ASYMMETRIC INFORMATION INFLUENCE ON EFFICIENCY OF CAPITAL MARKET
-CASE OF EGYPT STOCK EXCHANGE-

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ABSTRACT:

This paper aims at examining the asymmetric information problem effect on the efficacy of the capital market. The definition and requirement of capital market efficiency, where a market is said to be "efficient" if prices adjust quickly and on average, without bias, to new information. As a result, the current prices of securities reflect all available information at any given point in time. Consequently, there is no reason to believe that prices are too high or too low. Security prices adjust before an investor has time to trade on and profit from the new piece of information. The study concluded that the Egypt Stock Exchange is not efficient at a semi-strong level. This is due to the asymmetry of information resulting from leakage of information before announcement date.

Keywords: Efficiency capital market – Semi strong level – Asymmetry information – Stock price- Event study.
Jel Classification Codes: G1; G14.

الملخص:

تهدف هذه الورقة إلى اختبار تأثير مشكلة المعلومات غير المتماثلة على كفاءة سوق رأس المال. حيث تم تناول مفهوم ومتطلبات كفاءة سوق رأس المال ، حيث يقال إن السوق "كفء" إذا كانت الأسعار تتكيف بسرعة وبدون تكلفة ، دون تحيز ، مع المعلومات الجديدة. نتيجة لذلك ، تعكس الأسعار الحالية للأوراق المالية جميع المعلومات المتاحة في أي وقت معين. وبالتالي ، لا يوجد سبب للاعتقاد بأن الأسعار مرتفعة جدًا أو منخفضة جدًا. ويتم تعديل أسعار الأوراق المالية قبل أن يتاح للمستثمر الوقت للتداول والاستفادة من المعلومات الجديدة، خلصت الدراسة إلى أن البورصة المصرية ليست كفؤة عند مستوى شبه قوي، ويرجع ذلك إلى عدم تناسق المعلومات الناتج عن تسرب المعلومات قبل تاريخ الإعلان.

الكلمات المفتاحية: كفاءة سوق رأس المال - المستوى شبه القوي - معلومات التباين - سعر السهم - دراسة الحدث.

1. INTRODUCTION :

The goal of any economy is growth of a market in which prices provide accurate signals for resource allocation, that is a market in which firms can undertake production and investment decisions while investors can choose among the securities that represent ownership of firms' activities under the assumption that security prices at any time 'fully reflect' all available information.

The Efficient Market Hypothesis the idea that competitive financial markets ruthlessly exploit all available information when setting security prices has been singled out for particular attention.

The informational asymmetry theory has originally been a concern for the researches in the buyer behavior field, but the high level of implications extended it to the financial theory as well.

One of the objectives of this research is represented by the relationship between accounting and capital market, a highly discussed topic from the middle of the XX century, when investors express their need for relevant information about the economical activity of the companies and not just raw accounting data. In accounting, we can express asymmetry of information in relationship between managers and shareholders, lenders and shareholders, lenders and managers, but also between managers and public government and employees.

The guiding research question:

What are the reflections of asymmetry information problem on the efficiency of capital market?

Hypothesis of study:

- Ab normal returns on the day announcement of the informations are not different from zero.

Research Objectives:

- Determine the relationship between the efficiency of the stock market and of information asymmetry problem;
- Identify ways to reduce the information asymmetry problem in capital market;
- Measuring the efficiency of the Egypt Stock Exchange at semi strong level.

2. Efficiency capital market (EMH)

2.1.Definition:

The efficient market hypothesis is based on the proposition that stock price fully reflect all available information in the market and investors cannot use available information or any trading rules to earn extraordinary returns or use available information to exploit the market (Yadirichukwv, 2012).

A market is said to be efficient with respect to an information set if the price 'fully reflects' that information set if the price would be unaffected by revealing the information set to all market participants).

The efficient market hypothesis (EMH) asserts that financial markets are efficient. Starting in the 16th century, this note gives a chronological review of the notable literature relating to the EMH[1].

The Efficient Market Hypothesis (EMH) evolved from the random walk theory and the fair game model. (Fama 1965, 1970) later developed the EMH classifying efficient capital markets into three types: weak form, semi-strong form, and strong form efficiency (Sewell, 2011).

In an efficient market, on average, competition among investors will ensure the full effect of new information about the intrinsic value of securities will in stantaneously be impounded in actual prices.

2.2. History of efficiency capital market (EMH)

An efficient market theory is still an important part of modern finance. Its empirical evidence is ambiguous, but the concept itself is soun (Echekoba felix nwaolisa, 2012).

Efficient Market Hypothesis theory was designed by Professor Eugene Fama in 1960 and according to the theory, when investors are faced with new set of information some of them could over react while others could under react which means that investors' reaction are random behavior and trace a normal distribution pattern. In this situation the net effect on market prices may not be completely explored to create room for abnormal profits.

Fama (1970) designed Efficient Market hypothesis with empirical base which he divided into three different headings based on information, the weak form, the semi-strong form and strong form (Augstas Degutis, 2014).

The efficient market hypotheses is associated with the idea of a "random walk," which is a term loosely used in the finance literature to characterize a price series where all subsequent price changes represent random departures from previous prices. The logic of the random walk idea is that if the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and will be independent of the price changes today. But news is by definition unpredictable and, thus, resulting price changes must be unpredictable and random. As a result, prices fully reflect all known information, and even

uninformed investors buying a diversified portfolio at the tableau of prices given by the market will obtain a rate of return as generous as that achieved by the experts (Yadirichukwv, op cit).

Even Fama (1970) used the random walk as a synonym for so called "weak-form" market efficiency – a condition in which market prices cannot be predicted at the basis of past prices alone. "Semi-strong" efficiency implied that a market is efficient given a much wider set of all publicly available information, while "strong-form" efficiency implied that a market is efficient even when inside information is taken into account (G.Malkul, 2003).

2.3. Levels of efficiency of capital market

An important aspect in this definition was the term information. Around the same time, Samuelson (1965) and Mandelbrot (1966) have provided an economic formalization to Roberts'(1959) reasoning, proving that under stationary conditions successive Price changes in competitive markets are independent (Denis Aljbag, 2012).

In accordance with Fama's research, efficient market hypothesis can be categorized into three levels, depending on the type of information which is used in determining the price of security (Evgul,1995):

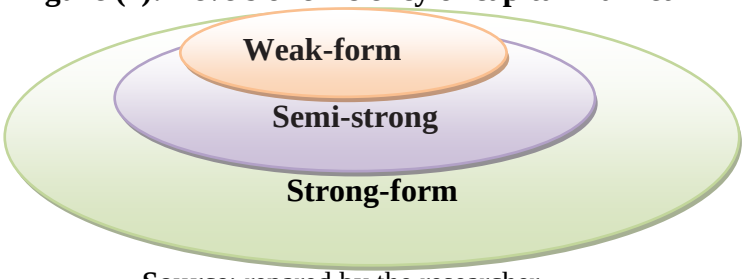
• **Weak-form:** market efficiency suggests that the price of financial instruments already reflect all the information related to the previous price movements, volume and turnover of securities. This form suggests that any price tracking and spotting some regularities, or irregularities on the basis of which the investor is able to predict future price movements is in fact unnecessary taking into account that prices are already established on the basis of previous price movements.

The serial correlation test was conducted for the weak form, over thirty stocks of the Dow Jones industrial average for 5 years ranging from 1957-1962 with lag variable of one, four, nine and sixteen days (JovanarasikapaRasajski,2016).

• **Semi-strong**: form of efficiency assumes that the price of financial instruments in the market already reflects all publicly available information. Therefore, when there is a semi-strong form of market efficiency, one should turn to the collection and analysis of insider and confidential information since only on the basis of those, investor is able to achieve above average rates of returns taking into account that all available information is already included in the given price of financial instruments. It should be noted that this form of market efficiency also contains a weak-form market efficiency and consequently, analysts who are unable to achieve superior returns in markets where a weak-form of market efficiency is present, are also unable to achieve superior returns in the markets with semi-strong form of market efficiency.

•**Strong-form:** In its strongest form, the EMH says a market is efficient if all information relevant to the value of a share, whether or not generally available to existing or potential investors, is quickly and accurately reflected in the market price. For example, if the current market price is lower than the value justified by some piece of privately held information, the holders of that information will exploit the pricing anomaly by buying the shares. They will continue doing so until this supplementary demand for the shares has taken the price to the level supported by their private information. At this point they will have no incentive to continue buying, so they will withdraw from the market and the price will stabilise at this new equilibrium level. This form of EMH is the most satisfying and compelling form of EMH in a theoretical sense, but it has also one important drawback in practice. It is difficult to confirm empirically, as the necessary research would be unlikely to win the cooperation of the relevant section of the financial community – insider dealers (Bishwajeet Bhattacharjee, 2016).

Figure (1): Levels of efficiency of capital market



Source: repared by the researcher.

2.4. Types of efficiency of capital market informational efficiency:

When the prices of securities in a stock market react very quickly to new information and in anticipation of news before it is publicly available, this is an indication of informational efficiency in the market (Bogdan Dima, 2009).

Fama [1970] states a market is informational efficient, if prices always fully reflect all available information. Stocks' price could follow a random walk but this random walk could be completely independent of available information. For instance, stocks' price could include diverse information, but incorrectly, and as a consequence, market will over or under-react to such information (paadza, 2015) .

Operational efficiency:

Requires that participants can carry out transactions and receive services at prices which are in line with the actual costs required to provide them. The operationally-efficient market assumption is satisfied when financial intermediaries are competitive enough (Victor Dragata, 2012).

3. Basics of asymmetric information problem

The concept of asymmetric information was first introduced in George A. Akerlof's 1970 paper The Market for "Lemons": Quality Uncertainty and the Market Mechanism. In the paper, Akerlof develops asymmetric information with the example case of automobile market. His basic argument is that in many markets the buyer uses some market statistic to measure the value of a class of goods. Thus the buyer sees the average of the whole market while the seller has more intimate knowledge of a specific item. Akerlof argues that this information asymmetry gives the seller an incentive to sell goods of less than the average market quality. The average quality of goods in the market will then reduce as will the market size. Such differences in social and private returns can be mitigated by a number of different market institutions automobile market under asymmetric information. The result is that in the end no goods are traded at any price. He then modifies the model to reflect symmetric information and shows that transactions will now take place and that there is gain of utility to all parties over the asymmetric information situation (G.Rompotis, 2011).

The author assume that there are four types of cars in the automobile market, new cars and old ones and both can be either good or bad (e.g. the bad cars in USA are called under the name of "lemons"). The reasoning of the author was the following: when buying a car, statistically the probability to buy a good car is noted with l, whiles the probability to buy a bad car is noted with q-l. This hypothesis is valid both for new cars and old cars. What makes this statistical property to change is the information set that is comprised in each action undertaken in the economic field by its actors, known under the name of asymmetric information, when one part of the market has information while the other part of the market do not (Cipariam Martis, 2013).

3.1. Definition of asymmetric information problem

The theory of asymmetric information was developed in the 1970 and 1980 as a plausible explanation for common phenomena that mainstream general equilibrium economics couldn't explain. In simple terms the theory proposes that innblance of information between buyers and sellers can lead to inefficient out comes on certain markets (Aurronen, 2003).

So asymmetric information between market participants arises when they do not share the same amount of information. the case of particular interest in finance is a transaction in which one party has better information than the other. Information asymmetry in an economical setting was first examined by Akerlof(1970). His example from a used cars' market has become a classical reference for the problems arising from asymmetric information (www.inestopedia.com).

In the information economics theory, the study and understanding o information asymmetry is caused by the communication process and negotiation between economic agents, it is clear that form this analysis, and in today's information society, we can transpose the analysis to information allows a better understanding of reality and the potential choices that social agents have to make (Lankinin, 2011).

3.2. Types of asymmetric information:

Two types of informational problems arise in the principal-agent problem. The first problem results from 'hidden actions' and the second one from 'hidden information'. When problems are of the hidden action type, these are also known as 'moral hazard'. In the example of the manager-worker above, the moral hazard is represented by the manager's inability to observe the actions of the worker or how hard he is working. On the other hand, if the manager knows more about the company's opportunities or risks, then there is a case of hidden information; By the same token, if the worker holds private information that gives him the opportunity to lie before the contract takes place, then the problem of 'adverse selection' arises (O paulo Resende da silva, 2012).

In the modern corporations, which are the most complex organizational type, the capital is divided among rather large number of shareholders who may be employed in the company, but also legal entities and/or people may be the owners of the company. Within these large corporations, the interests of the shareholders, managers and directors are interwoven. Just because of the fact that the number of owners is big, the shareholders who cannot be employed at the same time, hire managers who act on their behalf as their agents and that leads to dividing of ownership between the control and management. The managers are the ones who have the control and it is very possible that they may put their personal interests first and higher rather than the interests of the company and its owners. This situation many times leads to conflict of interest between the shareholders (the owners) and the managers of the company. This problem is known as the "agency problem". points out the numerous and large benefits that the managers have as a result of the agency relations. Other than the huge financial compensations that some of the top managers get, they have benefits known as perquisites.

Agency problems are known to result from information asymmetries (agent/manager always has more information than shareholders), potential wealth transfers from debt instrument holders to stockholders through the acceptance of high-risk and high return projects by managers. This kind of activities and managerial decision can be harmful for the company as well as for the stockholders.

Another source of agency problem is well known moral hazard that occurs as a results of information asymmetry (A.Nermandez, 2003).

Moral hazard: refers to "situations where one side of the market can't observe the actions of the other. For this reason it is sometimes called a hidden action problem" (Varian, 2002). In addition, it means the chance, or hazard, that a party in a transaction with more information about its intentions or actions behaves in a way that a party with less information would consider inappropriate, or in the extreme, "immoral". It arises because an individual or institution in a transaction does not bear the full consequences or can hide the consequences of its actions without counter party knowing, and therefore has a tendency or incentive to act inappropriately. An example of moral hazard is when people are more likely to behave recklessly if insured, either because the insurer cannot observe this behavior or cannot effectively retaliate against it, for example by failing to renew the insurance.

Adverse selection generally refers to a market process in which bad results occur due to information asymmetries between buyers and sellers, where the "bad" products or customers are more likely to be selected and the "good" ones are driven out of the market. It has been discussed extensively in the fields of economics, insurance, and risk theory. An example of adverse selection in the insurance market is when people who are of high risk are more likely to buy insurance, because the insurance company cannot effectively discriminate against them, the same premiums are set by the insurer for both groups with high risk and low risk. The insurance company anticipates or learns that the cost of the combined policy holders exceeds that of the general population, and sets the higher premiums accordingly. The result is that people with lower risks tend to go uninsured. Furthermore, as more low risk people are leaving, the premiums have to be raised further such that more people are driven out of the policy. Another famous example is illustrated by (Akerlof, 1970) for the second hand car market, which is referred as the "lemon market"--people buying used cars do not know whether they are "lemons" (bad cars) or "cherries" (good ones), so they are willing to pay a average price that lies in between the lemons and cherries. As a result, the same situation as in the insurance market happens here, the "cherries" will be driven out and "lemons" will dominate the market. The similar findings are also supported by the recent e-commerce research of Liao & Cheung (2001) that the "poor vendor quality, especially as regards "lemons", is identified as a significant disincentive to virtual retailing over the Internet".

3.3 .Asymmetric information in the capital market

3.3.1 The Main Determinants of Asymmetric Information in the capital market

In this part, we focus on studying the factors affecting the asymmetry of information between the managers and the investors (Boshkosha, 2015):

•Price volatility: measures the information content and information asymmetry in the market. Indeed, any change in prices following a change in investors' expectations leads to an increase in the variance of returns.

Ascioglu et al. (2007) show that volatility affects inventory holding costs and risk of stock management. It is positively associated with bid-ask spreads. Heflin and Shaw (2000), Espinosa et al. (2008) and Chae (2005) prove a negative relationship between liquidity and the volatility of prices. Volatility is measured by the annual average of the standard deviation of equity returns. We expect a positive relationship between bid ask spread and volatility.

•Firm Size: It is considered as a proxy of information asymmetry and agency costs. Indeed, Chae (2005) suggests that small companies incur high level of information asymmetry. Moreover, equities firms with weak market capitalization are less liquid (Lafond, Lang and Skaife 2007; Heflin et al. 2005). Consequently, we anticipate a positive association between firm size and bid-ask spreads. Firm size is measured by the natural logarithm of yearend market capitalization.

•IFRS: IFRS are intended to enable investors and analysts to better understand the economic reality of companies.

The wealth, relevance and precision of the information produced under IFRS should lead companies to produce annual reports more informative. Maghraoui and Dumontier (2006) studied the relationship between the adoption of IFRS and the information asymmetry measured by the spread of a sample of German company. The results show that the spreads are lower after the application of these standards Gassen and Sellhorn (2006) reached the same results. Since 1 January 2005, IFRS are required for all EU listed companies (Directive 2004/109).

• Trading Volume: The interplay of supply and demand allows to determine the transaction price of each, stock security. In fact, securities are traded for cash, as buyers must have available money and sellers must have stocks.

Indeed, the outcome, the payment and delivery of securities, takes place immediately after negotiation. Chae points out that the trading volume is closely linked with various measures of asymmetric information, and this volume decreases when the earnings are announced.

•Stock Return Measures: Blackwell et al., use residual volatility in daily stock returns as another proxy for information asymmetry. As for the models of Kyle, pertaining the, transactions of the informed and the insiders'

expected trading benefits, they are positively related to non-specific assessments of the company's value. Insofar as the residual volatility of stock returns reflects some uncertainty about the company's value, the problem of information asymmetry increases. Fee and Thomas have mentioned some uncertainty factors for companies such as the rates fixed by the Federal Reserve that are simultaneously relative to both insiders and outsiders.

• **Share Price:** Several studies have shown that the share price explains a significant part of the information asymmetry, Comerton-Forde and Rydge show that the share price is positively associated with this information asymmetry. Attig et al., note that the share price is a vector of information, so it negatively affects the information asymmetry. Stoll shows that the trading volume and the incurred risk affect the cost of detention of market makers. He also notes that the stock price is a proxy for the unobservable minimum cost. In an empirical test, the author finds that the bid-ask spread negatively affects the trading volume while the stock price positively influences the variability of returns (Ajina, 2015).

3.4.Ways to reduce the level of informational asymmetry:

Credit market:

Information asymmetry is especially important when assessing the credit market.

Several authors have related this condition to adverse selection situations in the market, resulting in problems between likely lenders and borrowers and including situations of credit rationing, impacts on competitiveness and market structure.

In summary, these authors emphasize that information asymmetry plays an important role in the credit market's dynamics. Further more, the authors point out the number of actions by credit market participants in minimizing the impacts of information asymmetry.

Initially, the credit market's activities should be defined, in particular the credit granting process and the resulting specification of interest rates. According to Pinheiro and Moura (2001), a credit decision varies in accordance with the nature of bank and borrower. Credit applications are handled automatically through statistical methods, based on information supplied by customers and available in credit agencies. Bearing in mind each borrower's nature, a score is attributed which serves to define each customer's credit limit or a maximum loan amount, and the appropriate interest rate for that customer (Younes Boujelbine, 2012).

Signaling Theory:

It is clear that low-risk borrowers are negatively affected by the lack of lender information, and to overcome this problem depends on some credible Signals, which originate from the project's echoes in order to exceed the rate hike due to the problem of asymmetry of information. This strategy is low

cost and can be applied with any borrower whatever the quality of his project. Signals are a partial solution to the problem of lack of information Let's assume that bad projects behave like good entrepreneurs as long as they get profits. Among the important signals the lender uses are:

Guarantees: The guarantee is a property of the borrower that is transferred directly to the lender in the event of default or default. In the case of reverse choice, the main beneficiaries of the situation are the good borrowers on the basis that granting the guarantees gives the impression about the quality of the project and therefore their inability to bear high interest rates That the guarantee covers the liability of the borrower in the event of undesirable results, lenders willing to grant guarantees also have high probability of success - bad borrowers attempt to appear in good borrowers' position and act as they do to a certain extent (until the profit is eroded) Which they can achieve), guarantees are an actual signal when borrowers are forced To withdraw from the market, and this would eliminate any problem related to the problem of information asymmetry.

Self-financing: self-financing is another indication of the quality of borrowers. Trust is greater in lenders who rely on a larger part of the self-financing of their projects, giving the impression that their projects are more likely to succeed (Rento cesar ohoni barbosa, 2011).

The disclosure quality and information asymmetry:

Accounting Information must be relevant to evaluate of past, present and future event. In addition, the information provided in the financial statements must be reliable and do not have any errors that may cause consumer confuse and make an erroneous decisions. Therefore recognition, measurement and disclosure of accounting information can be effective in market view and financial condition. Financial statements should be on underlying assumptions and estimate accounting items according to issue of uncertainty that have important effects on the company's financial picture. Because of relevant information decrease information asymmetry between company management and outside investors, market participants always are looking for high quality financial information. There are numerous studies in the accounting literature that demonstrate achievement of higher disclosure quality,reducing information asymmetry (Hillier.B, 1997).

4. Test the efficiency of the Amman Stock Exchange in the semi-strong level

4.1The Egypt Stock Exchange.

The first attempts to establish the Egyptian Exchange

In 1861, the oldest stock exchange dealing in cotton futures was established in Alexandria. However, the first attempts to establish a stock exchange in Egypt took place in 1890, which was followed by a second

attempt in 1898, when the brokers began to form a company that is responsible for the establishment of the stock exchange, determining its appropriate place, in addition to setting rules to organize the exchange's workflow. Unfortunately, their efforts failed, and their first company went bankrupt within three months of its establishment. However, the brokers continued their transactions in some Cafés or in their own offices. The transactions were not subject to written rules, but were based on traditions and customs agreed upon.

The establishment of the Cairo Stock Exchange in 1903

A company was formed by some high net worth investors and brokers for this purpose, whereby the brokers set up a union and put a law to regulate their affairs similar to the union established by their colleagues in Alexandria in 1902. Then, a stock exchange was established in Cairo in 1904 based on an agreement between the union and the company, and has limited its membership to securities brokers only. Brokers dealing in cotton contracts have established a private union.

Setting the rules governing the stock exchange

The union of securities brokers has set rules to regulate the stock market, including the system of registering brokers in the stock exchange, the criteria for approving and listing securities in the prices' schedules, settling disputes among brokers and examining complaints filed by the investors. Its law was in fact a regulation that governed the stock exchange for seven years until the end of 1910, despite the promulgation of the first law regulating stock exchanges on November 8, 1909. The success of the stock exchange, together with the increase in the number of brokers have encouraged the establishment of a new company on 16 May 1908 containing 64 brokers, which established another premises until it moved on 20 May 1928 to its current premises in Al-Sherifean Street. The premises was established with the funds of a company established by brokers after the expiry of the previous company.

The Establishment of the Alexandria Stock Exchange in Alexandria

Securities brokers were holding their meetings in a Café, until a special partition in the futures exchange was established in 1883, but their dealings during those meeting were not considered part of the stock exchange until 1902 when their union was established and its law came into effect to regulate the transactions. Alexandria Stock Exchange was then the first exchange to be established before the Cairo Stock Exchange. (Ahmadi Ali, 2016)

4.2 Methodology:

From an informational efficiency point of view, event studies are a standard methodological approach to study how rapidly and completely markets respond to specific new information packages. This information is assumed to disseminate in the market through a specific informational event.

Detailed discussions and reviews of the generic event study methodology and its econometric development can be found in as well as ; While the methodology was initially developed to assess the incorporation of firm-specific news into equity market valuations, event studies have recently been applied to a diversity of financial markets. In this context, give a review of the application of event studies to Egypt (khaliq, 2013).

4.2.1 The Market Model

The Market Model that a popular and very widely used model for calculating the normal return is the market model. This model is described in a wide range of literature, where Hillier et al (2010) and Elton et al (2010) are two specic examples, but the model is however described in more or less all of the references given to this report.

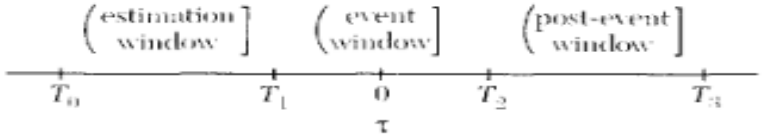
The market model originates from the single index model, a more general approach in which under certain criteria equals the market model. The return $Ri(t)$ on security i at time t, according to the market model, is given by:

$$R_{it}=\alpha_i+\beta_i R_{mt}+e_{it}, \quad (1)$$

in which $Rm(t)$ is a factor represented by the unknown return on the market, while βi is a constant that measures the asset return's sensitivity to the factor. Moreover, αi represents the expected return on the security independent of the performance of the factor while $\varepsilon i(t)$ is a random error term which causes the model to be probabilistic rather than deterministic (PHilipp Lauenstein, 2016).

The event is the subject of the study to announce the annual financial reports of companies listed on the Egypt Stock Exchange for 2015. The period of the event used in this study is five days before and after the announcement of the annual financial reports in addition to the day of the event 31/12/2018 and the total is eleven days.

Figure (2): Time line for an event study



source: Robin Jonsson, Jessica Radeshing(2014). **From market efficiency to event study methology**, Bushelor thesis economics, school of business society and engineering economics, june 13, p18.

4.2.2 Measuring of abnormal return AR

We measure the stock price to market announcements applying standard event-study methodology. The abnormal return of firm i on day τ is defined as the difference of the realized return and the expected return based on the market model (Robin Jansson, 2014):

$AR_{it} = R_{it} - R_{it}$ **(2)**

where $AR\ i,\tau$ is the abnormal return of firm i on day τ and Rm,τ is the return of the market portfolio on day τ. The coefficients α b*i* and β b*i* in equation (1) are OLS estimates obtained from a regression of firm i's daily returns on the returns of a market over a estimation period of 60 trading days ending 21 days before the announcement. We use the jordan index as .

4.2.3Time-SeriesAggregation

The cumulative abnormal return is a function of time within the event window, which is the sum of all the daily abnormal gains, and represents the time-series aggregation of abnormal returns. In the mathematical language, this term is given by (Christian Anders, 2014):

$$CAR_t = 1/N \sum ARit \quad (3)$$

We test the statistical significance of AARs and CARs using several test statistics.

Where the period before the event reflects the extent of leakage of information to investors _and the period after the event of testing the extent to which the market responds to the information received, which reflects on the efficiency of the market in semi-strong.

In order to estimate the parameters of the market model, we use the estimation period, where an estimation period of 60 days prior to the event period was adopted, based on the daily data of the listed companies. After determining the estimation periods and the event window, the event study methodology is based on the hypothesis that the average The extraordinary return on the day of the event is zero, so it is measured by the above market model.

Finally, we will determine the cumulative average of the extraordinary return for each day of the event period in order to see how well the financial reporting is being used and generate extraordinary returns.

Table (1) : measuring of Abnormal return CARt

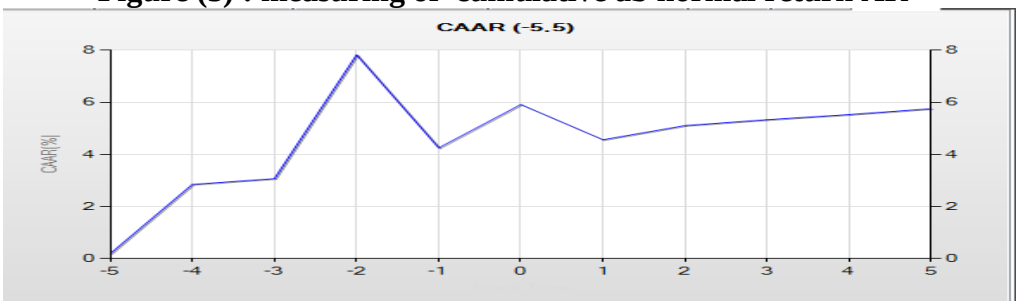
Event Date	CAR_t	*T-test*	*CAARt*
5-	-0.0103	0.2109	-0.01036
4-	-0.00405	0.3053	-0.0144
3-	-0.00116	0.3053	-0.0155
2-	-0.00683	0.4241	-0.0224
1-	-0.00787	0.4241	-0.03030
0	0.00452	0.4348	-0.02570
1+	0.03637	0.2189	0.01050
2+	-0.00260	0.7704	0.00796
3+	-0.000918	0.7704	0.00704
4+	-0.00379	0.7163	-0.00118
5+	-0.00443	0.9750	0.0011-

T-test:0.05

Source: Event Study V1.06

It is clear from the results shown in Table No. (01). that the average value of the extraordinary return on the day of the announcement of the financial statements was CARt = 0.0452, this value is not significant as the probable value reached 0.4348> 0.05, and this means rejecting the assumption that states On the existence of an effect of the disclosure of financial statements on the prices of Egypt stock exchanges**.**

Figure (3) : measuring of cumulative ab normal return AR



The source: Event Study V1.06

5. Conclusion*:*

This study showed that the reason for asymmetry information problem is that there an advantage of information to one of the parties to the transaction, which leads to the unfair completion of transactions in the capital market.

It also showed two types of asymmetry information:

- Asymmetry of information between higher management and investors is called moral hazard ;
- Asymmetry information between investors and some are called reverse selection.
- The results obtained for the Egypt Stock Exchange, indicate that there is no statistically significant impact of the publication of the financial statements on the stock prices on the day of the event, which indicates the inefficiency of the financial markets under study at the semi-strong level;

Finally, the study concluded the importance of accounting disclosure in reducing of asymmetry information problem, and thus improving the efficiency of the capital market.

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