

Corporate Form and Voluntary Disclosure Quality

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Abstract

Considering the role of a financial analyst that directly affects investors as an information mediator, management's decision to disclose to maximize corporate value will have an important impact on investors as well. On the other hand, whether or not managers vary the level of disclosure depending on the corporate form will have great implications for policy authorities. However, there is no domestic research on the relationship between the corporate form and the quality of voluntary disclosure. Our study shows that the corporate form tends to deepen the negative relationship between the proprietary information cost and the quality of disclosure. Examining whether the relationship between proprietary information cost and management disclosure decision making is valid for domestic companies is expected to provide meaningful implications for investors and regulators. Depending on the corporate form, if an entity makes a discriminatory disclosure, the cost of capital will be affected. A more in-depth follow-up study on this should be done.

Keywords: *Corporate Form, Voluntary Disclosure Quality, Voluntary Disclosure, Segment Disclosure*

1. Introduction

According to Verrecchia (1983)'s proprietary information cost hypothesis, management selects the quantity and quality of disclosure by simultaneously considering the benefits of a low cost of capital due to an increase in disclosure and the cost of exposure to proprietary information. As long as the cost incurred by the exposure of proprietary information is positive, the benefits of disclosure are offset, and the higher the cost, the lower the disclosure threshold. A low level of information disclosure increases information risk, and investors demand a risk premium, which increases the cost of capital.

Since Verrecchia (1983), A number of empirical studies have proven the validity of the proprietary information cost hypothesis. Botosan and Stanford reported that management tends to limit the exposure of related proprietary information in order to sustain a segment's excess profit. Berger and Hann (2003) reported that the introduction of a stronger segment disclosure rule (SFAS No. 131) resulted in more precise segment disclosure in a timely manner, and this reduced analysts' forecasting errors [1]. Botosan and Stanford (2005)

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confirmed that a significant change occurred in the degree of dependence on public and private information of analysts following these companies, targeting companies with increased segment disclosure after the introduction of the regulations.

2. PRIOR RESEARCH, THEORY and HYPOTHESIS

Considering the role of analysts directly affecting investors as information intermediaries, management's disclosure decision making, which minimizes the exposure of proprietary information to maximize corporate value, will have an important impact on investors as well. Examining whether the relationship between proprietary information cost and management disclosure decision making is valid for domestic companies is expected to provide meaningful implications for investors and regulators.

Through this study, it was confirmed that the corporate form tends to deepen the negative relationship between the proprietary information cost and the quality of disclosure.

2. Prior Research, Theory and Hypothesis

Hayes and Lundholm (1996) [2] grafted Verrecchia (1983)'s proprietary information cost hypothesis into segment disclosure and developed the theory that the existence of a competitor could be a motive for avoiding segment disclosure. In other words, the researchers argue that management facing the threat of competitors is reluctant to expose information in the segment to sustain excess profits, and this can avoid segment disclosure [3, 4, 5]. After Hayes and Lundholm (1996), various related empirical analyzes have been attempted, and many studies have yielded results [6, 7, 8]. First, Harris (1998) examined the correlation between the degree of competition and the sufficiency of segment disclosure in the industry to which each segment of a company belongs. As a result of the empirical analysis, it was found that management discriminated and disclosed less segments belonging to more competitive industries. The researcher interpreted this as the result that management did not expose the segment with large unexpected profit and market share as much as possible. Piotroski (1999) shows evidence that there is a significant correlation between the voluntary increase of the reportable segment and the benefits of the capital market [9]. Reported. The researchers interpreted this as an increase in the frequency of segment disclosure in order to mitigate the increase in information asymmetry between investors.

Meanwhile, Botosan and Stanford (2005) are representative of the empirical research on the relationship between segment disclosure and proprietary information cost. In other words, according to the study, it is reported that management of companies with segments belonging to less competitive industries tend to limit the exposure of proprietary information in order to sustain excess profits in that segment. Berger and Hann (2003) verified whether the information environment of analysts was significantly affected by the introduction of a more strengthened segment disclosure rule (SFAS No. 131).

As a result of the empirical analysis, analysts' forecasting errors decreased due to the introduction of the regulations (SFAS No. 131) and researchers interpreted these empirical results as more useful accounting information was provided by the introduction of the regulations (SFAS No. 131).

Botosan and Stanford (2005) confirmed that a significant change occurred in the degree of dependence of public and private information of analysts following these companies, targeting companies whose segment disclosure increased after the introduction of the regulations (SFAS No. 131).

This means that the same level of information exposure can only be the disclosure of aggregate information to diversified firms, but to focused firms, it means that it can be a precise disclosure of information at the level of trade secrets. As a result, the management of focused firms is expected to be more sensitive to information

exposure than diversified firms, and as a result, the negative relationship between the proprietary information cost of focused firms and the quality of disclosure will be deeper than that of diversified firms. To verify this, this study sets up the following hypothesis. Namely,

Hypothesis

- The negative relevance between proprietary information cost and the quality of disclosure is greater for focused firms than diversified firms.
- This study uses the measure of voluntary disclosure quality of Zhang (2005) [10], not management forecasting, to examine whether there is a significant relationship between proprietary information cost and corporate forms. On the other hand, to verify the hypothesis above, it is classified into focused firms and diversified firms according to the number of segments operating the sample companies.

3. Methodology and Results

3.1 Measure of Corporate Forms

Korea enacted the interpretation of corporate accounting standards 50-87 (hereinafter, 'Disclosure Regulations by Segment Disclosure') on June 29, 1999, so that the proportion of any one of sales, operating income and assets of a specific segment is determined by each sector. If it exceeds 10% of the total, it is compulsory to classify sales by each business division and disclose it in foot notes. If sales and operating income are more subdivided and classified by segment, external information users can more easily identify how many segment the interested company is achieving meaningful sales and operating income.

As shown in Table 1, 75.9% of listed companies in Korea disclosed one segments for the past 8 firm years, and 76.8% of companies, the highest in 2011 firm years, reported one segments. Meanwhile, over the past 8 firm years, 13.8% of listed companies in Korea disclosed 2 segments, 6.3% disclosed 3 segments, 2.5% disclosed 4 segments, and 1.5% disclosed more than 5 segments. In the US, 69.1% of listed companies disclosed one segment during 1985–1995 firm years, that is, 11 firm years. Of the 10,844 firm years that disclosed the number of segments for 8 firm years, the sample that can measure the quality of disclosure is 1,957 firm years. Accordingly, the sample used for hypothesis test is 1,957 firm years.

Table 1. Firm year frequency and weight by the number of segments (whole industry)

year	disclosed the number of segment					total
	1	2	3	4	5 or more	
2011	898 (76.8%)	154 (13.2%)	64 (5.5%)	35 (3.0%)	18 (1.5%)	1,169 (100%)
2012	923 (76.3%)	151 (12.5%)	81 (6.7%)	37 (3.1%)	18 (1.4%)	1,210 (100%)
2013	960 (76.1%)	172 (13.6%)	78 (6.2%)	35 (2.8%)	17 (1.3%)	1,262 (100%)
2014	1,007 (76.1%)	170 (12.8%)	89 (6.7%)	31 (2.3%)	24 (2.1%)	1,323 (100%)
2015	1,040 (75.6%)	187 (13.6%)	91 (6.6%)	34 (2.5%)	23 (1.7%)	1,376 (100%)

2016	1,093 (75.3%)	214 (14.7%)	85 (5.9%)	36 (2.5%)	16 (1.6%)	1,451 (100%)
2017	1,129 (74.9%)	226 (15.0%)	96 (6.4%)	33 (2.2%)	23 (1.5%)	1,507 (100%)
2018	1,172 (75.3%)	231 (14.8%)	102 (6.6%)	35 (2.2%)	16 (1.1%)	1,556 (100%)
total	8,222 (75.9%)	1,505 (13.8%)	686 (6.3%)	276 (2.5%)	155 (1.5%)	10,844 (100%)

Table 2 presents the disclosure status of 1,957 firm years by segment used for hypothesis verification. As shown in Table 2, 63% of sample companies in one segment, 18% of sample companies in two segments, 10% of sample companies in three segments, and 6% of sample companies in four segments, 3% of sample companies disclosed five or more segments.

**Table 2. Firm years frequency and weight by the number of segments
(sample criteria reflected in the regression equation)**

year	disclosed the number of segment					total
	1	2	3	4	5 or more	number of companies(ratio)
2011	121(59%)	34(18%)	23(12%)	13(7%)	8(4%)	199(100%)
2012	131(60%)	35(15%)	29(14%)	15(7%)	8(4%)	218(100%)
2013	171(60%)	44(20%)	29(13%)	10(4%)	8(3%)	262(100%)
2014	181(66%)	41(14%)	34(12%)	11(4%)	11(4%)	278(100%)
2015	176(63%)	47(16%)	30(11%)	16(6%)	12(4%)	281(100%)
2016	157(60%)	51(19%)	33(11%)	13(5%)	11(5%)	265(100%)
2017	144(59%)	46(19%)	31(13%)	12(5%)	10(4%)	243(100%)
2018	152(59%)	48(21%)	25(10%)	13(5%)	9(5%)	247(100%)
total	1233(63%)	346(18%)	198(10%)	103(6%)	77(3%)	1957(100%)

This study categorizes the sample companies into focused firms and diversified firms as follows according to Monk's (2010) [11] corporate type classification criteria. In other words, companies that disclosed one segment in the foot-note of the previous year's audit report are defined as focused firms, and companies that disclosed more than two segments are defined as diversified firms. On the other hand, the fact that only one segment was disclosed by focused firms does not mean that the focused firms actually operate only one business. In other words, it is not disclosed because it operates a number of businesses in addition to one disclosed segment, but since the sales (or operating profit, etc.) by division of these segments is less than 10% of the total sales (or total operating profit, etc.).

3.2 Hypothesis Test using OLS Regression Analysis

In order to avoid the bias due to the omission of the variable affecting the correlation, a multivariate analysis was performed including the control variable in the regression model. As a result of the analysis, focused firms are more sensitive to information exposure than diversified firms, and as a result, the negative correlation between the proprietary information cost of focused firms and the quality of disclosure is expected to be deeper than that of diversified firms. To test this hypothesis, <Model 1> was set up as follows by adding the corporate form variable (FORM) and the interaction term (FORM×PC) of the corporate form and proprietary information cost to <Model 2> proposed by Zhang (2005) [10]. If the hypothesis is supported, the coefficient value of the interaction term (FORM×PC) between the corporate form variable in <Model 1> and the proprietary information cost proxy is expected to have a value smaller than the coefficient of the proprietary information cost proxy at a statistically significant level.

$$\begin{aligned} QUALITY_{it} = & \alpha_1 + \alpha_2 PC_{it-1} + \alpha_3 FORM_{it-1} + \alpha_4 PC_{it-1} \times FORM_{it-1} + \alpha_5 MtoB_{it-1} \\ & + \alpha_6 PERFORMANCE_{it-1} + \alpha_7 FIRMSIZE_{it-1} + \alpha_8 NegEarn_{it} + \alpha_9 NegEarnG_{it} \\ & + \alpha_{10} ANALYST_i + \alpha_{11} OFFER_{it} + \alpha_{12} SOPHIST_{it-1} + \varepsilon_{it} \quad < Model 1 > \end{aligned}$$

As shown in Table 3, the coefficient value of proprietary information cost proxy1 is positive (+) (0.021), and the interaction term of the corporate form and proprietary information cost proxy1 ($FORM \times PC_1$) is a negative value (-0.068) at a statistically significant level ($t=-2.38$). This means that the correlation between proprietary information cost (PC) and the quality of disclosure is lower in focused firms than diversified firms. This is the result of supporting the hypothesis. On the other hand, as a result of regression analysis according to <Model 1> using proprietary information cost proxy2, the coefficient value of proprietary information cost proxy2 is -0.030. The coefficient of the interaction term ($FORM \times PC_2$) of the corporate form and proprietary information cost proxy2 is -0.098 at the statistically weak level ($t=-1.65$). This means that the correlation between proprietary information cost (PC) and the quality of disclosure is lower for focused firms than diversified firms. This is the result of a study that supports the hypothesis at a statistically weak level. The results of this analysis show that the management of focused firms is more sensitive to information exposure than diversified firms, and as a result, the negative relationship between the proprietary information cost of focused firms and the quality of disclosure is greater than that of diversified firms. As a result of the empirical analysis of this study, it was found that the corporate form further deepened the relationship between the proprietary information cost and the negative (-) quality of the disclosure. Monk (2010) confirmed that focused firms tend to perform less managerial profit forecasting than diversified firms [11]. Even if diversified firms and focused companies perform the same managerial profit forecasting, the information exposure degree of focused firms is greater. It was interpreted that these findings were derived.

Table 3. Hypothesis test using OLS regression analysis

	Model 1 (the verification of PC_1)	Model 1 (the verification of PC_2)
	Coefficient value (t-value)	Coefficient value (t-value)
Intercept	0.131 (1.87*)	0.154 (1.43)
FORM	-0.019 (-1.69*)	0.004 (0.77)

proprietary information cost proxy1 (PC_1)	0.021 (0.86)	n/a
FORM $\times PC_2$	-0.068 (-2.38 ⁺⁺)	n/a
proprietary information cost proxy2 (PC_2)	n/a	0.001 (0.01)
FORM $\times PC_2$	n/a	-0.098 (-1.65 ⁺)
<i>MtoB</i>	0.006 (2.88 ⁺⁺⁺)	0.006 (2.84 ⁺⁺⁺)
<i>PERFORMANCE</i>	-0.160 (-6.53 ⁺⁺⁺)	-0.161 (-6.61 ⁺⁺⁺)
<i>FIRMSIZE</i>	-0.004 (-1.52)	-0.003 (-1.19)
<i>NegEarn</i>	-0.067 (-5.86 ⁺⁺⁺)	-0.066 (-5.73 ⁺⁺⁺)
<i>NegEarnG</i>	-0.001 (-0.12)	-0.000 (-0.05)
<i>ANALYST</i>	0.000 (1.35)	0.000 (1.26)
<i>OFFER</i>	-0.007 (-0.92)	-0.005 (-0.67)
<i>SOPHIST</i>	0.011 (0.56)	0.010 (0.48)
YD (Year Dummy)	Omit mark	Omit mark
IND (Industry Dummy)	Omit mark	Omit mark
number of samples	1,957	1,957
Adjusted R^2	0.0280	0.0263

4. Conclusion

Our study differs from the Monk (2010) study in that the verification was performed with a measure that can more comprehensively cover the quality of disclosure than the data for forecasting managerial profits. Through our study, it was confirmed that the negative relationship between proprietary information cost and the quality of disclosure was discriminatory according to corporate form.

The negative relationship between disclosure and cost of capital was verified from various angles through previous studies. When linking this with the results of this study, a positive correlation between proprietary information cost and cost of capital is expected. If the quality of disclosure of a company prior to the announcement of the closing disclosure is differentiated according to the proprietary information cost, the effect of the closing disclosure on the stock price is also expected to be differentiated according to the size of the proprietary information cost. If a follow-up study yields the same results as these predictions, the empirical analysis results of this study will be more robust.

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