

## The study of relation between disclosure quality and the changes of share efficiency in investment cement companies accepted in Tehran stock exchange

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### Abstract:

The study of relation between disclosure quality and shareholding efficiency is the subject which has been always considered by financial field researchers. The purposes of present study are providing the required information for decision making and in order to accessing this subject, disclosure of financial information is necessary. In this study the relation between disclosure quality and the changes of share efficiency has been considered. The statistical society of this study has been accepted cement companies in Tehran stock exchange. This study includes of a hypothesis. The available information in Tehran stock exchange has been applied for accounting the hypothesis variables. Regression and analysis of the combined data (panel data) correlation coefficient has been used for hypothesized experiment. According to data of study, the hypothesis experiment has been rejected in reliance level %95. This conclusion has been resulted that there is no significant relation between disclosure quality and share efficiency changes.

Key words: Disclosure quality, Share efficiency, Investment, Stock exchange.

### 1-Introduction

The importance of access to appropriate information and related to the subject of decision is to the extent that in democratic societies, clarity of information and its accessibility are considered as investor rights (Hejazi et al, 1389, p24). The main reason of emphasis on voluntary disclosure and clarity is that these two factors are main infrastructure for preservation of shareholders' profits. Thorough disclosure approaches with clarity in financial reporting can create secure conditions and increase the certainty of preservation of investors' profits. In addition, researches have shown that voluntary disclosure has a positive effect on company operation and it is effective for preservation of shareholders' profits and beneficiary persons. In other words, lack of clarity of information and vagueness in reporting can cause distrust and unethical behaviors which decrease the value of company (Madhani, 2004). In disclosure financial information, the demands and requests of main investors, investment institutions, credit providers and financial analysts should be considered (Alivar, ?). Managers try to maximize the shareholders' profits in companies. Managers, who try to maximize the shareholders' wealth, are looking for maximizing the share value of company. The share price of company reflects the market estimation from expected revenue figures throughout the time and the more the share price, the better the management has done his/her job from the shareholders point of view. Therefore, the management is evaluated in this way (Weston et al). As a result, managers try to know which information they should reveal for groups around that unit (shabahang, 1387, p150). Another

important criterion in investors' decision making and assessment of operation of institution is share efficiency rate now.

The calculation the company efficiency rate as a criterion for evaluating company operation is obtained from revealed information by company management (John et al, 1371). In any kinds of investment, the investor looks for obtaining efficiency from investment. The investor tries to obtain information from the future amount of the company share efficiency (Namazi et al, p106). Information is considered as valuable source for economic units of developing countries. Information causes motivation and decreases unreliability. Information reveals the new options or causes to eliminate the weak options and finally affects and motivates the people (John et al, 1371). Therefore, in this study with regard to the high importance of information and its disclosure by companies and the effect of it on share efficiency as an important factor for shareholder's decision making in buying or selling their shares, the relation between disclosure quality and the changes of share efficiency in investment cement companies accepted in Tehran stock exchange is examined.

## **2- Definition of topic and statement of the problem:**

The efficiency criterion is considered as one of the important indicators in evaluation of financial operation any company, the primary step in evaluating and measuring operation of a collection is calculation of obtained efficiency with regard to predetermined aims for a commercial unit. Since the increase of shareholders wealth is considered as main the purpose of commercial unit, any company should increase the shareholders wealth by obtaining appropriate efficiency and increasing the shareholders wealth is defined as "positive efficiency" of common shares in any financial periods. The right decision in economic institutions level and in other words the optimum dedication of rare resources in society requires the existence of clear and comparable financial information, the lack of information or existence of misleading information causes slowly development and economic poverty and reduction of public welfare level. One of the primary and fundamental prerequisite for putting investors' confidence and credit providers in economic constructive activities and finally economic growth, appropriate and adequate financial information for decision making about buying, protecting or selling shares and evaluation of operation of managers (Lashgari& Naderi, 1388).

According to the mentioned instances, since information disclosure with clearness in financial reporting can provide secure conditions for investors' profits and also unclearness causes reduction of value of the company and shareholders' profits, the evaluation of this study is recommended because of its effects on share efficiency which is one of the important factors for decision making in buying shares.

## **3-Review of literature:**

### **3-1 Related researches abroad:**

- 1- Sarendra, S, Singhvi and Hersha B, Desrai- In 1971 did a research entitled "An Empirical Analysis of the Quality of Corporate Financial Disclosure" in America. The empirical work of these researches is restricted to study of annual reports of 100 companies accepted in bourse and 55 companies not accepted in bourse related to April 1965 and 31th march of 1966. The annual report of accepted companies in bourse is selected through random sampling between 500 industrial companies from Fortune Guide and the annual report of companies not accepted in bourse is selected through systematic sampling between 800 companies which their information published in New York Times.

Singhvi and Desrai in their research tried to weigh them through interview with securities analysts and study of analysts' reports and with regard to the relative importance of disclosure instance which total of them was 68 and the score of weights were from 1 to 4.

The results of study show that:

- a. Great companies have better disclosure quality than small companies.
- b. Companies with more shareholders have better disclosure quality.
- c. Companies which have been audited by professional institutes (CPA) have better disclosure quality than companies which have been audited by small professional institutes.

2- Botosan did a research entitled "Disclosure level and the cost of equity capital" in 1997. He chose his sample only from one industry which included 122 active production companies in machinery production industry.

He graded his sample companies based on final reports of 1990 and published information by (AIMR)<sup>1</sup> institute in terms of voluntary disclosure quality level with harmonic criterion of disclosure measurement which composed of 5 information categories "basic information, historical information, fundamental non financial information, anticipation and information about analysis and management topics".

His reasoning was that because in these kinds of companies their activity is followed by many financial analysts, their important information is obtained before disclosure through annual reports by analysts in different ways and published in capital market and in fact information in form of involuntary disclosure will be made available to investors and market. Therefore, the effect of voluntary information which published at the end of the year minimizes.

3- Botosan and Plumlee did a research entitled "Disclosure and expected cost of equity capital: an examination of analysts rankings of corporate disclosure" in 2000. They expanded their research sample and chose a sample as 3618 year-company from 43 kind of different industries for 11 years from 1986 to 1996.

They concluded that in companies which have more disclosure level in their annual reports, the cost of capital reduces, so that there is a great difference around 7 percent in the cost of capital of companies with maximum disclosure level in their annual reports than companies with minimum disclosure level. On the contrary, the research conclusions showed that there was a direct relation between the seasonal and periodic disclosure of the cost of equity capital which was around 1/3 percent more than other companies.

3-2 related researches inside the country:

After searching and surveying, no research with the topic of study was found but similar studies have been done in this filed which are as follows:

- 1- A research entitled "The study of relation between disclosure quality and cost of debt" has been done by Ahmad Estaki under the supervision of Hamid Khaleghi

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Moghadam at Alame Tabatabai University in Tehran in 1380. Achieved conclusions from hypothesis testing approve the first hypothesis with confidence level of 95 percent and determine that there is a strong converse relation between disclosure quality of company and cost of debt. In addition, the second hypothesis with confidence of 95 percent rejected and it is determined that the relation between disclosure quality and cost of capital in very instable market is not stronger and the answers of respondents for both of normal and instable markets were close together.

- 2- A research entitled “the relation between disclosure level and cost of equity capital” has been done by Abdolali Barati under the supervision of Mohsen Khoshtinat at Alame Tabatabae University in Tehran in 1383. His research conclusions show that there is no significant relation between disclosure level (general, financial, non financial and historical and budget) and cost of equity capital. Only the direction of relation is negative.
- 3- A research with the topic “The observance of disclosure principle in preparation of financial invoices by accepted companies in Tehran stock exchange” has been done by Alireza Hajizade under the supervision of Hossein Karbasi Yazdi (1378) at Islamic Azad University of Tehran- Central Branch in 1380. He surveyed 30 companies in this study. Research conclusion of this study is the observance of disclosure principle in preparation of financial reports of accepted companies in Tehran exchange about 95 percent.

#### 4- Significance of the study

Since minor shareholders do not have adequate awareness for decision making and they always look for information for anticipation of share profit and future profit changes and also information for evaluating relative risks of their desired company so that they can invest in those companies' stocks. Therefore every year companies reveal some financial and non financial in the form of financial reports so that this disclosure causes the shareholders to know about financial condition and operation conclusions and financial flexibility of company in every period. In last years' studies (Surendra, Singhvi and Hersha, 1970) achieved some conclusions in their study. They observed that great companies have better way of disclosure than small companies and also companies with more shareholders have better way of disclosure and finally they concluded that companies which are in securities list, have better way of disclosure than companies which are not members of stock exchange.

However, Botosan in 1997 concluded that information would be made available involuntary to the investors and market, therefore the effect of voluntary information which published at the end of the year minimizes, but Estaki (1380) in his research came to the conclusion that the relation between disclosure quality and cost of capital in very instable market is not stronger and the answers of respondents for both normal and instable market were close together. However in Hajizadeh's research (1380) with

regard to conclusions achieved in the study of every financial report of research, it has been determined that the amount of observance of disclosure principle in preparation of financial reports of accepted companies in Tehran exchange is 95 percent. On the contrary, Barati (1383) in his research observed that there is no significant relation between disclosure level “general, financial, non financial and historical and budget” and the cost of equity capital, only the direction of relation is negative. Therefore research conclusions can be used by financial reporters and involved people for more awareness about disclosure principle to review notification method and also modification of decision making ways through appropriate trainings. All of the beneficiaries especially active and potential investors and company managers can use these results for appropriate investment decisions (Lashgari & Naderi, 1388). Masters and students of universities can benefit from research conclusions for future studies. Since voluntary disclosure and clarity are two important factors for shareholders’ equity and finally causes company value and efficiency of per share (EPS) for shareholders and according to the factor that disclosure causes financial invoices prepared in a way that will be apprehensible reports for investors’ and credit providers’ goals, the study of this topic will be necessary.

#### 5- **Research hypothesis:**

According to the research topic and stated question the research hypothesis is as follows:

There is a significant relation between disclosure quality and changes of share efficiency in investment companies.

#### 6- **Variables and research model:**

A) Independent variable

B) Dependent variable

#### ❖ **How to calculate research variables:**

In this study research variables define according to the goals and stated research questions:

#### ❖ **Independent variable**

**Disclosure quality (Disclosure):** for calculation of the score of disclosure quality suggested indexes by Botosan (1997) are used which derive from opinions of Jenkins committee. The values of indexes are equal so that for every one, value of 1 providing disclosure and value 0 providing non disclosure and the score of disclosure quality achieves from division of sum of obtained scores on all of receivable scores. Furthermore, this approach is utilized in research of persons like Wallace (1988), Cooke (1989, 1991), Ahmad & Nicholls (1994), Owusu-Ansah (1998) and in Iran Parchini (1388) which its way of calculation is as follows:

$$\left( \text{Disclosure} = \frac{\sum_{j=1}^n d_j}{n} \right)$$

(Disclosure): the score of disclosure quality of companies

(d): the score related to the disclosure indexes that value 1 if information revealed and value 0 if it did not revealed.

(n): the overall number of disclosure information in index. The reason of using these indexes for measuring disclosure quality is their comprehensiveness and these indexes have been used in different researches. In addition, bellow indexes presented here are adjusted according to the conditions of accepted companies in Tehran stock exchange. Also these indexes have been used by Parchini (1388) in Iran.

## 6-1 Disclosure indexes

### Information background (BCKG):

summary of activities- statement of goals or plans- general expression of strategy- works done during the year for reaching to the goals- planned actions for reaching in future years- time plan for reaching to the goals- competitive environment- the effect of competition on current profits- the effect of competition on future profits- the general description of company- produced main products or services- their particular characteristics- main markets- their particular characteristics- description of factories/storehouses- organizational structure- organizational chart of management.

### Summary of important historical results (HIST):

Profitability ratios- financial structure ratios- liquidity ratios- other ratios- anticipation of profit of every share- measurement of sales- measurement of operating profit- measurement of net profit.

### Non financial key statistic (NONF):

the average salary of every employee- the average age of key employees- share of products market or main services- sold out units related to the products or main services- the sale price of every unit related to the products or main services- equal sale related to the products or main services- time of production or delivery- description of methods or production ways- description of clients.

### Information of departments (SEGM):

Description - properties- debts or financial supply- amortization- operating profit- investment- research and development.

### Information prognosis (PROG):

the comparison of previous prognosis profits with actual profits- the comparison of previous prognosis sales with actual sales- the effect of existing opportunities on sales or future profits- the effect of covering of company risk on sales or future profits- prognosis share of market- prognosis of cash flow- prognosis of cost of capitals- prognosis of cost of research and development- prognosis of future profits- prognosis of future sales.

### Discussion and management analysis (MNGT):

explanations about the sales change- explanations about the change in operating income- explanations about the change in cost of sold merchandise as a sales percent- explanations about the change in gross profit- explanations about the change in gross profit as a sales percent- explanations about the change in administrative and organizational costs- explanations about the change in profit cost or income profit- explanations about the change in net profit- explanations about the change in stock- explanations about the change in accounts receivables- explanations about the change

in capital costs- the explanations about the change in research and development costs- explanation of financial ratios- explanation of liquidity ratios- explanation of other ratios- explanation of prognosis of profit of every share.

❖ **Dependent variable:**

-the changes of share proficiency (RΔ): In this study the calculation of share proficiency is done in the following way, in addition, the subtraction of share proficiency at the end of the year with share proficiency changes at the last year is used for determining the amount of share changes. Therefore, the time domain of research begins from 1384 for share proficiency changes variable.

The equation of  $\left(R = \frac{(P_1 - P_0) + D}{P_0}\right)$

In which:

(R): Share efficiency of company

(PI): The share price of company at the end of the year

(PO): The share price of company at the beginning of the year

(D): cash profit allocated to every company share

And below there is the way for calculation of proficiency changes.

The equation  $(\Delta R = R_t - R_{t-1})$

In which:

(Rt): the changes of share proficiency in the current year

(R t-1): the changes of share proficiency in the last year

**Control variables:**

According to the previous studies which surveyed the changes of share proficiency, the variables like the size of company (size), the rate return on assets (ROA), the rate of return on shareholders' equity (ROE) and company lever (LEV) are used in this study which there is the calculation way in the below:

**The size of company (Size):** Equals to the natural logarithm of sum of assets.

**The rate of assets proficiency (ROA):** This ratio shows the efficiency amount of company management in application of all of existing resources for reaching profit.

The equation  $\left(ROA = \frac{\text{after tax net profit}}{\text{sum of all assets}}\right)$

**Return on shareholders' equity (ROE):** in this study, the division of after tax net profit on equity is used for the calculation of the return on shareholders' equity

The equation  $\left(ROE = \frac{\text{after tax net profit}}{\text{equity}}\right)$

- **Lever (LEV):** equals to the sum of ratios of all debts divided on total assets.

### Research model

The regression model is used for measuring of research hypothesis and study of the relation between changes of share efficiency and disclosure quality:

The equation ( $\Delta R_{it} = \alpha_0 + \beta_1 \text{DSCORE} + \beta_2 \text{Size} + \beta_3 \text{ROA} + \beta_4 \text{ROE} + \beta_5 \text{LEV} + \epsilon$ )

In which:

( $\Delta R$ ): The changes of share efficiency

(DSCORE): Disclosure quality

(Size): The size of company

(ROA): Rate of return on assets

(ROE): Rate of return on shareholders' equity

(LEV): the company lever

( $\epsilon$ ): error

### 7- Statistical population

The population of this study is all of the cement industry companies in Tehran stock exchange from 1385 to the end of 1390. The most important reason of choosing this statistical population is the standard and reliable and intelligible information about the companies of statistical population.

### 8- Determination of sample volume and sampling method

The sample is the collection of measures of statistical population which is collected practically during a research and the process of a research can be an effort to understand the society behavior that will be taken place based on the information obtained from the sample, since gathering information for the whole statistical population requires spending money and time. In addition, in some cases gathering information of the whole population is irrational. Therefore we have to extract the sample and on the other hand we know that sampling causes reduction of certainty and confidence of the reached results. For determination of sample value, the related companies to cement industry with following characteristics are considered:

- ❖ The end of their financial year is 29<sup>th</sup> Esfand,
- ❖ The company should be in stock exchange from 1385 to 1390,
- ❖ The company does not have change in financial year during 1385 to 1389,
- ❖ The required information of company will be available,

The sample volume is 31 companies with the sampling method and by applying above mentioned criteria based on systematic elimination method which selected companies are equal during the research period (6 years).

**9- Research methods:**

This study is an experimental and descriptive research based on regression analysis which utilizes the actual information of accepted companies in Tehran stock exchange. Thus theoretical framework and review of literature are gathered through library research method, articles and sites inductively and in gathering information to verify or reject the hypothesis the deductive reasoning is used. The research method is practical from the purpose point of view is practical and from the information gathering is descriptive and correlation type. This method is beneficial for researches which their purpose is to discover the relation between variables. In this study the correlation between the variables are examined. This research is an ex-post facto kind of research because in this study the previous information is used for examining hypothesis.

On the other hand, this research has a practical essence because it looks for a scientific purpose and gives us useful information.

In addition, this research is experimental because it takes place based on the actual information.

**10- Descriptive statistics:**

With regard to the considered criteria for determination of studied sample in 1385 to 1390 (6 years), during the research period 31 companies are selected as the sample in 6 years. Table 1 shows the description of central indexes and dispersion of research variables:

Table 1: distribution and dispersion of research variables					
Research model variables	Minimum	Maximum	Average	Standard deviation	Variance
Disclosure	.16	.75	.38	.14	.838
R	-.04	.72	.0462	.06909	.005
ROA	-.05	.69	.2529	.18651	.035
ROE	.001	.279	.0261	32036.315	1.026
LEV	.04	2.36	.6350	.22841	.052
SIZE	4.43	7.20	5.5634	.50843	.258

In Table 1 we observe that the average of disclosure quality variable (Disclosure) is 0/38 and the maximum number is 0/75 and the minimum number is 0/16. The result obtained from the descriptive statistics of this variable from the information distribution point of view is compatible with previous studies in Iran capital market like Parchini (1380) and Ali Mohammad pour (1390). Furthermore, the standard deviation of this variable is 0.14 that with regard to similar researches, information of this research does not have high distribution. Table 1 shows the number -0/05 for the minimum amount of

return on assets variable (ROA) and the number 0/69 for maximum amount of it. The average of this variable is 0/25 and it means that almost the sample companies of this research typically have only 25 percent of revenue asset. About the return on shareholders' equity (ROE) the average is 0/026 and it means that in sample companies, shareholders equity approximately has 26 percent return. For the variable size of companies (Size) natural logarithm of total assets are used in this study which have the average of 5/56 and the maximum amount of this variable is 7/20 and the minimum amount is 4/43. Considering the country researches, the companies have normal sizes.

**11-Test of data normality:**

Since in this research is used correlation research method, it is required that the normality or abnormality of distribution of studied variables will be determined. In addition, presenting the model by using the results of research hypothesis requires some conditions which normality of dependent variable is one of them. Therefore, data normality part is examined by using Kolmogorov- Smirnov test. Table 2 shows statistic and level of significance of Kolmogorov-Smirnov test for research variables.

	Disclosure	R	ROA	ROE	LEV	SIZE
Statistic of Kolmogorov-Smirnov	4.643	4.113	2.819	7.714	4.889	2.019
Significance	.072	.061	.055	.003	.000	.084

In table 2 we see that the level of significance of Kolmogorov-Smirnov test for the variables lever and return on shareholders' equity is less than 5 percent. Therefore these variables do not have normal distribution. The level of significance of Kolmogorov-Smirnov test for other variables of this research is more than 5 percent so that these data have normal distribution. Therefore, distribution of variables are normalized by using software and statistical techniques and considering that the dependent variables have normal distribution, parametric tests are used for data analysis and test of research hypothesis.

**12- Deductive statistics**

In this part of research first we study correlation coefficient between research variables. Considering that in previous part if data is normal, parametric statistics will be used for data analysis, therefore in this part Pearson correlation coefficient is used and if the data is abnormal, the Spearman will be used. Then we survey the confirmation or rejection of research hypothesis considering research model.

Table 3: Pearson correlation coefficient and significance of variables

		Disclosure	R	ROA	ROE	LEV	SIZE
Disclosure	Pearson correlation coefficient	1	.192	-.034	-.037	-.036	.035
	significance		.060	.415	.384	.394	.002
R	Pearson correlation coefficient	.192	1	.074	-.022	-.050	-.015
	significance	.060		.077	.609	.231	.715
ROA	Pearson correlation coefficient	-.034	.074	1	-.070	-.023	-.018
	significance	.415	.077		.097	.587	.671
ROE	Pearson correlation coefficient	-.037	-.022	-.070	1	.319	.606
	significance	.384	.609	.097		.000	.000
LEV	Pearson correlation coefficient	-.036	-.050	-.023	.319	1	.327
	significance	.394	.231	.587	.000		.000
SIZE	Pearson correlation coefficient	.035	-.015	-.018	.606	.327	1
	significance	.002	.715	.671	.000	.000	

In table 3 Pearson correlation coefficient between research variables and significance is determined in level of significance of 95 %. Considering the table 3 we observe that Pearson correlation coefficient between independent and dependent variable of this research is 0/192 which with regard to the significance of this coefficient it is determined that this coefficient is not significant in error level of 5 percent.

**13- Test of research hypothesis:**

For research hypothesis examination, the regression and combinatorial data analysis (Panel data) are used in this research.

-Test of panel or pooled diagnosis

We use from combinatorial data method for combining time series data and sectional data. In combinatorial data method, we measure the variables in statistical population

(company) and also during the time (year). We use of Chav test for test of panel or pooled data diagnosis. The hypothesis of this test is as followings:

H<sub>0</sub>: Pooled Model

H<sub>1</sub>: panel Model

The H<sub>0</sub> hypothesis is based on lack of subjective invisible effects and the H<sub>1</sub> hypothesis is based on existing accepted invisible effects. If the hypothesis becomes 0, it means that the model does not have subjective invisible effects. Therefore, it can be estimated combined regression model through (H). However if the hypothesis 1 is accepted it means that there are subjective invisible effects.

The results of this study show that the amount of statistic (F) equals to 16/32 and p-value equals to zero. Therefore, the hypothesis of combined regression model is not verified. In other words, there are subjective and general effects and we should use from panel data for model estimation. In the next step, White and Hausman Test are used for determination of using the model for regression model estimation.

Table 4: Test of panel or pooled diagnosis

Result	p-value	statistic	test
Panel data	0/00	16/32	F
method	0/00	41/19	Chi-square

#### 14-The survey of dissonance variance

For surveying of dissonance variance of disorder sentences ARCH LM and White tests are used for the model used in research. The results of dissonance variance ARCH LM test and White test are in following tables:

Table 5: Results of dissonance variance ARCH LM Test

Probability	Amount of statistic	explanation
.002	162.041	F-statistic
.000	148.185	Obs*R-squared

Table 6: the results of dissonance variance white Test

Probability	Amount of statistic	explanation
.0000	5.3254	F-statistic
.0050	25.859	Obs*R-squared
.0000	58.1895	Scaled explained SS

The possibility of model tests is zero. Considering the fact that the statistics of this test is not significant in 5 percent lever, therefore the homogeneous hypothesis is rejected and the dissonance variance of disorder sentences is accepted.

In this research we give data weights because of solving the dissonance variance problem.

**15- Test of significance of fixed effects method:**

For test of significance of fixed effects method we should use two tests of cross section fixed effects (F) and Hausman.

Table 7: The results of test cross-section fixed effects

Probability	Amount of statistic	explanation
.0000	8.3258	Cross-section F

Table 8: The results of Hausman test

Probability	Degree of freedom	Amount of statistic	explanation
.0021	7	18.31858	Cross-section random

With regard to the fact that in two tests the possibility for regression model is less than 5 percent, therefore we should use fixed effects method in this model.

**16- Research hypothesis:**

There is a significant relation between disclosure quality and changes of share efficiency in cement industry companies of Tehran stock exchange.

In this research regression model is used for measuring of hypothesis:

Equation  $(\Delta R_{it}) = (\alpha_0 + \beta_1 \text{ DSCORE} + \beta_2 \text{ Size} + \beta_3 \text{ ROA} + \beta_4 \text{ ROE} + \beta_5 \text{ LEV} + \epsilon$

**16-1 The survey of autocorrelation (dependence of errors)**

To examine lack of autocorrelation in the model Durbin-Watson statistic is used. This statistic based on findings of table 9 equals to 2,007. If the statistic is in intervals 1, 5 to 2, 5, (H<sub>0</sub>) of test or lack of correlation between the remaining will be accepted otherwise (H<sub>0</sub>) will be rejected hence we can accept that there is correlation between the remaining. With regard to the obtained statistic it is expressed that the lack of correlation between the remaining is accepted in the research model.

**16-2 The survey of linear relation between independent variables and dependent variable:**

To examine linear relation between independent and dependent variable Fisher test is used in the research model. And as it is seen in table 9, the level of significance of F test has been less than 5 percent (zero).therefore according to the table the existence of linear relation between independent variable and dependent variable and the existence of linear relation in the research model is confirmed.

Table 9: F test for measuring of linear relation

Probability	Amount of statistic	explanation
.0042	42.35	F-statistic

**16-3 Regression estimation**

The beginning point of econometrics studies is a regression model equation in which a relation between dependent variable and one or some independent variables is assumed. The regression model tries to explain the observed changes in dependent variable through changes of independent variables. The table in next page shows the results of regression analysis test.

Table 10: Results of combined regression analysis

Dependent Variable: R			
Method: Panel EGLS (Cross-section weights)			
Variables	coefficients	Statistic	significance
Constant	.047	1.985	.000
Disclosure	.139	35.490	.525
ROA	.034	5.158	.000
ROE	.017	.278	.005
LEV	.003	14.536	.076
SIZE	.139	.555	.002
Coefficient of determination	.057		
Coefficient of adjusted determination	.003		
Standard error of regression	0.162		
Statistic of F	58.70		
Significance	.000		
Watson-Durbin	2.007		

In the above table it is seen that the estimated coefficient for disclosure quality variable is 0/139 which is not significant in confidence interval of 95 percent because its level of significance is more than 5 percent (0/525). Therefore this coefficient shows that there is not a significant relation between disclosure quality and changes of share efficiency in cement industry companies of Tehran stock exchange and the research hypothesis is rejected, the conclusion of this research is compatible with conclusions of Lashgari and Naderi’s research (1380). In the above table the coefficients and significance of control variables are presented.

**16-4 The survey of normality of remaining**

For testing normality of remaining in Eviews software Jarque and Bera method are used in this research. According to the below diagram, all of remaining is not around or on the fitting line, therefore we can conclude that the remaining does not have normal distribution and also Jarque-Bera statistic confirms this subject.

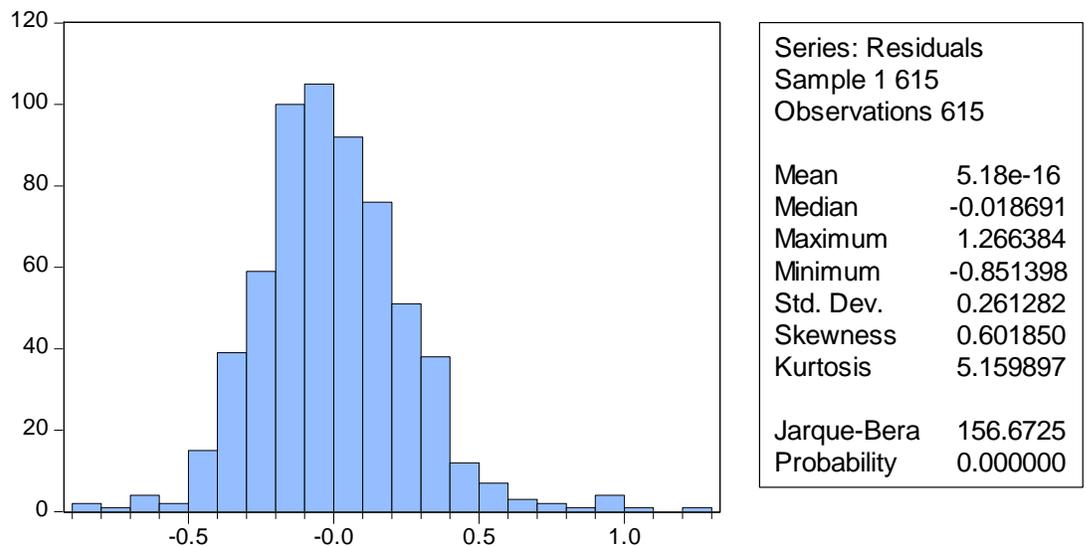


Diagram 1: Jarque-Bera statistic

17-1 The survey of research hypothesis: there is a significant relation between disclosure quality and changes of share proficiency in cement industry companies of Tehran stock exchange.

For evaluation of the above hypothesis in cement industry companies of Tehran stock exchange, we use the research model which presented in the third and fourth chapters. To calculate the disclosure quality score, Botosan’s (1997) suggested indexes are used which are taken from the opinions of Jenkins committee and also these indexes were adjusted by parchini (1388) with regard to the Iran capital market. The results of this study show that this hypothesis is rejected in cement

industry companies of Tehran stock exchange, since the estimated coefficient in the research model for disclosure quality as the research independent variable in confidence level of 95 percent is not significant (the estimated coefficient is 0/139 and its level of significance is 0/525) and This means that there is no significant relation between disclosure quality and changes of share proficiency of cement industry companies in confidence level of 95 percent. This conclusion is compatible with conclusion of Lashgari and Naderi's research (1388) which have been done in this field in total companies of stock exchange because they also have not found any significant relation between disclosure quality and changes of share efficiency. However the conclusion of this research is different with conclusion of foreign researches like Healy et al (1999) and .... One of the reasons of conformity with researches inside the country is lack of relation in Iran capital market and on the other hand possible reasons for this subject can be:

- 1- Limitation caused by subjective calculation of disclosure quality. This means that with changes of measuring index of disclosure quality its size changes and can affect the research conclusions.
- 2- It is possible that Iran capital market is not efficient.
- 3- It is possible that the investors in Iran capital market do not rely on financial statements for decision making and use other information resources for obtaining information and decision making.
- 4- Other variables which their control is not possible for the researcher or these variables are unknown for the researcher and affect the research conclusions.

### **17-2 Research limitations:**

In doing any research, the researcher confronts to some obstacles and limitations and this research is not exceptional too. In doing this research the researcher confronts below limitations:

- ❖ Tehran stock exchange does not have a comprehensive database and financial reports of companies are kept in an incoherent and disordered way and this issue causes many problems and long time to access information of companies.
- ❖ Since we use information of financial statements which are prepared based on historic actual cost for calculation of research variables, it is possible that different conclusion would be obtained by adjusting mentioned information.
- ❖ The score of disclosure quality of companies are calculated manually by surveying the board of directors' report to the meeting, thus this issue is a limitation in obtaining reliable data considering human mistakes.

### **17-3 suggestion based on research hypothesis:**

According to the research hypothesis which has stated that there is a significant relation between disclosure quality and changes of share efficiency in cement

industry companies of Tehran stock exchange and this hypothesis is rejected by using data of accepted companies in cement industry of Tehran stock exchange, therefore it is advised to the investors that they should avoid estimating that companies which have disclosure quality having more efficiency and changes of efficiency. Therefore by having this imagination they should not invest hastily and when buying stock and investing they should use other criteria except disclosure and disclosure quality for evaluating companies and their share price. In addition it is recommended to the managers of companies that they should avoid expending too much to increase disclosure quality for affecting on company efficiency because in this research which done in Iran capital market no significant relation has been found.

**17-4 suggestions for future researches:**

- ❖ The survey of effect of combining board of directors and information disclosure by companies with share efficiency.
- ❖ The survey of effect of ownership type on information disclosure level by companies.
- ❖ The survey of effect of disclosure, ownership structure and ownership cost on the efficiency-future profits relation.

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