

EFFECT OF ACCOUNTING DISCLOSURE ON RETURNS OF SHARES IN THE ALGERIAN STOCK EXCHANGE : APPLICATION OF VAR MODEL

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Received: 23/10/2020/ Accepted: 01/09/2022 / Published: 22/06/2023
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ABSTRACT

This paper aims to investigate the relation between annual document disclosure and the stock liquidity for companies listed on the Algeria stock market. VAR model was used to examine the impact of the market efficiency on stock prices of the companies during 2000 to 2015. The findings indicate that, there was no significant effect related to the timing of publication of financial information over a period of study on stock returns in the days around the publication days of annual financial statements; Accounting disclosure also affects, directly or indirectly, the decisions of investors ,as well as activating the stock market and increasing the movement of trading and stock prices with it The effect of disclosure becomes clear when the information is published late or inaccurate or excellent in its presentation and its failure to rely on agreed accounting principles and standards, or result in a negative impact on the behavior of the investor, This affects the degree of risk that he is willing to bear according to his circumstances. The timing of the financial information release depends on the basic environment in which Algerian institutions operate.

KEYWORDS: Financial statement, VAR, publication time, stock market.

JEL CLASSIFICATION: M10, M41, M48.

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أثر الإفصاح المحاسبي على عوائد الأسهم في البورصة الجزائرية: تطبيق نموذج VAR

ملخص

يهدف هذا البحث إلى دراسة العلاقة بين الإفصاح المحاسبي وسيولة أسهم الشركات المدرجة في سوق الأوراق المالية الجزائري. تم تصميم نموذج VAR لفحص تأثير كفاءة السوق على أسعار أسهم الشركات خلال الفترة من 2000 إلى 2015. وتشير نتائج هذه الدراسة إلى أنه لم يكن هناك تأثير كبير يتعلق بتوقيت نشر المعلومات المالية خلال فترة الدراسة على عوائد الأسهم في الأيام التي تنشر البيانات المالية السنوية ؛ كما يؤثر الإفصاح المحاسبي بطريقة مباشرة أو غير مباشرة على قرارات المستثمرين، وكذلك على تنشيط البورصة، وزيادة حركة التداول وأسعار الأسهم به، ويتضح تأثير الإفصاح عند تأخير نشر المعلومات أو عدم دقتها، أو التميز في عرضها وعدم اعتمادها على مبادئ ومعايير محاسبية متفق عليها، وينتج عن ذلك تأثير سلبي على سلوك المستثمر، ويؤثر ذلك في درجة المخاطر التي يرغب في تحملها وفقا لظروفه، حيث أن توقيت نشر المعلومات المالية تعتمد على البيئة الأساسية التي تشتغل فيها المؤسسات الجزائرية.

كلمات مفتاحية: البيان المالي، VAR، وقت النشر، سوق الأوراق المالية.

L'IMPACT DE LA DIVULGATION COMPTABLE SUR LES RENDEMENTS BOURSIERS DES ENTREPRISES COTEES A LA BOURSE ALGERIENNE : APPLICATION DU MODELE VAR

RÉSUMÉ

Cet article vise à étudier la relation entre la divulgation des informations financières et la liquidité des actions de sociétés cotées en bourse algérienne. Le modèle VAR a été utilisé pour examiner l'effet de l'efficience du marché sur le cours des actions des entreprises durant la période allant de 2000 à 2015. Les résultats montrent l'absence d'impact significatif lié aux dates de publication des informations financières au cours de la période d'étude sur les rendements boursiers dans les jours qui suivent la publication des comptes annuels. L'information comptable affecte également, directement ou indirectement, les décisions des investisseurs, ainsi que pour revitaliser la bourse, Augmenter le mouvement des échanges et des cours des actions avec elle, L'effet de la divulgation devient claire lorsque l'information est publiée tardivement ou inexacte, ou l'excellence dans sa présentation et son incapacité à s'appuyer sur des principes et normes comptables convenus, Il en résulte un impact négatif sur le comportement des investisseurs, Cela affecte le degré de risque qu'il est prêt à supporter en fonction de sa situation, Le moment de la publication des informations financières dépend de l'environnement de base dans lequel opèrent les institutions algériennes.

MOTS CLÉS: États financiers, VAR, Date de publication, Marché boursier algérien.

INTRODUCTION

The stock market is one of the most important mechanisms of the market economy. It is considered one of the sources of funding that institutions resort to in order to finance their investment operations through the issuance of shares and bonds. For this reason, the stock market was established in Algeria with the issuance of Legislative Decree No. 93-10 of May 23, 1993 and the creation of its regulatory bodies. By establishing a committee for the regulation and control of stock exchange operations, The Stock Exchange Management

Company, However, the stock market in Algeria did not find effectiveness and flexibility. This is due to the various obstacles that prevented the achievement of the desired goals of its establishment.

The effect of financial information disclosure on capital markets has been stated for decades—and has not stopped till now (Aljifri, 2010). Nowadays neither capital marketplace implications nor different results of financial information disclosure had been absolutely explored and understood (Bamber, 1986). Corporate disclosure is meant to offer records to the working activities, and the economic and commercial enterprise state of affairs of a corporation to involve audience. (Lobo et al, 1997)

Consequently, corporate disclosures are not constrained to economic records, but also include non-economic records (Dyer and Arthur 1975). It is undisputed that company disclosure will increase the quantity of reporting to be had to addressees (Morita, 2012). Despite this, the impact of these records is the simplest way to a stop; companies will rarely offer records out of philanthropic motives (Beasley, 2000). *In fact, it's far only monetary reasoning that drives disclosure of company records* (REWRITE the sentence in RED). In an associated vein stated that capital marketplace effects of the disclosure are within side the highlight whilst implications for product markets are of the peripheral hobby. (Taha, 1999)

Prior studies especially mentioned the relation between corporate disclosures and growth in wealth of shareholders, while mainly discussing the effect of disclosure on an increase in wealth of shareholders and its market consequences: the liquidity of markets and individual securities, and the fee of capital to firms (Barron, 1995).

Most previous researchers investigated the impact of annual records disclosure on capital markets outdoor Algeria or depended on specific, slender proxies for disclosure with questionable validity. Therefore, we examine these relations in the Algeria market using the Vector Auto-Regressions model to investigate the impact of the market efficiency on stock prices of the company from 2000 to 2015. Capital-market-related research mainly addresses voluntary disclosure we, therefore, disregard mandatory disclosure implications

but focus on firms-specific disclosure consequences (Benston, 1967). Our discussion covers issues like:

- What extent does current financial and accounting information serve as rationalizing investors' decisions in the Algerian financial market?

To answer the questions raised and test the validity of the following hypotheses:

- There is no statistically significant effect of accounting information on equity returns for partnerships listed on the Algerian Stock Exchange during the study period.
- Total unusual returns on the day of disclosure of financial statements are different from zero.
- Share prices do not respond quickly to information on the publication of financial statements.

We applied the VAR model to find out the impact of accounting disclosure on the returns of shares on the Algerian stock exchange, by studying companies listed on the Algiers Stock Exchange.

The purpose of this study was:

- Know the nature of the published information, which the listed company should disclose;
- Identify the ability of accounting disclosure to optimize the exploitation and allocation of economic resources available at the stock market level ;
- Identify the dimensions of the timing problem in accounting practices, particularly at the level of Algerian institutions;
- Analyse and evaluate of the implications of the timing of financial statements on earnings per share;
- Test the impact of the timing of the publication of financial statements on earnings per share.

2- LITERATURE REVIEW

Corporate social responsibility disclosure is the process of communicating the stakeholders with the social and environmental effects of organizations' economic actions. Given its importance,

CSRD has been a focus of academic interest since the 1980s (Balluchi et al, 2020).

2.1- Referring to Related Research

Some studies have dealt with this subject, they can be presented :

2.1.1. Determinants and dimensions of the Reports timing

Boritz and lui (2006) examined the determinants and dimensions of the timing of quarterly reports of Canadian companies assuming that interim financial reports issued quickly by companies with more transparency in the information environment than companies with less transparency, and also assuming that companies with problems at the agency are more likely to postpone disclosure of interim financial statements than companies with few problems at the agency.

It was provided in evidence that the information environment and agency problems were related to the timing of quarterly reports, and they found that companies with unaudited interim financial reports were less time to issue their progress financial lists than companies with audited financial lists .The researchers suggested that companies should be aware that disclosing unreviewed financial lists gives us a negative signal to market participants and is therefore supported to postpone disclosure.

Taha Al Sayed (1999) examined the Accounting disclosure and its role in stimulating Arab financial markets. He intended to clarify the nature and the importance of disclosure, its determinants for investors, financial markets in Arab countries. The author recommended that uniform accounting principles should be adopted in the Arab countries governing the preparation of basic and additional financial statements, that investors should be admitted in a beneficial manner, and that financial markets be provided with the necessary and accurate information in a timely manner.

2.1.2. The information content of accounting

Bamber (1968)Studied the information content of accounting profit advertising from the perspective of studying the impact on volume of trading, the results of her study indicated a positive relationship

between the absolute values of unexpected profits and the volume of trading, and the researcher also concluded that there was an inverse relationship between the size of the company and the volume of trading.

Beaver(1968) studied the information content of accounting profits, and in his study, in addition to the impact of accounting profits on prices and returns, he addressed the impact of that announcement on the volume of trading, and noted from his study that when profits are announced prices and returns are affected up or down, and the volume of trading in general increases during the period surrounding the disclosure of profits.

2.1.3. Volume of trading and disclosure of accounting earnings

Lobo and Tung (1997) examined the relationship between disclosure and volume of trading during the period surrounding the disclosure of quarterly accounting earnings, and investigated the volume reaction associated with the disclosure of quarterly reports, and the researchers considered that compared to annual accounting information, the information contained in quarterly reports was better timed and therefore more appropriate, but on the other hand, quarterly reports were unaudited and therefore less reliable. The study concluded that the volume reaction to quarterly profits was positively related to the degree of disclosure of information in those reports.

2.1.4. The timing of Annual report disclosure

Dyer J.C., and Arthur J. McHugh (1975) examined the timing of the disclosure of annual financial reports in Australian companies. They conducted their research on a random sample of 120 industrial trading companies listed on the Sydney Stock Exchange, between 1965 and 1971, the researchers studied key periods with a view to determine the average delay in each period, and the results of the study showed that the average total period of Australian companies is determined between 101.5 days to 117.8 days during the years subject to study.

2.1.5. Impact of the information disclosure on the prices and the volume of stock companies

Ramy Riad and Al-Abd Al-Aal (2006) examined the impact of the use of interim financial reporting information on returns and the volume of unusual trading of shares. The aim of this study was to choose the impact of the information on the announcement of the publication of interim financial reports on both the prices and the volume of stock trading of Jordanian public shareholding companies listed on Amman stock exchange, It also aimed to show the impact of financial ratios and accounting indicators, financial extracted from interim financial reports on returns, and the unusual volume of trading of shares, in order to determine the information content of these ratios, indicators for financial investors, and those on Oman stock exchange,

The study found unusual returns on the date of publication of interim financial reports, unusual trading of shares, and users rely on information in interim financial reports to choose between investment alternatives, The results also showed that there was information content from the ratios and financial indicators used in interim financial reports, thereby benefiting investors from this information.

Matar Muhammad (1991) examined the assessing level of actual disclosure in the published financial statements of Jordanian public joint stock companies in light of the disclosure rules stipulated in international accounting assets. The study aimed to verify the extent to which Jordanian public joint stock companies adhered to conditions and disclosure rules provided by international accounting standards until the end of 1990, The problem of the study was to compare international disclosure standards with its history with the disclosure methods used by Jordanian joint stock companies, and the study used the inference approach and the descriptive analytical approach, The study concluded that Jordanian public joint stock companies generally met(the minimum requirements for disclosure of information to be required by international accounting standards in 1990, the disparity in the level of disclosure between the financial statements themselves and the elements of each list is limited to a narrow area, and the information provided by the published financial statements of

Jordanian public joint stock companies is based on the level of disclosure provided in accordance with international accounting standards as follows : First place list change in financial position, second place list financial center, third place list of profits and losses, fourth place notes and clarifications attached to the financial lists. The study recommended that compliance with international accounting standards be generalized both in the preparation of financial statements and in their audit to all Jordanian joint stock companies.

2.2- A Priori justification and knowledge

Although it is something of a generalization, prior to the mid- to late 1960s the accounting literature was dominated by the so -called ‘a priori’ literature which adopted an ‘economic income approach’ to address accounting issues (JřinaBokřovaa, 2015). Beaver states that the a priori literature was concerned with the question of “What properties should the ‘ideal’ net income have?” From this perspective, alternative accounting models of income are evaluated by the extent of their correspondence to the ‘ideal’ properties. Accounting theorists who epitomize this economic income approach include Chambers(Anderson, 1974), Sterling, Mattesich, and Edwards and Bell and their works have been classified as ‘normative’ in the sense that they presented alternative models in an attempt to constitute the ‘best’ approach for measuring economic income (Demski, 1991). The a priori theorists vigorously debated among themselves the relative merits of their respective positions (Beaver, 1989). Their works have been beneficial in raising the general quality of debate and concerned important issues in income measurement) (Al-Abdal,RamiRiad. 2006). However, by the mid-1960s, something of a stalemate and a feeling of frustration had emerged as none of the protagonists was able convincingly to demonstrate empirically the superiority of their respective models. This impasse in the accounting literature was one factor that created an impetus for a ‘new approach’ (Bryan A. Howieson, 2019).

2.3- Overview of stock market in Algeria

The list of the transferable securities accommodates a fairness securities marketplace in addition to a debt securities marketplace. (Matar,1993)

The marketplace for fairness securities is composed of the main marketplace for huge enterprises. Five organizations are presently indexed on the primary marketplace, namely:

- SAIDAL Group: its scope includes the pharmaceutical sector;
- EGH EL AURASSI: its scope includes the tourism sector;
- ALLIANCE INSURANCE: its scope includes the insurance sector;
- NCA-Rouiba: its scope includes the agri-food sector;
- BIOPHARM : its scope includes the pharmaceutical sector.

The SMEs Market referred to the Small and Medium Enterprises: founded in 2012 by the COSOB regulation No12 -01 of 12 January 2012 amending and supplementing the Regulation No 97 - 03 of 18 November 1997 concerning the general regulations of the stock exchange market (Published in the official Journal No 41 of 15 July 2012).

This marketplace can provide an opportunity to start-up SME to have an access to capital. It is certainly an amazing boom possibility for SMEs, whilst supplying buyers with a well-regulated marketplace for investments (Anil Arya, 2017).

AOM Invest is currently indexed in this marketplace, the marketplace of debt securities includes a:

Market of debt securities issued with the aim of using corporations, authorities' agencies.

The market for block OAT reserved for fungible Treasury bonds issued with the aid of using the Algerian Treasury. It turned into in 2008 and presently has more" than 25 indexed strains masking approximately four hundred billion Dinars.

The Fungible Treasury Bonds with maturities of 7, 10 and 15 years are traded via the agents in inventory alternate transactions and coverage corporations having the reputation of Specialists in Treasury Securities as much as 5 classes according to week.

Official listing of stock exchange market can be represented as follows:

Figure 1. **Organizational chart**



Source: Presentation of the stock market, website of Algiers Stock Exchange as of April, 2015.

Algiers Stock Exchange was reported at 44,256,159,311.000 DZD in Jun 2020. This remained regular from the preceding range of 44,256,159,311.000 DZD for May 2020.

Algeria’s Market Capitalization: Algiers Stock Exchange Facts is up to date monthly, averaging 22,818,980,662.500 DZD from Sep 1999 to Jun 2020, with 250 observations. The Facts exceed 68,525,000,000.000 DZD in Feb 2000 and a report low of 5,730,000,000.000 DZD in Apr 2006. Algeria’s Market Capitalization: Algiers Stock Exchange facts stays lively popularity in CEIC and is pronounced through Algiers Stock Exchange; The Facts is classified Beneath Neath Global Database’s Algeria – Table :

Table 1. Algiers Stock Exchange (Market Capitalization)

| Last | Previous | Min |
|-------------------|-------------------|----------------|
| 44,256,159,311... | 44,256,159,311... | 5,730,000,0... |
| Jun 2020 | May 2020 | Apr 2006 |

Table 1. (Following)

| Max | Unit | Frequency | Range |
|----------------|-------------|------------------|------------------------|
| 68,525,000,... | DZD | Monthly | Sep 1999-Jun 2020 |
| Feb 2000 | | | Updated on 30 Jun 2020 |

Source: Presentation of the stock market, website of Algiers Stock Exchange as of sep, 1999.

Last year, the Algiers Stock Exchange attracted a very poor number of investors, according to the market regulator annual report.

The Commission for the Organization and Supervision of Stock Exchange Operations in Algeria (COSOB) mentioned that in terms of value and volume of transactions, the market was very dynamic but globally, operations only concerned with one stock (Bio pharm).

The pharmaceutical group Biopharm, which was the main player on the market in 2019, put up for sale nearly 29,023 shares under a contract aimed at strengthening its liquidity.

Also, the number of securities accounts (accounts holding financial securities such as shares, bonds, etc. exchangeable on the stock exchange), which have been relatively stable for the past four years, fell to 21,448 in 2019.

“Statistically, this represents the equivalent of five investors per 10,000 Algerians, which is a very negligible figure,” the regulator explained. To improve this situation, Cosob proposes the admission of about ten public and private companies on the stock market, which will help improve the attractiveness of the stock market and support household savings. Only one company, AOM Invest Spa, is listed on the SME compartment of the Algiers Stock Exchange. In 2019, no approval for the issue of bonds was issued by Cosob and no bonds were admitted on the official listing of the Algiers Stock Exchange (ChamberlineMoko, 2020).

3- MATERIAL AND METHODS

3.1- Sample

The main aim of the research was to verify the selected companies operating in Algeria stock exchange. This research attempts to examine if these companies fulfill the duty of presentation of annual financial statements per years 2000 to 2015. The authors of this research chose 4 companies.

Table 2. Sample study

| | SAIDAL GROUP | EGH EL AURASSI |
|---|----------------------------------|----------------------------------|
| The date of the establishment of the company | 1969 | 1975 |
| Date of listing the company on the stock exchange | 1999 | 2000 |
| Company Sector | Pharmaceutical Chemistry | Tourism |
| Company type (private or public) | 80%state property and 20% waived | 80%state property and 20% waived |
| Total company assets in 2015 | 34921900820.68 | 12022764872.2 |
| Company profits for 2015 | 1143817990.89 | 609333773.2 |
| Company capital | 2 500 000 000 | 1 500 000 000 |

Table 2. (Following)

| | ALLIANCE INSURANCE | NCA-Rouiba |
|---|--------------------|-----------------|
| The date of the establishment of the company | 2005 | 1966 |
| Date of listing the company on the stock exchange | 2011 | 2013 |
| Company Sector | Insurance | Food industry |
| Company type (private or public) | Private company | Private company |
| Total company assets in 2015 | 7200085875.45 | 8340204758 |
| Company profits for 2015 | 363021284.57 | 188985195 |
| Company capital | 2 205 714 180 | 849 195 000 |

Source: Prepared by the researchers based on the website of Algiers Stock Exchange ; 2020.

In this sample, we took into account a set of properties:

- they have not been suspended from circulation during the years of study;
- at least 25% of the total days of the period have been traded. In the period of appreciation, the company must have traded at least 25 days in order for the financial report to be accepted as an individual in the sample;

- An important event has not affect the results of the study during the test and appraisal periods, such as dividing shares or issuing free shares, or merging companies with others;
- The important dates that can be considered as a real date for the dissemination of financial lists cannot be obtained;

The Collection of Documents was basic source of data. This information source is part of Algiers Stock Exchange on website [http://www.http://www.sgbv.dz/\(2020\)](http://www.http://www.sgbv.dz/(2020)).

3.2- The theoretical foundations of Vector Auto Regressions (VAR)

Vector Auto-Regressions (VARs) have become the workhorse model for macroeconomic forecasting (DICKEY & FULLER, 1979). The initial use in economics was to a large degree motivated by Sims (1980) critique of the “incredible restrictions” used by the large macro econometric models developed in the 1970s and much effort was put into tools for policy analysis based on VAR models(GUJARATI, 2000). This role of the VAR model has to some degree been taken over by the current crop of DSGE models, which is a new generation of theory-based models, which are – at times – ill at ease with the data (Reisman, 2012).

The role of the VAR model as the baseline model for economic forecasting is unchallenged (Schultz, 2019). This model is flexible, able to fit the data and a rigorous forecasting device (Hochreiter, 2013). The flexibility and ability to fit the data comes from the rich parameterization of VAR models bringing with it a risk of over-fitting the data, of imprecise inference, and large uncertainty about the future paths projected by the model (Tarkhamtham, 2019).

This is essentially the frequentist argument for Bayesian VAR models and one reason why Bayesian VAR models forecast better than VARs estimated with frequentist techniques (Rather, 2018). The widely used Minnesota prior introduced by Litterman (1979) is a set of data centric prior beliefs that shrinks the parameters towards a stylized representation of macroeconomic data thereby reducing parameter uncertainty and improving forecast accuracy (Wang, 2012).

The Bayesian argument is different. The Minnesota prior captures widely held beliefs about the long-run properties of the data, properties that are not readily apparent in the short samples typically used for estimation (Bognannia&Zito, 2020).

Bayes theorem then provides the optimal way of combining these two sources of information leading to sharper inference and more precise forecasts (Yue-JunZhang&Jia-JuanLin, 2019). The development of efficient numerical techniques for evaluating posterior distributions is also a contributing factor to the attractiveness of Bayesian methods (Lean Yu, 2020). It is now possible to tackle more complex problems under realistic assumptions when we no longer are limited to problem formulations that lead to analytical solutions (Boritz, Liu, 2006).

4- REGRESSION MODELS

To achieve the objective of this research, we established a regression models. In addition to corporate disclosure a number of control variables used in previous studies are included to ascertain the explanatory power of disclosure for the respective dependent variable (Christina Christou, 2017).

In this study, we followed the following empirical strategy:

The unexpected profit of sample companies is measured for the purpose of being split into two groups: one includes the higher-than-expected profitable companies, which are supposed to carry good news for the market, and the other includes the less-than-expected profitable companies as having bad news (ElieBouri, 2018). It is not right to do an analysis of all sample companies in one group (IkramJebabli, 2014). The positive impact may cancel out. The standard Vector Autoregression with multi-variable time series is as follows (Central Bank of Nigeria, 2014) :

$$y_t = \sum_{i=1}^m \lambda_i y_{t-1} + \sum_{i=1}^m \mu_i x_{t-1} - y + u_i$$

Where y_t represents a j vector of endogenous variable, X_t represents a k vector of

exogenous variable. The λ_i and μ represent matrixes of coefficient to be estimated and μ_i is a j vector of error term known as impulse. VAR models do not distinguish dependent variable from independent variable and y_t and X_t are conventional.

This study conducted forecast error variance decomposition analysis to determine the proportion of the forecasting error of a variable, which was accounted for by a given time horizon. The proportion of the variance of $X_{t+k} - \hat{X}_{t+k/t}$ due to a particular shock such as ε_t can be expressed as:

$$\frac{\text{Var}\left(X_{t+k} - \hat{X}_{t+k/t/\varepsilon_t}\right)}{\text{Var}\left(X_{t+k} - \hat{X}_{t+k/t}\right)}$$

It has been described that part of the variance of the publication of financial statements variables arose from their idiosyncratic components that might also be due to measurement error. However, as identified by Bernanke et al. (2005), it was unclear if the standard VAR variance decomposition gave exact measurement of the relative importance of listed companies. The forecast error variance decomposition based on FAVAR estimation is most appropriate as the relative importance of financial statements is evaluated only to the portion of the variable explained by the common factors. It is denoted as:

$$\frac{\Lambda_i \text{Var}\left(X_{t+k} - \hat{X}_{t+k/t/\varepsilon_t}\right) \Lambda_i^i}{\Lambda_i \text{Var}\left(X_{t+k} - \hat{X}_{t+k/t}\right) \Lambda_i^r}$$

Bernanke et al. (2005) confirmed that FAVAR approach captures important dimensions of the business cycle movement. R2 was reported to evaluate the goodness-of-fit properties of the estimated factors. The computed R2 of each of the identified key variables was on the common factors: $C(F_t, Y_t)$, that is the fraction of each variable's variance which was explained by F_t , and Y_t . Having a high R2 means that the common factors sufficiently contained the information in the

variable, while a low R2 revealed that the variable cannot be adequately explained by the common factors.

5- RESULTS

5.1 Predictive accuracy

This section of the paper presents the results and discussion obtained from data collected from the (4) firm’s financial statements for the period 2000-2015; The results of the Granger causality test are very sensitive to the choice of lag order, and thus 1 is determined as the lag order for a VAR model

Table 3. Pairwise Granger Causality tests

| Null Hypothesis: | Obs | F-Statistic | Prob. |
|---|-----|-------------|--------|
| Group I : RM does not Granger Cause RI | 59 | 4.97354 | 0.0298 |
| Group II: RI does not Granger Cause RM | | 1.54964 | 0.2184 |
| Group I = Average aggregate extraordinary returns for companies with a positive unexpected change in earnings | | | |
| Group II = Average aggregate extraordinary returns of companies with a negative unexpected change in earnings | | | |

Source: Prepared by the researchers based on Eviews 10 outputs

Table 4. Vector Autoregression Estimates

| | RI | RM |
|--|-------------------------------------|--------------------------------------|
| RI(-1) | 0.918732 (0.05036) [18.2440] | -0.023409 (0.01880) [-1.24485] |
| RM(-1) | 0.307212 (0.13775) [2.23014] | 1.144919 (0.05144) [22.2572] |
| C | 0.001000 (0.00060) [1.66407] | 3.51E-05 (0.00022) [0.15634] |
| R-squared | 0.991288 | 0.991812 |
| Adj. R-squared | 0.990977 | 0.991519 |
| Sum sq. resid | 0.000180 | 2.52E-05 |
| S.E. equation | 0.001795 | 0.000670 |
| F-statistic | 3186.006 | 3391.593 |
| Log likelihood | 290.8739 | 348.9918 |
| Akaike AIC | -9.758436 | -11.72853 |
| Schwarz SC | -9.652798 | -11.62290 |
| Meandependent | 0.033521 | 0.009380 |
| S.D. dependent | 0.018894 | 0.007277 |
| Determinant resid covariance (dofadj.) | | 1.38E-12 |
| Determinantresid covariance | | 1.25E-12 |
| Log likelihood | | 641.1605 |
| Akaike information criterion | | -21.53086 |

| | |
|-------------------|-----------|
| Schwarz criterion | -21.31959 |
|-------------------|-----------|

Source: Prepared by the researchers based on Eviews 10 outputs

The table above shows the multiple regression output for audit committee characteristics and timeliness of financial reports of quoted companies in Algeria. The result of the upon statistical observations obtained by <http://www.sgbv.dz/> suggests that audit committee independence (RI;RM) is significantly related to the timeliness of financial reports. That is the p-value of 0.005 ; 0.001, respectively is less than the critical value of 0.05. This implies that a firm with more audit committee independence tends to have a longer financial report lag.

The result is consistent with Besley et al. The relative statistics of R2 (coefficient of determination) 0.99 ; 0.99, respectively shows that the variables combined determines about 99% and 99% of timeliness of financial reports quality.

The F-statistics and its probability shows that the regression equation is well formulated explaining that the relationship between the variables combined of timeliness of financial are statistically significant (F-stat = 3186.006, 3391.593 respectively)

It is not difficult to see that some of the estimated coefficients are significant, some are not significant, but because of the VAR model does not concern the coefficient is significant or not, so these coefficients will be retained. The RI and RM guidelines are mainly considered. Known by the figure, the lag order VAR equations are in line with the RI and RM guidelines. The following equations are significant:

$$RI = 0.918731940548*RI(-1) + 0.30721176065*RM(-1) + 0.0010004725431$$

$$RM = - 0.0234089898995*RI(-1)+ 1.14491947185*RM(-1)+3.50994436e-05$$

Table 5. Dependent Variable (RI)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RM | 2.489019 | 0.094149 | 26.43701 | 0.0000 |
| C | 0.010192 | 0.001105 | 9.224812 | 0.0000 |
| R-squared | 0.923373 | Meandependentvar | | 0.033150 |
| Adjusted R-squared | 0.922052 | S.D. dependent var | | 0.018951 |
| S.E. of regression | 0.005291 | Akaike info criterion | | -7.612831 |
| Sum squared resid | 0.001624 | Schwarz criterion | | -7.543019 |
| Log likelihood | 230.3849 | Hannan-Quinn criter. | | -7.585524 |
| F-statistic | 698.9157 | Durbin-Watson stat | | 0.274552 |

Prob(F-statistic) 0.000000

Source: Prepared by the researchers based on Eviews 10 outputs

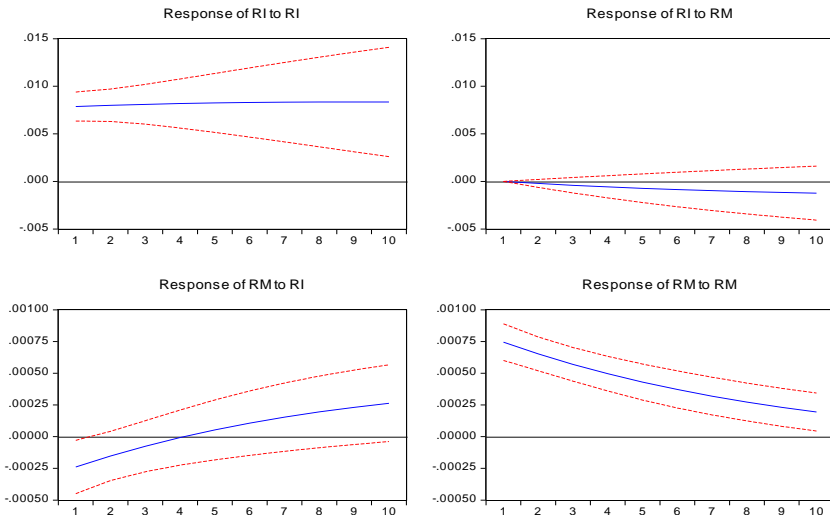
The result above shows the granger causality between RI and RM of quoted firms in Algeria. RI does granger cause timeliness of RM, That is the p-value of 0.000 is less than the critical value of 0.05. Figure 02 returns for the first group moves upwards from zero, the date of the annual financial reports being announced, while the curve of average aggregate extraordinary returns for the second group is downward.

However, the absence of a statistically significant moral effect shows that the curve of average aggregate extraordinary at 5%, and this is due to price restrictions that prevent movement freely, so the formula for this variable is as follows:

$$RI = 2.48901942745 * RM + 0.0101921331548$$

Figure 2. Impulse response resulting from a shock in the RI variable.

Response to Cholesky One S.D. Innovations ± 2 S.E.



Source: Prepared by the researchers based on Eviews 10 outputs

Inspection of the VAR model includes two aspects: firstly, to verify the stability of the VAR model; secondly, to verify the independence of the residuals:

- To test the stability of the VAR Model by checking the characteristic roots in the unit hospital.
- The test results show that all the characteristic roots are in the unit circle, the VAR model satisfies the stationary assumption

Table 6. Regression results for each company

| Firm | Beta Value | Level of significance | R²adjusted |
|-------------|------------------------|------------------------------|------------------------------|
| Roui | -6,99.10 ⁻⁷ | 0,0000 | 71,8% |
| Sai | 8 ,74.10 ⁻⁷ | 0,0000 | 33,10% |
| Aur | -7,79.10 ⁻⁸ | 0,023 | 1,80% |
| All | -2,08.10 ⁻⁶ | 0,0000 | 94,30% |

Source: Prepared by the researchers based on Eviews 10 outputs

As it can be seen from the above table the P value, we notice that there's a direct relationship between the history of disclosure of the balance sheets and the Sai stock price, and there's an inverse relationship between disclosure dates and the stock prices of other companies and despite the statistical morale of these relationships, whether they're passive or inverse, that we've come up with by level of signification, which is less than 5% for all companies by P value values that are almost equal to zero, we conclude that there's twice as much impact if we don't say that there's no date for corporate stock price disclosure, which is the same result that we found in the past. For the R², which measures the interpretation of the independent variable of the change in the dependent variable, we notice that for both Roui and All, it is over 60%, which indicates that the change in the stock price is explained by more than 70% for Roui and by 94% for all. As for Aur and Sai, the explanation rate is less than 60% and almost none for Aur as R² is not 2%; Based on the foregoing, we conclude:

- There is no statistically significant effect at a level of 5% in all days of the period surrounding the date of the announcement of the annual financial reports, meaning that the returns on stocks of companies listed on the Algerian Stock Exchange are not affected when the annual financial reports are announced,
- There is a difference in the ordinary's fluctuation collective return of sample companies after the day (1), which indicates that when the date of publication of the stability sheet is approaching, prices

move up or down as a result of the arrival of new market information which can influence investors' decisions.

- Despite several years since the establishment of the Algerian stock market, its performance remains weak.
- This study emphasizes the importance of the information content of financial reports in strengthening investment decisions in the Algerian Stock Exchange, which are affecting the efficiency of the stock market
- The results showed that there was no statistically significant effect when disclosing financial lists.
- There are factors affecting the Algerian stock market other than the information published in the financial statements:
 - The stock market is established without taking into account the social and economic conditions of the country;
 - The lack of a financial culture of the majority of the public, which hinders investment in securities;
 - The spread of the phenomenon of the parallel market, which leads to the channeling of capital into investment in this type of market as a substitute than into the stock market;
 - The weakness of the performance of some economic institutions making them unable to meet the conditions for joining the stock market.
 - The stability of political, legislations and laws regulating the functioning of the Algerian stock market.

5.2- Hypothesis testing

The main hypothesis shows the extent to which equity returns are affected in the period surrounding the announcement of financial reports, as the study assumed from the outset that the impact test on returns by testing the entire sample may not give correct results because the sample includes different vocabulary, as the financial reports announced may carry good news for the market leading to increased returns, while others may carry bad news, which in turn may lead to lower returns.

Thus, testing the sample as a whole at once can eliminate the effect of some by others.

It is noted from the above that there is no statistically significant moral effect at the level of 5% in all days surrounding the date of the announcement of the annual financial reports, meaning that the share prices of companies listed on the Algiers Stock Exchange are not affected when the annual financial reports are announced,

This is possibly due to price restrictions according to trading instructions, perhaps the most important reason that the price was not affected morally and this makes sense, to set the price by a certain percentage from the previous price and not allowing prices to move freely reflects on unusual returns, and leads to their volatility and changes not appearing significantly.

In the light of its findings, the second main hypothesis is accepted which states: unusual returns on the day of the announcement of financial statements are not equal to zero, based on the theory of market efficiency in its semi-strong form, which assumes that the information disclosed in the financial statements reflects on stock prices quickly without achieving unusual returns, indicating that the stock exchange in question is not efficient at the semi-strong level.

The hypothesis that there is no statistically significant impact on price response after the publication of financial statements is also accepted, which means that the share prices of listed companies do not respond to the information disclosed in the financial statements due to the continued extraordinary profitability, which indicates that the disclosure of the information content of the financial statements has no impact on the efficiency of the market, which confirms the inefficiency of the stock exchange under consideration at the semi-strong level.

The reasons for the market's lack of absorption of disclosed information are due to:

- Investors' lack of interest in disclosed accounting information and their reliance on other factors to make their investment decisions;

- Leaking information in financial statements before disclosure, which means that the market bodies under consideration are weak in playing their oversight role ;
- Poor accounting disclosure and lack of improvement.

CONCLUSION

This paper sought to specify and estimate a Vector Auto-Regressive (VAR) model based on the financial statements of a firm, dealt with the repercussions of the publication of the financial statements in the Algerian Stock Exchange and the test of the extent to which they responded to the accounting information published in the annual financial reports when they were disclosed. This study aimed to highlight the importance of the timing of the announcement of the accounting information, as the investment insecurities rely on disclosure of all activities related to the listed companies; the accuracy of the published data in a timely manner affects investors' decisions.

Through what has been discussed as well as the analysis of the data and the presentation of the model used to determine the relationship between the impacts of accounting disclosure on the returns of shares on the Algerian stock exchange, the most important findings of the study can be drawn as follows:

- The market is efficient if the share price reflects all available information and therefore the market value is fair value, and in an efficient market it is difficult for the investor to make extraordinary profits at the expense of others due to the availability of information at the same time;

- Information efficiency means that new information reaches market customers quickly and without a large interval, making stock prices a mirror that reflects all available information, meaning that everyone has the opportunity to obtain that information or for a market that becomes fair game;

- The appropriate timing of the dissemination of accounting information is reflected in the provision and dissemination of such information before it is outdated and loses its ability to influence the decision-making process and thus becomes inappropriate;

- Accounting information is one of the most important information that must be provided by the Stock Exchange;

- Accounting disclosure reflects clarity and lack of thumb in the presentation of accounting information in the preparation of financial reports, and reduces the asymmetry of information between the company and shareholders.

The study also concluded a set of recommendations:

1. The Algiers Stock Exchange should set a consolidated date at which all financial statements will be published, which is necessary for investors;
2. Interest in publishing market and accounting information in official newspapers;
3. The full financial statements should be published with all clarifications without deletion;
4. Requiring listed companies to publish some future stock price forecasts;
5. Activating the role of external auditor in reviewing financial reports and their adequacy with disclosure requirements;
6. Developing and regulating financial intermediation, raising the efficiency of its employees and upgrading the type of services it provides to investors, particularly real information;
7. Facilitating the registration and trading of financial instruments on the stock market;
8. To provide confidence in the market by protecting investors' rights against speculative operations that do not benefit the national economy, as well as to make full public the activities of companies traded in the market, allowing investors to fully understand their investments and evaluate their decisions on sound grounds;
9. Diversification of securities other than common shares;
10. Establish a stock market database to disseminate financial investment culture and publicize market activity and investment opportunities;
11. Transparency in the provision of information to increase investor confidence, thereby increasing the demand side at the market level;

12. Taking experience from global and Arab stock markets to gain experience;
13. Work to liberalize the movement of capital by linking the Stock Exchange to Algeria with Arab and international markets;
14. Reviewing the legislation on the stock market, particularly with regard to listing conditions and brokerage firms, with incentives for the establishment of joint stock companies to be floated and traded on the stock market;

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