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The Effect of Corporate Disclosure Level on Cost of Equity Capital

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ABSTRACT

In today's changing business environment, the ongoing debate is between proponents and opponents of greater disclosure. The Asian financial crisis in 1997 further led to a wider recognition of the importance of quality corporate disclosure. However the benefits of greater disclosure are not well established and have proven difficult to quantify. This study attempts to examine the association between corporate disclosure score and cost of equity capital. While majority of prior research in this discipline concentrated on the US and UK securities, this paper provides Malaysian evidence on this issue. Contrary to other research findings the results indicate that there is no significant relationship between the disclosure score and cost of equity which could be due to the loss of timeliness of information. As for the disclosure score, all companies showed an improvement over the years indicating the awareness for disclosure. NACRA companies showed good improvement on disclosure score as compared to the Industrial Products companies.

Keywords: *financial crisis, disclosure score, cost of capital*

Introduction

The era of globalisation and internalization has changed today's business environment where greater corporate disclosure of quality information is expected from public companies. The subject, disclosure of information, is considered as important and also timely among the business communities. In fact, in 2002, Securities Commission (SC) appointed PriceWaterHouse Coopers to conduct a survey to assess capital market participants' readiness for a complete disclosure.

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The survey noted an apparent "reporting gap" between the way listed companies disclose themselves and the way other market players accept their disclosure. In terms of disclosure awareness, the investors and other market participants are more interested to see qualitative performance measures rather than financial performance measures (PwC, 2002). It is rather difficult to establish the benefits of enhanced disclosure policy as it is also difficult to quantify the information. The Asian financial crisis brought to the fore the importance of quality corporate disclosure of information that influence to a great extent the quality of investment and loan decisions (Ho and Wong, 2004).

The present focus of business community is on the effectiveness of corporate communication that will enhance the challenges of the 21st century. There are now some 980 publicly held companies in Malaysia, and it is expected that the number will increase substantially in the coming years. New developments are creating an environment that will increasingly demand for timely business reporting. The information that a company provides to investors should help them with their capital allocation decisions. Therefore, the information provided about the company should be reliable, relevant, and useful. Business reporting is not a mere preparation of financial statements but it includes a number of different elements such as operating data, performance measures, analysis of data, forward-looking information and information about the company, its management and shareholders (AICPA, 1994). Over a period of time, capital markets have become more and more sophisticated and therefore the expectations of the public and stake holders for excellent financial reporting have increased (SC, 2001). Malaysian capital market regulators have initiated various measures to enhance disclosure based environment with the aim of improving transparency. By doing this, listed companies will provide quality financial reporting for the benefit of the investing communities. Greater emphasis is placed on voluntary disclosure rather than just merely complying with mandatory disclosure requirements (NACRA, 2002).

The economic theory states that when there is high level of disclosure, there will be a small information asymmetry as well low information risk with subsequent lower cost of equity. Effective voluntary disclosures can provide more transparency and understanding about the company to investors and creditors. The general perception is that, informative disclosures help investors better understand a company's strategy including how it addresses opportunities and risks.

Disclosure of information provides a common pool of knowledge for all investors so that they can judge for themselves if a company's securities are a good investment. The underlying justice is that only through the steady flow of timely, comprehensive and quality information, the investors make sound investment decisions. By building confidence and trust, quality corporate disclosures allow access to external finance and allow companies to make credible commitments to creditors, employees and others.

The past Asian Economic crisis in 1997, the present development in globalisation and future developments such as WTO and AFTA necessitate Malaysia's listed companies to be evaluated on the basis of disclosure level that becomes a competitive strength for a company to persuade and attract investors and talented employees.

To date, little or no empirical evidence has been found in Malaysia on this area of study. The current study attempts to fill this gap by presenting evidence on whether disclosure has any effect on cost of equity capital.

Problem Statement

To what extent does the information disclosed by companies in their annual reports has an effect on the cost of equity capital. In particular, the question asked is whether companies that disclose a lot of information enjoy lower cost of equity capital than companies that disclose little information. This study recognizes that a variety of factors affect a company's disclosure policies and decisions. Therefore, careful consideration is taken to structure the framework by analyzing prior theoretical and empirical literature rather than relying on any particular model.

Objectives of Study

This research attempts to study the relationship between corporate disclosure score and cost of equity capital. The specific objectives of the study are:

1. To develop a disclosure index for selected public listed companies
2. To estimate the cost of equity capital using the earning price ratio
3. To examine the association between disclosure score and the cost of equity capital
4. To examine if the association between the disclosure score and the cost of equity capital varies between NACRA companies and Industrial products companies

Research Design

Framework for Hypothesis Development:

After a careful analysis of past literature, the study selected three potential explanatory variables to model the relationship between disclosure score and cost of equity capital. The dependent variable is identified as cost of equity capital and the control variables are firm size measured in terms of market

capitalization, debt assets ratio, which is the ratio of total debt to total assets and beta that measures the risk.

The following is hypothesized:

Companies improve financial disclosure in order to lower cost of equity capital. High quality disclosures lead to lower information asymmetry that increase stock price which lowers cost of equity capital. To reduce information asymmetries, companies tend to adopt more forthright disclosure policies. Furthermore, these companies' annual reports reflect high quality on accuracy and compliance to requirements. Hence, good corporate governance with high ethical standards is adhered. The annual competition encourages those who prepare annual reports to enhance the overall standards of their reports since the report is the most important communication tool to update shareholders, stakeholders and employees. Accordingly the following are hypothesised:

H_1: There is a negative association between corporate disclosure and cost of equity capital

H_2: The negative association is significantly higher for NACRA companies.

$$k_e = \gamma_0 + \gamma_1 \text{Dscore}_1 + \gamma_2 \text{MVal}_i \gamma_3 + \text{DE}_3 \gamma_4 \beta_4 + \varepsilon_i$$

Multi regression analyses were conducted to measure the influence of the disclosure score on the cost of equity capital controlling for firm size, debt assets ratio and beta. That is,

Where

k_e	=	Cost of capital
Dscore	=	Disclosure score
MVal	=	Firm size
DE	=	debt assets ratio
β	=	Beta
ε	=	error term
γ	=	constant

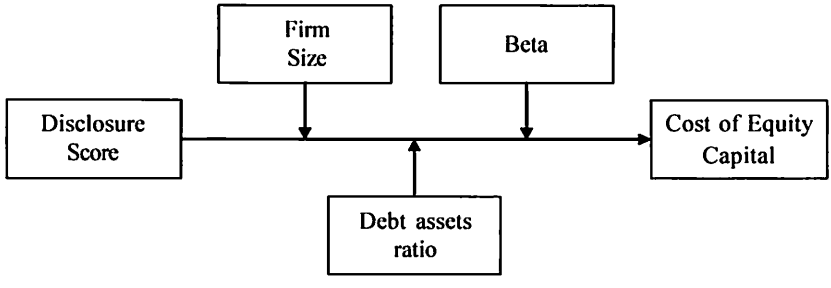

Figure 1: Theoretical Framework – Relationship between Disclosure Score and Cost of Equity Capital

Construction of Disclosure Score

The major challenge of this study is to construct a disclosure score that relates to the quality of disclosed items that explain a particular corporate attribute. In addition, the constructed score also must be relevant and acceptable to the country.

For this study, a disclosure score is constructed using a list of information deemed useful for investors and financial analysts in their investment decision-making process. This self-developed disclosure score for Malaysian companies is similar to the disclosure score constructed by Botosan (1997) and Buzby (1975). These studies were selected and used as a benchmark because the measurement and the categories of disclosure items more closely resemble disclosure behaviour for the sample companies of the present study than the instruments in other studies. In addition, the instruments' reliability and validity is the most rigorously tested and cited in the literature.

Measuring Cost of Equity Capital

For the purpose of this study, earnings to price ratio method were selected because it is a simple method to estimate cost of equity. The focus of this study is the cross sectional variations in disclosure level that influences variation in cost of equity capital.

The financial analysts frequently used earnings price ratio (REPR) to estimate the cost of capital. In this simple earnings capitalization model, the required return is expressed as a function of earnings or the components of earnings under the assumption that earnings reflects information about expected future cash flows. Botosan and Plumlee (2000) pointed out that the objective of estimating the cost of equity capital is not to obtain the exact value of the cost of equity capital. Instead, it is meant to capture the cross sectional variation of the cost of capital.

Sampling

The population of this study was all the public companies listed at Main Board of Bursa Malaysia. A survey was carried out among the listed companies to choose a particular industry. Since Malaysia is moving towards an industrial nation and a major portion of growth is derived from industries, the industrial products sector was chosen as one of the sample sector for this study. Therefore, Industrial Products companies for five consecutive years between 1999 and 2003 were included in the sample. The other sample comprises the winners of the National Annual Corporate Report Awards (NACRA) between 1990 and

2003. NACRA companies are used as a benchmark for disclosed items. The five year period is to capture any leads or lags of a company's disclosure policy and to represent the current situation (Choi, 1974). From the preliminary observation, it was found that 84 industrial products companies had all the required data and so they were chosen. As for NACRA companies, only 22 companies were available. So, these 22 companies had been chosen. The ultimate sample size was as follows:

	Sample Size
Industrial Products companies	84 companies
NACRA companies	22 companies

This study is based on secondary data. The data relating to annual reports were downloaded from Bursa Malaysia's websites. The annual reports which were not found at the websites were collected from Bursa Malaysia's library. All the required control variables were collected from Bloomberg Database.

Data Analysis Disclosure

Score

The total average score disclosed for 1999 is 21.4 and the average increased to 47.1 in 2003. This is a healthy improvement. Companies provide more information on mandatory disclosures such as financial statements and company's background. As for non-financial statistics and ethical practices, companies do not disclose much information. As for environmental information, the disclosure improved as the years progressed. For 1999, the score for environment is merely 12% but for 2003 the score increased to 23%.

Companies also give due attention to the information on Corporate Social Responsibility. There is an improvement in its score. For 1999, the average score is 1.4 units whereas in 2003 it has increased to 4.75 units. However, the research and development initiatives undertaken by companies are only disclosed for 1999 and 2000. But from the year 2001 onwards they do not disclose any information. As per the listing requirements by Bursa Malaysia, all companies should disclose information on corporate governance, internal audit and control as well as five-year summary statistics. Most of the companies have given information about these variables satisfactorily. There is an increasing trend in disclosure scores for these variables over the years. None of the companies disclose non-key financial statistics. This may be due to the nature of information. This information will be published in newspapers and other electronic media from time to time and companies may not wait till the annual reports are prepared.

Ethical practice is another area where no disclosures are made. The ethical information is considered as part of social responsibility and hence the companies may not provide information under ethics.

Mean and Standard Deviation

The approximate mean cost of equity for 1999 to 2003 lies between 8.8% and11.7 percent with a greater standard deviation ranging from 11.6% to 29.6%. The wide fluctuation in standard deviation is an indication of high variability for the required return of an investment and this could be due to the uncertain economic condition around the Asian region. The 1997 financial crisis affected most companies in the Asian region and recovery rate was rather slow and not much growth was expected.

The NACRA companies recorded an upward trend for their cost of capital. The approximate mean cost of equity for 1999 was 6.6% with a standard deviation of 3.86% and the mean moved up to 7.7% in 2003 with a standard deviation of 5.1%.

The approximate mean cost of equity for Industrial products in 1999 is 9.8% with a standard deviation of 12.8%. The standard deviation figures for the remaining four years are more than the mean cost of equity. The standard deviation increased to 33.1% in 2003. The wide fluctuation in the variation relates to the nature of this industry where these companies are considered high risk companies.

The disclosure score for all companies, displays a clear upward trend. For 1999, the score was 0.667 units and steadily moved upward to 0.726 units in 2003. This is an indication of positive awareness of the need and the requirement for more disclosure. The standard deviation for all the years remained within 0.93 to 0.102 units. These findings indicate that all the companies do not deviate very much in disclosing public information.

On average, the NACRA companies show a high and clear upward trend for the disclosure score with consistency in information disclosed. This finding indicates that the NACRA companies disseminate more or less similar types of information.

The Industrial products companies, when compared with the NACRA companies, showed a slightly lower disclosure score. However, consistent with all and NACRA companies, the mean disclosure score showed an upward trend.

Furthermore these companies only disclosed the mandatory disclosures. There were not much of voluntary disclosures found in their annual reports.

Pearson's Correlation Coefficient:

i. Cost of equity capital and disclosure score
   It is seen that for all the years, disclosure score is negatively correlated with cost of equity capital, which is consistent with other studies. The

maximum coefficient was in 2000 with a value of - 0.104. However none of the years shows any significance.

ii. Cost of debt and cost of equity capital
From 2000 to 2003 the analysis showed a positive correlation between the cost of debt and cost of equity capital. But the findings record a weak correlation. The coefficient correlation was significant at 0.01 levels for 2000 and 2003 with a coefficient of 0.34 and 0.279 respectively. In 2002, the correlation was significant at 0.05% level and recorded a coefficient of 19.8%.

iii. Risk and cost of equity capital
For three years the beta showed a negative correlation and the coefficient was significant at 0.01% level for both years 2000 and 2003. In 1999 the coefficient was positive with a very weak correlation of only 1.2% without any significance.

iv. Size and cost of equity capital
For each year the size recorded a negative correlation with cost of equity capital. However only in year 2001, is the coefficient correlation significant at the 5% level.

Regression Analysis

A regression analysis conducted showed that for all companies, the values of R squared ranges from 3.7 % to 22%. A minimum r^2 was recorded in 1999 with a value of 3.7% and highest value of 22% was recorded in 2000. These results show that the cost of equity is explained by the other variables jointly to the extent of between 3.7% to 22% for all the years for all the companies and the remaining variation of between 96.3% and 78% is unexplained. This larger unexplained variation may be due to the other independent variables that are unaccounted for. The r^2 value for this study is consistent with previous study (Botosan, 1997). Disclosure score was not significant in any of the years. This may be due to two factors. Firstly, the audited annual report is published by the companies six months after the financial year end. By this time the annual report loses the timeliness of information. Moreover according to efficient capital market hypothesis the information released by the company immediately and instantaneously reflected in the market prices of shares, which is the main factor in estimating the cost of equity capital. Secondly, the information is not exciting as the contents are privately disseminated among the investment quarters over a period of six months as such there is nothing new for the market to react.

The results of regression analysis for NACRA companies between 1999 and 2003 showed that the R square ranges from 8.5% to 46.4 %. The r^2 was maximum for NACRA companies in 2002 followed by 2001. It was 46.4% and 39.2% respectively. The minimum r^2 was reported in the year 2000 and next in

2003, which are 8.5% and 14.4% respectively. Disclosure score was not significant in any of the years. The reasons are same as mentioned for all companies.

Key findings for Industrial Products companies revealed that for the year 2000 a maximum r^2 value of 27% was recorded, which is higher than that shown for all companies. The lowest value was recorded in 1999 with only 3% that is also the lowest value for the entire companies. Similar

to all and NACRA companies, none of the years show any significant value between disclosure score and cost of equity capital.

Assets size for all companies showed negative relationship consistently except for 2003. For all the years assets size was not significant. The reason could be that the investors do not perceive size as a significant factor in influencing the revenue for the companies.

As for the NACRA companies, company size was statistically significant for 2001 and 2002. For the remaining years, the results were not significant. The asset size for Industrial products companies showed a significant relationship only in 2001, while for all the other years there was no significant relationship.

The debts assets ratio for all companies, showed a positive relationship with cost of equity capital for all the years except for the year 1999. The debt assets ratio is significant for three years. In 2000 and 2003 it is significant at 5% level and in 2002, it is significant at 10% level. For NACRA companies, debt assets ratio shows a positive sign for three years, that is, 1999, 2001 and 2002 whereas in 2000 and 2003 the sign was negative. For the Industrial products, the debt asset ratio showed a negative sign with an insignificant value. In 2000 and 2003 the results produced a positive coefficient of 4.011 and 2.238 at 5% significant level.

As for the beta factor, for all companies the results are contradictory to the theory. Except for 2003, in all other years the beta shows a negative coefficient. The beta coefficient for NACRA companies is positive only for 2001. However, a negative coefficient resulted in 2000,2002,2003. The results contradict the general claim that higher debt assets ratio will increase the financial risk and hence the cost of equity capital will increase. Beta values showed a mixed pattern over the five-year period for the Industrial products. In 1999 it was positive, followed by negative coefficient for the following three years, and changing to a positive coefficient in 2003. For the years 2000,2001and 2003 the t-value was significant at the 5% level.

Comparatively the NACRA companies display better performance for most of the years than the Industrial Products companies. This is possible because NACRA companies are award winners for producing good annual reports.

Conclusion

This study provides some basic evidence on the types of information disclosed that seem to take a leading role in affecting the cost of equity capital. The analyses and results reported here are based on observations for 106 companies, of which 22 companies were NACRA award winners,

While 84 were industrial products companies for a five-year period between 1999 to 2003. Hence, the results may not be generalisable to other sectors and/ or time periods. This issue could be addressed in future research by applying the same techniques to a different division of companies or time periods.

The effect of corporate information disclosure on cost of equity capital among Malaysian companies is examined. The disclosure score is negatively correlated with cost of equity capital for all the years. This result is consistent with studies undertaken in US. However, none of the years show any significant association. To what extent the type of information disclosed reduced cost of capital is of interest to various users and this is an important but difficult issue to address. The information that was discussed above, if classified into positive and negative information, there is a possibility to improve results. But due to time constraint this study did not attempt to separate the information into positive and negative. This consideration was noted and in future studies attempts will be made to separate the information into positive and negative.

When the data for five years was analysed using the regression analysis for testing the influence of disclosure score on the cost of equity, the results showed a mixed pattern. The NACRA companies results were better with larger r2 values. When Industrial Products companies were analysed separately as another group the results were very poor. None of the variables were significant. When these two groups of companies merged together and tested for the influence of disclosure score against cost of equity, it shows poor results. This may be due to the extreme values of independent variables of Industrial Products companies. However, the information disclosed by Malaysian listed companies improved over the years. The total average disclosure score for 1999 is 21.4 and the average score increased to 47.1 in 2003. But, the generalization can be made only after analyzing the companies under other industries.

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