapidly on securities prices, and accordingly investors cannot obtain unjustified returns through the definition according to such general information.

h) Test of Semi-Strong EMH

i. *Residual Analysis & Event Studies*

One of the first studies that tested the Semi-Strong Efficient Market Hypothesis was conducted by each of Fama, Fisher, Jensen, and Roll (FFJR) in 1965, which focused on the analysis of the effect of stock split on its price. This study is considered important for the following reasons:

1. It was one of the first studies that offered evidences and proofs for the issue of financial markets efficiency.
2. It has examined an important issue that preoccupied specialists, namely the effect of stock split on the wealth of investors, whether the specialists in financial institutions or the investors.
3. It has developed a research methodology to test market efficiency, which was used by other researchers.

The method used in the study of (FFJR) was the estimation of the Abnormal Return as follows:

Abnormal Return (AR) = Realized Return-Normal Return

Where the Realized Return is the one that includes the Abnormal Return, and is equal to (P_1–P_0/P_0). Single Index Model was used to estimate the Normal Return which is equal to ($\alpha_i + \beta_i k_m$), while the Realized Return is represented by the formula: ($\alpha_i + \beta_i k_m + e_i$).

This method in estimating the Abnormal Return is normally referred to as the Residual Analysis, as the equation of the Realized Return represents the Normal Return + Residuals (e_i) or the random error coefficient.

The Abnormal Return equals

$$e_i = K_i - \alpha_i + \beta_i k_m$$

Where K_i is the Realized Return.

The other methodological innovation for the study of (FFJR) is estimating the Cumulative Average Abnormal Return (CAAR) by collecting the Average Abnormal Return (AAR) during time, where time intervals are different around the date of Event announcement. This type of studies is called Event Study.

Where:

$$AAR_t = \frac{1}{n}\sum_{i=1}^{n} A\mathrm{Rit}$$

Where n is the no. of stocks under study

$$CAAR = \sum_t AA\mathrm{R}$$

Event Study is conducted as follows:

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1. Define the Event date and the period before and after it provided that such period is short.
2. When studying a certain event, a group of companies should be taken so that the studied event is available at all companies.
3. Determine the Event Date so that it should be accurate. For example, when studying the effect of announcement of financial lists, the Event Date is the date of announcement of these lists, not the date of obtaining such lists, i.e. the date on which these lists have become announced to all people.
4. AR is calculated for each company for each period of time during the Event Window periodAR-5, AR -4…AR5. Estimation Period is used to estimate α and β which are used in calculating the Normal Return.
5. AAR is calculated for all companies in the sample for each specific period of time.
6. CAAR is also calculated so that

CAAR-5 = AAR-5
CAAR-4 = AAR-4 + AAR-5
CAAR-3 = AAR-3 + AAR-4 + AAR-5
CAAR5 = AAR-5 + AAR-4 + … + AAR5

7. Periods could be days, weeks or months.

Chapter Three

III. Results of the Event Study

By applying the Event methodology mentioned in chapter one within the general framework of the study the Actual Return has been calculated in the Event period, as shown on Table (2) in the appendix, for a sample consisting from (21) events referring to eighteen companies. The sample consisting from (21) events is indicated on Table (1) below. Event Date or Zero-Day is indicated against each company.

Table 1 : Sample of Study

No.	Name of Company	Date of Commission's Approval
1	The Industrial Commercial & Agricultural (In tag)	16/10/2005
2	Jordan Sulphochemical	31/08/2005
3	Al-qaryah for Food Industries and Vegetable Oils	19/04/2005
4	Ready Mix Concrete and Construction Supplies	01/06/2005
5	Middle East Pharmaceutical& Chemical Industries Company	23/06/2005
6	Union Tobacco & Cigarette Industries Company	23/06/2005
7	International Ceramic Industries	03/01/2005
8	Nutria Dar	13/06/2005
9	Amana Agricultural & Industrial Investments	16/06/2005
10	Ad Dulayl Industrial Park and Real Estate Company	08/05/2005
11	First National Vegetable Oil Industries	18/09/2005
12	Al Quds Ready Mix Concrete Company	17/07/2005
13	Investors & Eastern Arab For Industrial & Real estate Invs.	03/05/2005
14	The Industrial Commercial & Agricultural (In tag)	01/02/2006
15	National Cables & Wire Manufacturing Co	08/11/2006
16	El-Zay Ready Wear Manufacturing Co.	25/04/2006
17	Ready Mix Concrete and Construction Supplies	30/04/2006
18	Jordan Steel Co.	22/06/2006
19	Middle East Pharmaceutical& Chemical Industries Company	27/02/2006
20	Arab International Food Factories & Investment Co.	25/07/2006
21	Al Quds Ready Mix Concrete Company	25/05/2006

In selecting companies, only those working in the industrial sector were selected. Financial companies like banks and insurance companies were excluded according to the specific nature of such companies and the special circumstances differing from industrial sector, yet such companies can be examined separately. Public utilities companies, such as communications, electricity and water were also excluded. The companies chosen were also compatible in terms of size. Afterwards, as shown on Table (3) in the appendix, one hundred Actual Returns for each company were extracted, nine days prior to the Event (Day -9), as shown on Table (4) in the appendix, then by using the Statistical Package for Social Sciences (SPSS), 21 simple linear regressions (regression of Stock Actual Return on Market Return for one hundred business days) were made according to the Single Index Model mentioned in chapter one of this study. Table (2) shows Alpha and Beta, the coefficients of the Single Index Model, extracted for the sample that consists of (21) events.

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Table 2 : Coefficients of Single Index Model estimated through Market Return and Sample Companies' Return

No.	Alpha	Beta
1	-0.00356	0.41
2	0.001780	-0.208
3	0.002035	-0.0493
4	-0.000411	0.0349
5	0.002111	-0.0049
6	0.028996	-1.466
7	-0.004678	0.629
8	0.0030121	0.0092
9	0.0004522	-0.44
10	-0.001586	-0.001333
11	-0.001557	0.122
12	0.0076986	0.09541
13	-0.004650	1.217
14	-0.001970	0.825
15	-0.0004501	1.037
16	0.0011753	0.406
17	-0.0005386	0.882
18	-0.002264	0.158
19	-0.00003613	0.02132
20	-0.005027	-0.168
21	-0.008211	0.09776

By using these coefficients, the Normal Return (sometimes called Fair Value or Theoretical Return) was estimated by multiplying each Actual Return in the Event Window of Beta then adding Alpha to the quotient, and for each company. Table (4) in the appendix shows the Normal Return for all companies.

By subtracting the Actual Return on Table (2) in the appendix from the Normal Return on Table (5) in the appendix, the Abnormal Return was extracted for each of the Event Days and for each company. Table (6) in the appendix shows the Abnormal Return.

The Average Abnormal Return (AAR) was extracted for each of the Event Days by adding the Abnormal Returns of the companies and dividing them by their number. The Cumulative Average Abnormal Return (CAAR) was also extracted for each of the event Days. Table (3) shows these two variables.

Table 3 : Average Abnormal Return (AAR) for Sample Companies and Cumulative Average Abnormal Return (CAAR)

Days of Event Window	AAR	CAAR	Sig t
-9	0.012909	0.012909	.097**
-8	0.005053	0.017963	.492
-7	0.011953	0.029915	.123
-6	0.012716	0.042631	.026*
-5	0.002167	0.044798	.768
-4	-0.00123	0.043564	.880
-3	0.007101	0.050665	.365
-2	-0.00947	0.041194	.159
-1	0.015906	0.0571	.029*
0	-0.00247	0.054628	.732
1	0.00878	0.063408	.173
2	0.0064	0.069808	.371
3	0.003002	0.07281	.676
4	0.0044	0.07721	.528
5	-0.00113	0.07608	.845
6	0.013578	0.089658	.066**
7	0.009305	0.098963	.135
8	-0.0003	0.098665	.962
9	0.005511	0.104176	.361

** Significant on the level of significance of 5%*
*** Significanton the level of significance of 10%*

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Table (3) shows the statistical significance for the Average Abnormal Return which indicates that there in only one average that has a statistical significance on the level of significance of 10% on the sixth day after the event, while the average on the first day after the event does not have a statistical significance. Thus, we accept the first nihilistic hypothesis which states that Abnormal Returns do not respond negatively or positively to the announcements of stock offering for placement at Amman Stock Exchange.

The sketch of the Cumulative Abnormal Return curve during the Event Window, as shown in figure (1) below, shows that CAAR curve began to rise in the first nine days prior to the announcement, i.e. the investors have known that the company intends to increase its Capital by offering stocks for placement, and have interpreted this information contrary to the theoretical interpretation of stock offering information, where most investors regarded it as a positive information, and on the basis of this information they have raised the stock price through the rise in demand.

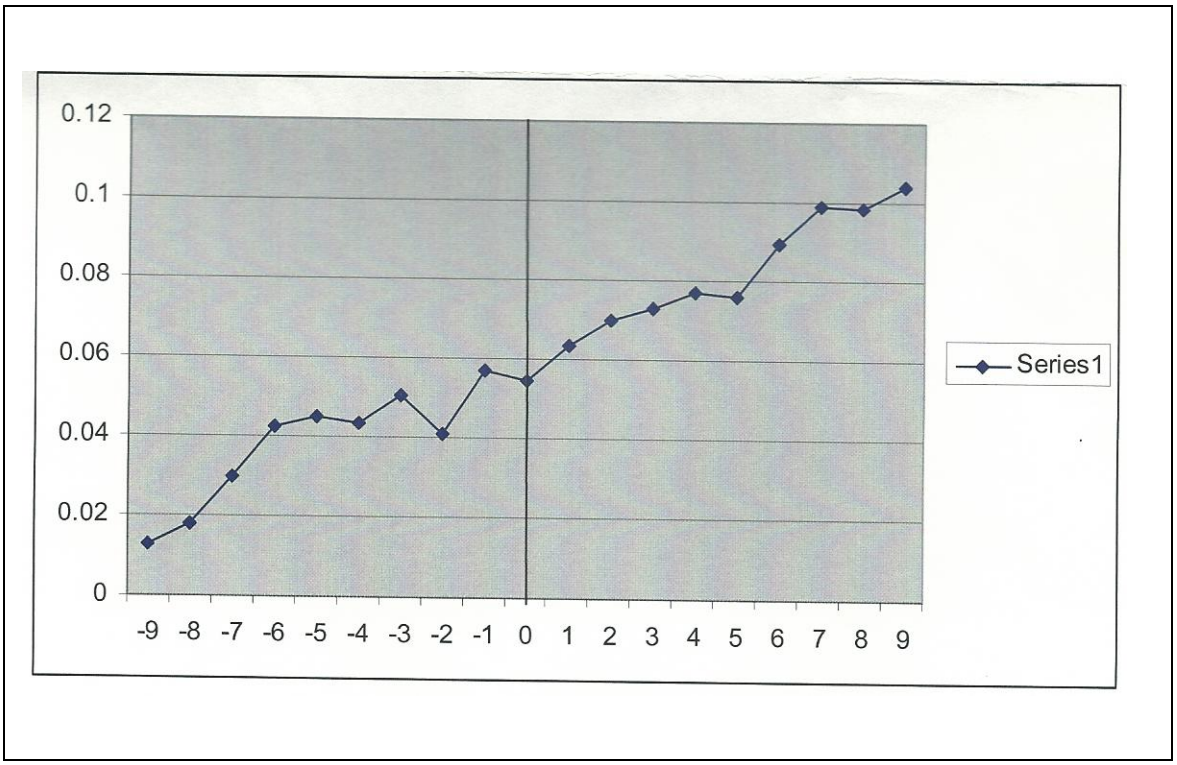

Figure 1 : CAAR Curve for the sample of 21 events
(Event Window consists of 9 days prior to the event, 9 days after the event and the Day Zero)

It is noticed that there is agradualrise before the event, which means that this information did not reach to all investors, but some of them have benefited from it. After the event, the gradual rise in returns (prices) has continued, which means that the market has not reflected the information rapidly and effectively and a number of investors have benefited and managed to achieve Abnormal Returns.

Thus, Amman Stock Exchange is inefficient at the Semi-Strong level regarding the info of stock offering for private placement, which leads to rejecting the first nihilistic hypothesis stating that Amman Stock Exchange does not react rapidly and immediately upon the announcement of stock issuances by the Jordanian public shareholding companies registered at Amman Stock Exchange, i.e. Amman Stock Exchange is an inefficient market at this level.

a) Results, Recommendations

i. *Results*

1. In general, Abnormal Returns after the event do not have statistical significance, which means that the information does not have any effect that can be proved statically on returns. The Average Abnormal Return after the event is positive, although it does not have statistical significance, which means that the information of stock offering for private placement has a positive informational content, in contrast to the theoretical explanation that confirms the negative effect of the stock offering information.
2. The graph of cumulative abnormal returns shows that Amman Stock Exchange is inefficient at the Semi-Strong level. The researcher believes that the reason behind this is the shallowness of Amman

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Stock Exchange, as at *shallow* markets the information has a significant role in influencing the decision of investor to purchase, since the only guide for the investor is the information circulating in the market, which is often misleading information, whereas in *deep* markets we can observe a greater role for Capital Asset Pricing Models (CAPM)as well as consulting firms and financial analysis in taking the investment decision.

3. There is a leak in the information pertaining to stock offering before the approval of Commission on the offering, proved by the increase in CAAR before the Event Day, which contributes to deepening the lack of market efficiency at the Semi-Strong level.
4. The investor at Amman Stock Exchange can develop a strategy based on the information of stock offering for placement in order to achieve Abnormal Returns. However, verifying such thing needs more empirical studies.
5. The fact that Amman Stock Exchange is an emerging market is considered an important factor that contributes to the positive effect of the stock offering information, as investors lack experience in addition to shortage of the consulting firms which the investors do not feel there is a need to consult them.
6. Reliance on Debt Financing contributes to a decline in the debt rate of the public shareholding companies at Amman Stock Exchange.

ii. *Recommendations*

1. The researcher recommends the importance of repeating Event Studies since the efficient market at a time may become inefficient at another time, and vice versa. Furthermore, the market conditions vary from time to time in terms of trading volume, number of dealers and number of contracts.
2. There is an urgent need to encourage investment institutions and some brokerage houses to estimate Beta for companies periodically, and to educate investors about the importance of Beta in estimating the stock fair price using Capital Asset Pricing Model (CAPM), and thus Jordan becomes a leading country among Arab markets in disseminating the culture of stock fair price. The investor in the stock market who cannot estimate the fair price is like the sailor who lost his way in the middle of the ocean without a star in the sky guiding him.
3. Amman Stock Exchange, which is the leading one among Arab stock markets, should consider the issue of legalizing the presence of "market makers" in the stock market for their important role in deepening the market.

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