

**Research Article**

**The effect of financial reporting frequency on information asymmetry and the cost of equity of companies listed on Tehran Stock Exchange**

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**ABSTRACT**

The subject of this article is study of the effect financial reporting frequency on information asymmetry and the cost of equity of companies. The research method is correlational –descriptive based on panel data. In this research, Financial data of 104 companies listed on Tehran Stock Exchange (TSE) during the period 2009 to 2014 (624 Companies-Year) are reviewed. Chow test is used to test the models to determine whether panel or pooled methods are used. Then, Hausman test is used to apply random or fixed effects panel. Finally, the model fitting is presented and the results of the regression assumptions are used in research models. Results of study show that there is a significant inverse relationship between financial reports frequency and information asymmetry and also there is a significant inverse relationship between financial report frequency and cost of equity in companies.

**Keywords:** Asymmetric information, Panel data, Financial reporting frequency, Cost of equity companies

**INTRODUCTION**

Financial reporting is one of the most important results of accounting system as applied by a wide range of users. One of the major goals of financial reports is providing required information for economic decisions of users regarding evaluation of performance and ability of profitability of business unit. In other words, Financial Reporting Frequency increases the awareness and information of micro shareholders with less access to information. One of the most important factors in correct decision making of shareholders of companies is appropriate information of decision making regarding investment or non –investment and if they are not provided and processed appropriately, they have adverse effects on an individual or decision making institution. On the other hand, the type and achieving method

to information are of great importance. If the required information is distributed asymmetrically among shareholders (information transfer is done unequal among the shareholders) and can lead into different results compared to decision making regarding a unified issue. Thus, before the information is important for investors, shareholders and other stakeholders, the quality of information distribution should be evaluated exactly (Ghaemi and Vatanparast, 2005).

If information asymmetry regarding the share of a company is increased, its intrinsic value is different from the value considered by investors in capital market of share. Thus, actual value of the share of companies is different from the expected value of shareholders (Diamond, 1985). To perform their operation and achieve

their goals, companies need capital and it can be provided via internal resources or external resources. The organization resources are limited and for funding, companies apply external resources. Three factors of risk, growth and size of company are effective on decision making of investors. According to the results of most of researches, one of the effective factors on cost of equity is reported information risk or information asymmetry (Clarkson et al., 2007). Investors are interested to estimate their future expected return of their investment by information. While all people rely on financial information of companies for decision making. Presenting regular financial reports by reducing information asymmetry can reduce funding cost. The more appropriate the information regarding decision making, the lower the investment risk and the lower return rate of investors. The results of many studies as Azkan and Azkan (2004) show that managers via cash flow holding attempt to reduce external funding cost. Excess cash flow holding has low return and it has negative economic outcomes for company. One of the purposes of financial reporting is reduction of information asymmetry among investors. As a part of ownership of companies is given to professional block holders and despite micro shareholders, the valuable internal information about future visions and commercial strategies and long-term investment is given via direct connection with managers. Frequency of financial reports issuing can reduce information asymmetry among the groups. The impact of major investors on financial decisions of management via capital structure and cost of equity is of great importance. Also, obligation of presenting financial reports in definite periods can have great impact on absorbing investors via stock issuing and information gap can be reduced considerably (Fiu et al., 2012).

The significance of these impacts and their investigation in developing countries in which capital market is prospering gradually is high. The support of minority shareholders is useful in development of capital markets and optimal resources allocation in these countries.

The present study aimed to evaluate the impact of frequency of financial reports on information asymmetry and cost of equity in companies listed on TSE. Thus, asymmetric information and cost of equity variables are used as dependent variable and frequency of financial reports is used as independent variable. Also, to determine a proper relationship between dependent and independent variables, some control variables are used as followings: firm size, mean turnover, stock volatilities, systematic risk of stock, logarithm of stock growth rate, financial leverage ratio of the company as effective indirectly on independent variables.

## **REVIEW OF LITERATURE**

### **International studies**

Fiu et al. (2012) in a study “frequency of financial reports, asymmetric information and cost of equity” evaluated the relationship between three variables. They applied the set of classified data of frequency of financial reports during 1951 to 1973. They evaluated the impact of frequency of financial reports on asymmetric information and cost of equity. The results of study showed that frequency of financial reports reduced asymmetric information and cost of equity and its impact on reduction of asymmetric information and cost of equity was increased. They achieved suitable results regarding mandatory changes in frequency of financial reports. Generally, the results of their study showed that frequency of financial reports was effective on information asymmetry and was useful via reduction of cost of equity for companies.

Ambanget al., (2012) in a study “Firm size, disclosure and funding cost via stock” evaluated the relationship between firm size, disclosure and funding cost via stock. The results of study showed that there was a considerable negative relationship between disclosure and funding cost from shareholders for big institutions as not considerable for small institutions. The managers of companies can actualize the disclosure of companies as the disclosed earnings in reduction of funding cost via stock depend upon firm size.

Diamond and Verrecchia (1991) evaluated the relationship between disclosure, liquidity and cost of equity. The results of their study showed that public information disclosure to reduce information asymmetry via absorbing increasing demand of great investors to increase stock liquidity can reduce cost of equity of companies.

Gietzman and Ireland (2005) evaluated the relationship between disclosure and cost of equity in stock market of London. The findings of study showed the negative relationship between disclosure and cost of equity. Zhang and Ding (2006) evaluated the relationship between disclosure and cost of equity of China capital market companies. The results of their study showed the negative relationship between disclosure and cost of equity.

The result of most of researches as Barry and Brown, 1985, Amihud and Mendelson 1986, Diamond and Verrecchia, 1991 and Handa and Linn, 1993 show that high information disclosure can reduce cost of equity by reduction of inconsistent selection by investors and reduction of risk estimation. Brown et al., 2005 refer that the higher the quality of financial reporting, the lower the information asymmetry and the higher the stock trading volume. Zhang (2005) states that the relationship between cost of equity and voluntarily disclosure is positive or negative and this depends upon the change of disclosure amount. Hughes and Liu (2007) and Lambert et al. (2012) showed that information disclosure was effective on cost of equity on condition that information transfer was regarding non-systematic risk. Botosan (1997) found about the negative relationship between voluntarily disclosure indices and cost of equity in companies with weak analysts but it was not so in companies with strong analysts.

Brown et al. (2008) show that the level of information asymmetry is negatively associated with conference call activity. Conference calls are the activities performed by companies to disclose their private information at public level. They are performed voluntarily and disclosed information is not the one stated by institutes. Based on the researches, conference

call to absorb more investors to market is managed. Because investors with high information sustained more costs. Much information reduces risk similar to inconsistent selection and ethical risk. Time series and cross section tests show that information asymmetry has negative association with conference call. In addition, these investors are encouraged to trade and stock market. Thus, transfer costs are reduced. The results show that conference call as a voluntarily disclosure can reduce information asymmetry in long-term among investors.

#### **Local researches**

Ghaemi and Vatanparast (2005) in a study "evaluation of the role of information in reduction of information asymmetry in TSE" evaluated this issue. They collected statistical data for 121 companies in 21 days before and after earnings declaration per share during 2002-2004. The results of study showed that during the study, there was information asymmetry in TSE among the investors and this was higher before earnings declaration compared to after declaration period. The results of study showed that information asymmetry was associated with trade volume and stock price as before earnings declaration, trading volume was increased and stock price was fluctuated. One of the complementing factors of financial reports is quality of financial reports. Clarity and quality of financial reports reduces information asymmetry (Hassasyegane and Kheyrollahi, 2008). Setayesh et al., (2012) evaluated the quality of disclosure on stock liquidity and cost of equity of companies listed on TSE. The results of study showed that there was a positive and significant association between firm size, current and future liquidity. There was no significant relationship between quality of disclosure and current and future liquidity of the company. Also, the results of study showed the negative and significant association between quality of disclosure and current and future common stock capital cost. Arabmazar Yazdi and Talebian (2008) evaluated the impact of quality of financial reporting and information risk on cost of equity. They

findings of study showed that cost of equity of companies with low accruals quality was higher than the cost of equity of companies with high quality of accruals.

Rezazade and Azad (2008) conducted a study “The relationship between information asymmetry and conservatism in financial reporting”. The results of empirical tests by data of companies listed on TSE during 2002-2006 showed the positive and significant association between information asymmetry between investors and conservatism level in financial statements. The results showed that with the increase of information asymmetry between investors, demand for conservatism was supported as one of the qualitative features of financial statements.

Khoshtinat and Yusefiasl (2007) evaluated the relationship between information symmetry and information asymmetry with conservatism. The results of study showed that information asymmetry between informed and non-informed investors led into conservatism. The changes of information asymmetry between investors led into conservatism changes. However, conservatism didn't lead into information asymmetry.

One of the effective factors on information asymmetry is market efficiency. In markets with high efficiency, information is presented to people completely and rapidly and its effect on stock price is applied. In the markets in which people have private information, sellers request for high price of stock and the buyer predicts average price of share due to inadequate information. Thus, when the capital market is non-competitive, the companies with high degree of information asymmetry have high common stock capital cost compared to the companies with low degree of information asymmetry [29]. Khani and Ghajavand (2012) investigated the competition spectrum of market from incomplete to complete competition on the relationship between information asymmetry and cost of equity of common stock. The results of their study showed that at complete competition level, measurement of information asymmetry had no significant relationship with cost of equity.

Also, the results of study showed that incomplete competition market was an effective factor on the relationship between information asymmetry and cost of equity of common stock.

### **Study hypotheses**

Based on the theoretical basics of study and achieving study purposes, the following hypotheses are explained:

H1: There is a significant association between frequency of financial reports and asymmetric information of companies.

H2: There is a significant association between frequency of financial reports and cost of equity of companies.

### **Study population and study sample**

The study population is all companies listed on TSE during 6 years from 2008 to 2013. The study sample is 104 companies from 19 industries. By screening (elimination), the following criteria are considered:

- 1- The companies listed on TSE before 2007.
- 2- The companies not involved in trade pause in the study period.
- 3- The companies their fiscal year leads to 29 Esfand and there is no fiscal year change.
- 4- The company is not in investment or financial brokerage companies.
- 5- The required information of company is available.

### **Data collection method**

To study theoretical basics and review of literature, library method and specialized Persian and English books and theses are used.

#### **Study method**

The present study is descriptive-correlation based on cross section data and it is also applied in terms of purpose. The study hypotheses are investigated by correlation and regression. At first, initial calculations are computed in Excel software and the data are prepared for analysis. Then, for final analyses, Spss 20, Eviews7 and Minitab 16 are applied.

### **Study variables**

The study variables are dependent, independent and control variables.

#### **Dependent variables**

##### **Information asymmetry**

Information asymmetry is a qualitative concept. To express it in the figures form, we need a

model to make it quantitative. In this study, to compute information asymmetry, Amihud, 2002 research and Hughes and Liu, 2007 are applied. Thus, bid-ask spread is used.

The model is as follows:

$$\text{SPREAD} = [(AP - BP) * 100] / (AP + BP) / 2$$

Where,

Spread: The difference between buying and selling of stock in percentage of company i in year t.

AP: The ask price of company I in period t.

BP: The bid price of company I in period t. The best bid price is the highest proposed price to buy stock per day and the best ask price is the lowest price to sell each share per day. Then, the values are averaged for different days. Finally, the final value of bid-ask spread is computed and applied for statistical analyzes of the required year. As shown in the above model, the bigger the ask-bid spread, the higher the information asymmetry. In hypotheses test, absolute value of this model is used. The closer the difference to zero, the lower the information asymmetry.

Cost of equity  $COE_{i,t}$

Cost of equity of common stock is the minimum required rate or return of investors to buy common stock of company. In this study, to compute cost of equity of common stock, adjusted dividend model is used and this study follows the result of study of Armstrong, et al (2001) and Francis et al (2005) and the computation method is as followings:

$$K_e = \left( \frac{[D_0(1+g)]}{P_0} \right) + g$$

Where,

$K_e$ : Cost of equity of common stock

$D_0(1+g)$ : Expected dividend as paid at the end of first year.

$P_0$ : The price of present market of common stock of company

g: Growth rate of expected dividend

### Independent variable

Frequency of financial reports ( $Freq_{i,t}$ )

In this study, to compute frequency of financial reports of company, Fiu et al (2012) is followed. The computation method is as the required company publishes the financial

reports more than once (3-month, 6-month or 9-month financial reports) is 1, and it is zero if the financial reports issuing is annual.

Control variables

Firm size ( $(Size)_{i,t}$ )

It is equal to natural logarithm of book value of total assets of company.

**The mean daily turnover of company ( $Log(Turnover)_{i,t}$ )**

To compute the mean turnover of company, Demski and Feltham (1994) is used and based on the data of stock market board in a day, its average is computed.

Stock return volatility ( $Log(Volatility)_{i,t}$ )

To compute volatility, Healy and Palepu (2001) study is applied as followings:

$$R_T - \frac{(1+A)P_1 - P_0 + DPS - 1000\beta}{P_0} * 100$$

$R_T$ : Stock return for fiscal year t

$P_1$ : Stock price at the end of period

$P_0$ : Stock price at the beginning of period

DPS: Dividends per share

A: Total percentage of capital increase

$\beta$ : The percentage of capital increase from cash income

1000 shows nominal price per share.

### Systematic risk

To compute systematic risk, Easley et al., (2002) is used. It is worth to mention that to measure systematic risk, the information of securities return rate and portfolio of market in stock market is used.

Logarithm of stock growth rate ( $(Log(Growth))_{i,t}$ )

To compute growth rate logarithm, Hughes et al., [28] is used. The computation method of stock growth rate is as followings:

$$Growth_{i,t} = P_{i,t} - P_{i,t-1} / P_{i,t-1}$$

Where,

$P_{i,t}$ : Stock price at the end of year

$P_{i,t-1}$ : Stock price at the beginning of year

### Financial leverage ratio of company ( $Lev_{i,t}$ )

Financial leverage of company is achieved by dividing total book value of debts to book value of total assets.

### Study model

To test first and second hypotheses, models 1, 2 are used. In this model, if coefficients  $\beta_i$  (coefficients of independent variables) at significant at confidence interval 95%, the hypothesis is supported.

$$LA_{i,t} = a_0 + \beta_1 Freq_{i,t} + \beta_2 Size_{i,t} + \beta_3 \text{Log}(\text{Turnover})_{i,t} + \beta_4 \text{Log}(\text{Volatility})_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$COE_{i,t} = a_0 + \beta_1 Freq_{i,t} + \beta_2 Size_{i,t} + \beta_3 Beta_{i,t} + \beta_4 \text{Log}(\text{Growth})_{i,t} + \beta_5 Lev_{i,t} + \varepsilon_{i,t} \quad (2)$$

In this model, we have:

$i$ : company (cross section units) and it indicates year.

$\varepsilon_{i,t}$ : Random error of company  $i$  in year  $t$

### Data analysis

For each of study hypotheses, at first the model to estimate model is determined and then the study model is estimated and the results are interpreted. For each hypothesis, statistical hypotheses test including normality of residuals, homogeneity of residuals variance, independence of residuals and linearity of model with explanations and results are presented.

### The results of first hypothesis test

The purpose of first hypothesis test is evaluation of the relationship between frequency of financial reports and asymmetrical information of companies. Its statistical hypotheses are defined as follows:

H0: There is no significant association between frequency of financial reports and asymmetrical information of companies.

H1: There is a significant association between frequency of financial reports and asymmetrical information of companies.

This hypothesis is estimated by Model (1) as panel data and if  $\beta_1$  coefficient is significant at level 95%, it is supported.

$$LA_{i,t} = a_0 + \beta_1 Freq_{i,t} + \beta_2 Size_{i,t} + \beta_3 \text{Log}(\text{Turnover})_{i,t} + \beta_4 \text{Log}(\text{Volatility})_{i,t} + \varepsilon_{i,t} H_0: \beta_1 = 0$$

$$H_1: \beta_1 \neq 0$$

In order to show whether panel data method is efficient in model estimation or not, chow test or restricted F is used. To which method (fixed or random effects) is suitable for estimation (determining fixed or random differences of cross section units), Hausman test is used. The results of these tests are shown in Table 1.

As shown in the results of chow test and P-value (0.0426), H0 is rejected and it shows that we can use panel data. Based on the results of Hausman test and its P-value (0.0010) less than 0.05, H0 of test is rejected at confidence interval 0.95 and H1 is supported. It is required that the model is estimated by fixed effects model. To evaluate the validity of model and classic regression assumptions, it is required that besides the investigation of non-colinearity between independent variables in model, some tests are performed regarding the normality of residuals, variance homogeneity, independence of residuals and lack of model explication error (model linearity). To test normality of error terms, various tests are used. One of the tests is Jarque-Bera as applied in this study. Results of study of Jarque-Bera test show that residuals of estimation of model have normal distribution at confidence interval 0.95 as the probability of this test (0.3744) is bigger than 0.05. Another statistical assumption of classic regression is homogeneity of residuals variance. If the variances are not homogenous, the linear estimator is not non-biased and it doesn't have the lowest variance. To evaluate homogeneity of variance, Breusch-Pagan test is used. As the significance level of this test (0.0255) is less than 0.05, H0 regarding variance homogeneity is rejected and we can say the model has variance Heteroscedasticity. To eliminate this problem in estimation, generalized least squares (GLS) is applied. Also, in this study, to test non-correlation of residuals as one of the assumptions of regression analysis and is called auto-correlation, Durbin-Watson (D-W) is applied. Based on the initial results of estimation of model, Durbin-Watson is 2.37 and as it is ranging 1.5-2.5, we can say the residuals are independent form each other. To test the linearity of model and whether the model is explained in terms of linearity and

non-linearity as true, Ramsey test is applied. As significance level of Ramsey test (0.1425) is bigger than 0.05, H0 of this test regarding linearity of model is supported and the model has no explicate error. The summary of the results of above tests is shown in Table 3.

Based on the results of chow and Hausman tests and results of testing statistical hypotheses of classic regression, model (1) of study is estimated by panel data and fixed effects. The results of estimation of model are shown in Table (4). The estimated form of model by Eviews 7 software is as follows:

$$LA_{i,t} = 0.0147 + 0.0007Freq_{i,t} - 0.0175Size_{i,t} - 0.0002Log(Turnover)_{i,t} + 0.0016Log(Volatility)_{i,t} + \varepsilon_{i,t}$$

Regarding the complete significance of model, as F statistics value (0.0000) is smaller than 0.05, with confidence interval 95%, significance of entire model is supported. The coefficient of determination of model shows that 64.81% of asymmetric information is explained by entered variables in model. In evaluation of significance of coefficients based on the results in Table (3), as t-statistics probability for frequency of financial reports (0.0019) is smaller than 0.05, the significant relationship between frequency of financial reports and asymmetric information at confidence interval 95% are supported. Thus, first hypothesis of study is supported and by confidence interval 95%, we can say there is a significant association between frequency of financial reports and asymmetric information of companies. Negative coefficient of this variable (-0.0007) shows the inverse relationship between frequency of financial reports and asymmetric information of companies. By increase of 1 unit of frequency of financial reports, asymmetric information of companies is reduced as 0.0007. Based on analysis regarding the first hypothesis test, we can say there is a significant and inverse relationship between frequency of financial reports and asymmetric information of companies.

#### The results of second hypothesis test

The purpose of second hypothesis test is evaluation of the significant relationship

between frequency of financial reports and cost of equity in companies. Its statistical hypotheses are defined as follows:

H0: There is no significant association between frequency of financial reports and cost of equity of companies.

H1: There is a significant association between frequency of financial reports and cost of equity of companies.

This hypothesis is estimated by Model (12) as panel data and if  $\beta_1$  coefficient is significant at level 95%, it is supported.

$$COE_{i,t} = a_0 + \beta_1Freq_{i,t} + \beta_2Size_{i,t} + \beta_3Beta_{i,t} + \beta_4Log(Growth)_{i,t} + \beta_5Lev_{i,t} + \varepsilon_{i,t}$$

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 \neq 0$$

Results of chow test (to define using panel or pooled data) and Hausman (to define using fixed or random effects in panel data) from model (2) are shown in Table 4.

As shown in the results of chow test and P-value (0.0000), H0 is rejected at confidence interval 95% and it shows that we can use panel data. Based on the results of Hausman test and its P-value (0.0378) less than 0.05, H0 of test is rejected at confidence interval 0.95 and H1 is supported. It is required that the model is estimated by fixed effects model.

To evaluate the classic regression assumptions, Jarque-Bera results show that residuals of estimation of model have normal distribution at confidence interval 0.95 as the probability of this test (0.3078) is bigger than 0.05. Based on the importance of Breusch-Pagan test (0.0139) is less than 0.05, H0 regarding variance homogeneity is rejected and we can say the model has variance Heteroscedasticity. To eliminate this problem in estimation, generalized least squares (GLS) is applied. Also, in this study, to test non-correlation of residuals as performed by Durbin-Watson (D-W), Durbin-Watson is 2.39 and as it is ranging 1.5-2.5, we can say the residuals are independent from each other. Ramsey test is applied. Significance level of Ramsey test (0.1379) is bigger than 0.05, H0 of this test regarding linearity of model is supported and

the model has no explicate error. The summary of the results of above tests is shown in Table 6.

**Table 5-**The results of tests of statistical hypotheses of model (2)

Based on the results of chow and Hausman test and results of testing statistical assumptions of classic regression, model 2 of study by panel data and fixed effects can be estimated. The results of model estimation are shown in Table 6.

**Table 6-** Results of second hypothesis test by fixed effects method.

The estimated form of model by Eviews 7 software is as follows:

$$COE_{i,t} = 5.3121 + 1.0108Freq_{i,t} - 4.0765Size_{i,t} - 0.1196Beta_{i,t} + 0.0303Log(Growth)_{i,t} - 1.1022Lev_{i,t} + \varepsilon_{i,t} \quad (3)$$

Regarding significance of total model, as F statistics probability value (0.0000) is smaller than 0.05, by confidence interval 95%, we support the significance of total model. The coefficient of determination of model indicates that 87.97% of costs of equity are explained by entered variables. Regarding the significance of coefficients based on results in Table (6), as statistics t probability (0.0072) for frequency of financial reports is smaller than 0.05, significant relationship between frequency of financial reports and cost of equity at confidence interval 95% is supported. Thus, second hypothesis of study is supported and by confidence interval 95%, we can say there is a significant association between frequency of financial reports and cost of equity. Negative coefficient of this variable (-1.0108) shows inverse relationship between frequency of financial reports and cost of equity. By increase of 1 unit of frequency of financial reports, cost of equity is reduced as 1.0108 units. Based on the analyses regarding the support of second hypothesis, we can say, there is a significant and inverse relationship between frequency of financial reports and cost of equity of companies.

## DISCUSSION AND CONCLUSION

The results of hypotheses test show that there is an inverse and significant association between

frequency of financial reports and asymmetric information of companies and frequency of financial reports and cost of equity. Based on the theoretical literature of study, we can say information symmetry plays important role in stock trading and prosperity of capital market. When investors have required information regarding financial information of companies, they are much interested in stock trade and due to reduction of information risk, low return is requested. On the other hand, financial information disclosure for investors and creditors by companies can reduce cost of equity. Thus, cost of providing information is economical. The results of this study regarding inverse and significant association between frequency of financial reports and information asymmetry and frequency of financial reports and cost of equity are consistent with the study of Fiu et al (2012), Gietzman and Ireland (2005) and Ghaemi and Vatanparast (2005).

## Recommendations of study

The following recommendations are presented for further studies:

- 1- The present study is based on various industries
- 2- The evaluation of the relationship between qualitative features of financial information of companies and information asymmetry
- 3- Explanation of the relationship between institutional investors and information asymmetry and cost of equity of companies.

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**Tables**

P-Value	df	Statistics value	Statistics	N	Test
0.0426	(516,103)	1.2242	F	624	Chow
0.0010	4	18.5082	$\chi^2$	624	Hausman

**Table 1-** The results of Chow and Hausman test for model (1)

statisticsRamsey		statisticsDurbin-Watson	statisticsBreusch-Pagan		statisticsJarque-Bera	
P-Value	F	D	P-Value	F	P-Value	$\chi^2$
0.1425	5.6951	2.37	0.0255	2.7940	0.3744	1.9149

**Table 2-** The results of statistical hypotheses test of model (1)

Dependent variable :Asymmetrical information Number of observations: 624 company-Year				
Relationship	P-Value	T statistics	Coefficient	Variable
Positive	0.0010	3.3198	0.0147	Fixed component
Positive	0.0019	3.1197-	0.0007-	Frequency of financial reports
Negative	0.0001	4.0556-	0.0175-	Firm size
Insignificant	0.7712	0.2909-	0.0002-	Mean daily turnover
positive	0.0000	28.5384	0.0016	Stock volatilities
0.6481	Coefficient of determination			
8.8822 (0.0000)	F statistics (P-Value)			

**Table 3-**Results of first hypothesis test by fixed

The effect of financial reporting frequency on information asymmetry

P-Value	df	Statistics value	Statistics	Test
0.0000	(515,103)	18.0574	F	Chow
0.0378	5	6.3032	$\chi^2$	Hausman

**Table 4-**The results of chow and Hausman test in model (2)

Statistics Ramsey		statisticsDurbin-Watson		Statistics Breusch-Pagan		Statistics Jarque-Bera	
P-Value	F	D		P-Value	F	P-Value	$\chi^2$
0.1379	3.2892	2.39		0.0139	2.8832	0.3087	0.7987

**Table5-**The results of tests of statistical hypotheses of model (2)

Dependent variable: Cost of equity      Number of observations: 624 company-year				
Relationship	P-Value	T statistics	Coefficient	Variable
Positive	0.0000	4.6061	5.3121	Constant
Positive	0.0072	1.1292-	1.0108-	Frequency of financial reports
Negative	0.0050	2.8191-	4.0765-	Firm size
Insignificant	0.1051	1.6235-	0.1196-	Systematic risk
Insignificant	0.7462	0.3237	0.0303	Logarithm of growth rate of stock
Negative	0.0000	4.9614-	1.1022-	Financial leverage ratio
0.8797	Coefficient of determination of model			
21.6891 (0.0000)	F statistics P-Value			

**Table 6-** Results of second hypothesis test by fixed effects method