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Research Article

RELATION BETWEEN DISCLOSURE QUALITY AND COST OF EQUITY IN COMPANIES LISTED IN TEHRAN STOCK EXCHANGE

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ABSTRACT
The current research aim is surveying the relation between disclosure quality and cost of equity .The research population includes all companies listed in Tehran Stock Exchange. 44 companies were chosen as the research sample and they were surveyed during the time period of 2006 to 2011. Panel analysis and consolidated lest-squares regression were used for testing the hypothesis and estimating the coefficients. Annual scores of quality of corporate disclosure calculated for companies listed in Tehran Stock Exchange were used for measuring disclosure quality. Research results indicate that there is a negative and significant relation between disclosure quality and cost of equity. It could be stated that by increase of disclosure quality, investors' efforts for reaching confidential information decrease and thus the information asymmetry decreases. By decrease of information asymmetry, stock liquidity and trading costs decrease and demand for company's stock increases and this results in reduction of cost of company's capital.

Keywords: *Disclosure Quality, Cost of Capital, Information Asymmetry, Informed Investors, Confidential Information*

INTRODUCTION
Disclosure is a term that in its broadest sense means providing information. Accountants use this term in a more limited way, and when they use this term it means releasing financial information about one company in financial reports (usually in the form of annual reports). In some cases, this concept is even more limited and it means providing information that is not included in the context of financial statements. Two terms of disclosure quality of accounting information and transparency of a disclosure system are used jointly and they are replaceable, and it is difficult to provide an accurate definition about transparency and quality that everybody agree upon. Singhavi and Desai believe that quality refers to completeness, accuracy, and reliability. Ball *et al.*, and Kowsari explain transparency as a combination of features of timeliness and conservatism. Timeliness refers to the economic events of the current period and conservatism refers to the speed of reflecting bad economic news compared to good news in financial reports (Singhavi and Desai, 1971). Conceptually, cost of capital is defined in a relation with expected returns. In other words, cost of capital refers to the minimum acceptable rate of return for new investment. If the return on investment is higher than the cost of capital, and if the returns increase without a high degree of risk, then the company's value will increase. Users of financial reports have various informational needs. What is considered important in capital markets is that many individuals who invest are ordinary people and their only way to access important information is the statements published by companies. If the required information distributed among people is asymmetrical then it could have different results toward a similar issue. Prior to the importance of information for the decision maker, it is the quality of information distribution that must be carefully evaluated. Information asymmetry is a negative phenomenon which usually takes place in the securities markets and results in inappropriate economic decisions of investors. Information asymmetry happens when one side of the contract or transaction is aware of more information, provided that, that party effectively uses this information while

interacting with the other party. This awareness of more information usually results in providing economic benefits for the party that has more information (Clarkson *et al.*, 2007). Information asymmetry among managers and investors is caused by representative relation. Information asymmetry also exists between different groups of investors. Informed investors have access to confidential information, but the non-informed investors just have the general information. Thus information asymmetry between different groups of investors is due to the fact that some of them have access to confidential information of a business, while other investors are deprived of this information. This matter results in adverse selection, in a way that investors who have confidential information make decisions based on this information (Chang *et al.*, 2008). Disclosure quality can affect this information asymmetry through change of trading behavior of non-informed investors. When the disclosure quality increases, more investors enter the stock trading (Brown and Hillegeist, 2007). Generally it is expected to see an adverse relation between disclosure quality and information asymmetry, because by increasing disclosure quality, investors' attempts to reach confidential information decrease and thus the information asymmetry decreases. By decreasing the information asymmetry, stock liquidity and trading costs decrease and the demand for corporate stock increases and this matter results in decreasing the company's cost of capital. Thus the current research tries to survey this matter that whether the increase of disclosure quality results in decrease of cost of capital or not.

MATERIALS AND METHODS

Methodology

The current research method is correlative. In order to reach research aims, 44 companies out of 50 top companies listed in Tehran stock exchange were chosen as the sample through simple random sampling from 2006 to 2011. In this research disclosure quality is the independent variable. For measuring disclosure quality, corporate disclosure ranking conducted by stock exchange organization during 2006-2011 in three-month and one-year intervals. Informational ranking of corporate disclosure was conducted by stock exchange organization based on two scales of timeliness and reliability of corporate disclosures. The dependent variable is cost of equity. The model used for calculating cost of equity in this research is Gordon Model (Saghafi and Bolo, 2007).

$$Ke = \frac{D_1}{P_0} + g$$

Ke= represents the expected rate of return on equity, D_1= Expected dividends for next year, P_0= Stock price at the beginning of the year, g: Expected growth rate.

Control variables include Beta, company size, and the ratio of book value to market value which in this research includes various symbols of risks affecting the cost of equity based on previous researches of Fama & French, Francis *et al.*, (Quoted by Malekian *et al.*, 2011).

Multivariate linear regression model was used for testing research hypotheses. In this model, the cost of equity is the dependent variable and annual score of quality of corporate disclosure is the main independent variable. In order to control the effect of risk factors, three other independent variables that are the same known risk factors in Fama & French model (Beta, company size and ratio of book value to market) were included in regression model (Espinosa, 2007).

$COE_{jt} = \alpha_0 + \alpha_1 DS_{jt} + \alpha_2 Beta_{jt} + \alpha_3 Size_{jt} + \alpha_4 BM_{jt} + \varepsilon_{jt}$

CEO: Cost of equity, DS: Disclosure quality score of corporate j in year t, Beta: Covariance of share of corporate j and market portfolio divided by the variance of the market portfolio, Size: Logarithm of the market value of corporate j in year t, BM: Logarithm of the ratio of book value to market value of corporate j in year t (Saghafi and Bolo, 2009). Also combined data were used for estimating regression models. In this method time series data and cross-sectional data are combined together and they are used for cases in which issues cannot be surveyed as times series or cross-sectional or when the amount of data is low. All the statistical analyses were conducted at level $P \leq 0.05$.

RESULTS AND DISCUSSION

Results

Linear regression model was used for analyzing data. The current research main aim is surveying the relation between quality of corporate disclosure and cost of equity. Results achieved from the following regression model are provided in table 1.

$COEjt = \alpha0 + \alpha1\ Ds\ jt + \alpha2Betajt + \alpha3Sizejt + \alpha4BMjt + \varepsilon jt$

Table 1: Summary of statistical results

Independent variable	Symbol	Coefficient	t-statistic	Prob.
Fixed amount	C	5.783101	11.05978	0.0000
Disclosure quality score	DS	-0.634427	-2.574091	0.0105*
Beta	Beta	1.923174	3.253288	0.0013
Company size	Size	-0.531104	-0.773123	0.4401
Ratio of book value to market value	BM	-13.43469	-0.898390	0.3697
Coefficient of determination	0.683490	Durbin-Watson statistic		2.208548
F-test	19.09877	Prob.		0.000000*

**Significance of P*

The regression analysis showed a significant model ($F=19.08$, $P\leq0.05$, $R^2=0.68$). The amount of coefficient of determination of model indicates that the independent variable of model could have the ability of nearly 68% to explain the dependent variable.

Also the amount of Durbin-Watson statistic in this model was acceptable and indicated that this statistic had correlation in the area of its absence, and the model did not have the problem of self-correlation among residue sentences. The estimated coefficient of the independent variable (DS) in table 1 also showed that there is a negative and significant relation between quality of corporate disclosure and cost of equity ($P\leq 0.05$).

At the next stage the relation between timeliness of corporate disclosure and cost of equity was surveyed. The model estimated for this relation is as followed:

$COEjt = \alpha0 + \alpha1Time\ Ds\ jt + \alpha2Betajt + \alpha3Sizejt + \alpha4BMjt + \varepsilon jt$

Table 2: Summary of statistical results

Independent variable	Symbol	Coefficient	t-statistic	Prob.
Fixed amount	C	-29.57796	-4.697005	0.0000
Timeliness	TIME DS	-3.049337	-5.694969	0.0000*
Beta	Beta	1.953358	3.258502	0.0012
Company size	Size	-0.814468	-1.234012	0.2182
Ratio of book value to market value	BM	-19.31412	-1.350608	0.1778
Coefficient of determination	0.625149	Durbin-Watson statistic		1.903679
F-test	16.93655	Prob.		0.000000*

**Significance of P*

Regression analysis showed a significant model (F=16.93, P≤0.05, R^2 =0.62). Based on the coefficient of determination of fitted model it could be stated that nearly 62% of changes in dependent variable of the model (cost of equity) are explained by the independent variable. The calculated amount for Durbin-Watson statistic in this model equals to 1.90, and according to the closeness of this amount to 2 it could be perceived that this statistic has correlation in the area of its absence, and the model does not have the problem of self-correlation among residue sentences. The estimated coefficient of independent variable (disclosure timeliness) in table 2 shows a negative and significant relation between this variable and cost of equity (P≤ 0.05); because, the calculated t for the coefficient of independent variable of research equals to 5.694 which is more that table t (1.96). On the other hand, the relation between disclosure reliability and cost of equity was also surveyed. The estimated model is as followed:

$COEjt = \alpha0 + \alpha1 Rely\ Ds\ jt + \alpha2 Betajt + \alpha3 Sizejt + \alpha4 BMjt + \varepsilon jt$

Table 3: Summary of statistical results

Independent variable	Symbol	Coefficient	t-statistic	Prob.
Fixed amount	C	6.630366	10.41253	0.0000
Reliability	RELY DS	-10.28853	-1.134512	0.2575
Beta	Beta	1.725327	2.789808	0.0056
Company size	Size	-0.824312	-1.306647	0.1923
Ratio of book value to market value	BM	-13.60313	-0.920202	0.3582
Coefficient of determination	0.614849	Durbin-Watson statistic		1.819884
F-test	14.79917	Prob.		0.000000*

**Significance of P*

Results of regression analysis in table 3 indicate the significance of model (F=14.79, P≤0.05,R^2 =0.61). According to the coefficient of determination of fitted model it could be stated that nearly 61% of changes in dependent variable of model are explained by independent variables. Also surveying the amount of Durbin-Watson statistic (1.819) indicates that there is no self-correlation between the disturbing elements of regression model, the reason to this could be due to the tendency of Durbin-Watson statistic toward number 2. The estimated coefficient of research main independent variable (Rely Ds) indicates a negative relation between disclosure reliability and cost of equity; but according to the calculated t-statistic (1.134) it could be perceived that statistically this relation is insignificant (P≥ 0.05). Thus it could be said that there is no significant relation between disclosure reliability of the company and cost of equity.

Discussion & Conclusion

In the current research the relation between cost of equity and variable of disclosure level (disclosure reliability, disclosure timeliness) in companies listed in Tehran Stock exchange during years 2006 to 2011 was surveyed. Results achieved from testing the hypotheses show that there is a significant relation between disclosure quality and cost of equity. Other research findings indicate that there is a significant relation between disclosure timeliness and cost of equity, and also there is no significant relation between reliability and cost of equity. Current research findings are consistent with the results achieved by Chang *et al.*, (2008), Espinosa (2007), and Talebnia *et al.*, (2012). Based on the research results it is recommended to the researchers to consider the necessities of monitoring disclosure of information of companies listed in stock exchange and continuously evaluate them in order to promote the financial transparency in the country and improve these necessities. Furthermore, since the quality of corporate disclosure along stock returns and stock liquidity could be used by financial information users, thus it is necessary to carefully survey the relations between these variables. Also it is suggested to categorize the

quality of corporate disclosure based on annual financial statements, quarterly financial statements and other information exposed by companies and to separately survey the relation between each of these components and cost of equity. The effect of disclosure quality on the cost of equity could be interpreted as the economic outcome of financial reporting. Researches that can confirm the informational contents in another way and thus they can confirm the economic outcome of financial reporting can be used as more evidences for confirming the current research findings. For the future researches, it is recommended to test this economic outcome through surveying the effect of disclosure quality on stock returns and systematic risk of companies. Based on the theoretic concepts, one of the factors affecting the relation between cost of equity and disclosure quality is the effect of industry activity of businesses. For the future researches, it is recommended to study the effect of industry on the relation between cost of equity and disclosure quality. Conducting the current research encountered some limitations. In this research the dependent variable was cost of equity. Measuring this variable requires the direct evaluation of demanded returns by investors. Since direct measurement of implied (demanded) returns is impossible, thus inevitably the best evaluation is used. All new models of estimating cost of equity emphasize on the analysts'' prediction as the best estimation of implied returns. Since in Iran the analysts' predictions are not officially recorded, using these models helped to provide a more accurate amount of cost of equity. Gordon model was used for estimating cost of equity. One of the theoretical limitations of this fixed model is considering the rate of dividend growth stocks, thus the specified amounts as the cost of equity are affected by existing limitations of Gordon model. The research findings were achieved based on the availability of data of companies listed in stock exchange, thus it is better to be careful while generalizing these findings to other companies.

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