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Relationships between Information Transparency, Corporate Governance and D&O Insurance

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Abstract—This study examines the influence of information transparency and corporate governance on purchase directors and officers liability (D&O) insurance decisions. The results show that companies with greater information transparency have significant demand for D&O insurance. Greater transparency in voluntary disclosures is significantly and positively associated with demand for insurance, indicating that increasing the degree of information disclosure reduces information asymmetry for insurers, which stimulates their willingness to provide greater protection.

Analysis of insured and uninsured subsamples indicates that uninsured companies have superior corporate governance compared to insured companies. Although insured companies tend to have weaker corporate governance structures, they appoint Big 4 firms or industry experts to compensate for the weakness of their corporate governance. Empirical results indicate that purchasing D&O insurance can strengthen external corporate governance and increase companies' willingness to voluntarily provide more transparent information.

Keywords**—**Directors and officers liability (D&O) insurance, information transparency, corporate governance, Big 4.

I. Introduction

THE directors' and officers' liability insurance (hereafter D&O insurance) is used to transfer the risk of liability for third-party compensations in the event of negligence or improper behavior in the execution of office. Information disclosures are the most important means of resolving information asymmetry and agency problems between management and external shareholders [5]. To increase the transparency of information disclosed by companies in Taiwan, the Taiwan Stock Exchange Corporation (TSEC) commissioned the Securities & Futures Institute (SFI) to perform information disclosure evaluations of listed companies starting in 2003. This was primarily to realize the essence of corporate governance and increase the transparency of corporate information disclosures.

The implementation of corporate governance systems is closely related to the operation of boards of directors. D&O insurance can provide risk protection for directors and important employees. Thus, the decision to purchase D&O insurance may have an important effect on the risk management attitudes and corporate governance behavior of management. [3], [6], and [11] examined D&O insurance from the perspective of corporate governance. The contribution that this study provides to literature is in examining the impact that information transparency and corporate governance have on company purchases of D&O insurance and the information conveyed to users of financial reports.

The results of this study show that the transparency of information disclosures and the mechanisms of corporate governance influence the demand for D&O insurance. In addition, the auditing of financial statements by the Big 4 firms has a significant positive influence on insurance demands. The status of an auditor as an industry expert has a significant inverse influence on insurance demands, which indicates that D&O liability insurance can facilitate auditors' in apportioning audit risk.

Further analysis of insured and uninsured subsamples shows that, compared to insured companies, uninsured companies have superior corporate governance mechanisms and less demand for D&O insurance. Although insured companies have weaker corporate governance structures, they commission the Big 4 firm or industry expert to compensate for their weaknesses in corporate governance.

The remainder of this paper is structured as follows: Section II provides literature review and development hypotheses; Section III describes the empirical model and results; and Section IV presents conclusions.

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II. Literature Review & Development Hypotheses

A. Information Transparency

The adverse selection and agency problems produced by information asymmetry increase the demand for information disclosure by investors. This provides an incentive for managers to increase information disclosures in an effort to reduce agency costs and investor lawsuits. Reference [7] suggested that financial analysts serve as information mediators, and different forms of information transparency have significantly different effects on the forecasting behaviors of analysts. However, the Enron scandal of 2001 caused investors to become skeptical of the reliability of information disclosures. This study contends that increases in information transparency intended to increase investors' trust in the disclosed information actually increases demand for D&O insurance. Therefore, we propose the following hypothesis:

H1. Company information disclosures are related to the D&O insurance.

B. Corporate Governance

Most literature on the demand for D&O insurance focused on the corporate governance viewpoint. References [8]-[10] suggested that companies with higher bankruptcy risk, smaller companies, and companies experiencing rapid growth with higher management shareholding ratios have a greater requirement for D&O insurance. Reference [6] found that companies with D&O insurance have fewer agency conflicts compared to other enterprises. In particular, companies listed on the NYSE and AMEX have an apparent separation of ownership and management rights.

Reference [2] examined the factors that affect D&O insurance in Taiwanese enterprises. Their empirical results suggest that higher business risks for an enterprise incur higher director rewards, which affect the decision to purchase D&O insurance and is closely related to corporate governance. Reference [1] found that enterprises purchase D&O insurance mainly to lower their litigation risks, followed by a desire to promote company growth and retain senior executives.

This study investigated the factors of ownership structure (director and supervisor shareholdings and institutional investor shareholdings), the responsibilities of directors and supervisors (the minimal shareholdings and the pledge of shares held by the directors and supervisors), the role of managers (manager internalization, CEO's duality, and the replacement of the CEO and CFO in the preceding years), and the corporate social responsibilities of companies, as well as their relationship to the demand for D&O insurance for Taiwanese listed and OTC companies. We propose the following hypothesis:

H2. *Corporate governance mechanisms are related to the D&O insurance.*

III. Research Design

A. Empirical Model

The Securities and Futures Commission has adopted unofficial autonomous planning and designs to evaluate the transparency of information disclosed by Taiwan listed companies. The evaluation ratings have been expressed as five grades employed are A+, A, B, C, and C-.

$$\begin{aligned} D\&O = {} & \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 D_5 \\ & + \beta_6 Dshare + \beta_7 Ishare + \beta_8 Pledge + \beta_9 Insufy \\ & + \beta_{10} MgInsid + \beta_{11} Concure + \beta_{12} CEO + \beta_{13} CFO \\ & + \beta_{14} CSR + \beta_{15} Big\ 4 + \beta_{16} Spec + \beta_{17} Size + \varepsilon \end{aligned}$$

where, *D&O* is a dummy variable that is set to 1 if the company has purchased D&O insurance; otherwise, it is set to 0. D_1, D_2, D_3, D_4, and D_5 are also dummy variables that represent whether a company's information transparency has been rated A+, A, B, C, or C-, respectively. If a company's information transparency is rated A+, then $D_1 = 1$; 0 otherwise; *Dshare*, the proportion of director and supervisor shareholdings; *Ishare*, the proportion of institutional shareholdings; *Pledge*, the pledge shares hold by directors and supervisors; *Insufy*, 1 if the shareholdings of director and supervisor below the legal minimum number, 0 otherwise; *MgInsid*, 1 if the manager internalization, 0 otherwise; *Concure*, 1 if the manager concurrent board chairperson and CEO, 0 otherwise; *CEO* and *CFO*, the times of CEO and CFO have been replaced in the previous three years, respectively; *CSR*, 1 if the occurrence of corporate social responsibility events in previous year, 0 otherwise; *Big 4*, if the company is audited by Big 4 firms, 0 otherwise; *Spec*, 1 if the company is audited by industry experts, 0 otherwise; *Size*, company scale.

B. Empirical Model

The corporate governance and financial information of companies from 2008 to 2010 was obtained from the TEJ database. Ratings information was obtained from the Market Observation Post System (as shown in Table I). However, after excluding the samples with missing corporate governance and financial variables, and samples with incomplete data for the three years, 3,625 observations remained.

TABLE I
The Mean of Corporate Governance Variables in Different Transparency Ratings

Corporate Governance	Information Transparency Rating				
	A+	A	B	C	C-
Obs.	77	1050	1686	426	50
Insurance amount (Million NTD)	612.95	205.42	111.81	56.37	48.09
D&S shareholdings (%)	22.35	23.22	22.71	24.78	23.91
Institutional investor shareholdings (%)	13.20	8.62	8.05	6.94	6.13
Pledge of D&S shareholdings (%)	15.24	9.45	9.31	7.34	12.92
Insufficiency of D&S shareholdings	.19	.06	.05	.03	.04
Manager internalization	.21	.41	.45	.51	.48
CEO duality	.13	.26	.30	.30	.32
CEO turnover	.73	.44	.49	.45	.64
CFO turnover	.34	.50	.55	.53	.78
CSR events	.16	.03	.02	.01	.12
Big 4 firms	.92	.88	.85	.80	.58
Industry specialist	.38	.13	.10	.05	.06
Company size(Billion NTD)	268.00	71.63	11.17	4.49	4.78

Regression analysis: Table II shows the empirical results for the impact that varying different degrees of information transparency and corporate governance on D&O insurance. Because the information rating grades denote the level of information transparency, superior information transparency (A+ and A grades) was significantly positively related to D&O insurance. Poor information transparency (C and C- grades) was significantly negatively related to D&O insurance. The B grade for information transparency was positively related to D&O insurance. These results indicate that company information transparency influences decisions to purchase insurance.

Regarding corporate governance mechanisms, the director and supervisor shareholding ratios (*Dshare*) were significantly inversely correlated with *D&O* (-1.52, $p < .01$). This indicates that increases in the ratio of insider shareholding align corporate interests with those of the shareholders, reducing agency conflict problems [4], consequently reducing the demand for insurance. The coefficients of *Ishare* was positive and significant (3.71, $p < .01$), indicating that higher ratios of institutional investor shareholding and the strategic cooperation effects for the managers of the invested company increase the demand and amount of D&O insurance. The coefficients for *Insufy* was significantly and directly related (1.02, $p < .01$), indicating that long-term insufficient shareholding by directors and officers implies a lack of confidence in the company's long-term development, which increases the demand for D&O insurance. The coefficient for *MgInsid* was significant and inverse (-.36, $p < .01$), indicating that the alignment of interests between members of the controlling family acting as CEOs and those of shareholders was more powerful than the aggression effects, thereby reducing the need for insurance. The coefficients for *Concure*, *CEO*, and *CFO* were all positive and significant, which indicates that chairperson concurrently acting as CEOs weaken monitoring functions. Frequent changes of CEOs and CFOs lead to instability in senior management, increasing the need for D&O insurance.

The coefficient for the Big4 was positive and significant, indicating that the purchase of D&O insurance by audit clients does spread auditing risks. Thus, companies audited by the Big 4 firms have higher demands for insurance. The Spec variable was inverse and significant, indicating that auditors with greater industry experience and a superior reputation can perform third-party monitoring functions, which reduces the need for D&O insurance. The Size variable had a positive correlation with D&O insurance, indicating that a larger company size leads to higher risks, increasing the demand for D&O insurance.

t-test of insured and uninsured samples: This study determined the mean difference of the two subsamples of companies with and without D&O insurance to determine the differences regarding information disclosure transparency and corporate governance characteristics. The results are shown in Table III. The information transparency of companies with D&O insurance was superior to that of companies without insurance. Companies with D&O insurance also exhibited a superior performance regarding voluntary information disclosure transparency and progress.

The results also show that companies with D&O insurance had weaker corporate governance mechanisms compared to those without D&O insurance. However, these companies compensated for their weaknesses with external monitoring mechanisms such as appointing Big 4 firms and industry specialists to audit their financial statements.

TABLE II
LOGISTIC ANALYSIS RESULTS

	Coefficient	Wald	P-value	
Transparency rating				
D1_A+	.633	5.968	.015	‘*
D2_A	.560	13.437	.000	**
D3_B	.150	1.098	.295	
D4_C	-.469	7.621	.006	**
D5_C-	-1.152	8.540	.003	**
Corporate governance				
Dshare	-1.516	36.740	.000	**
Ishare	3.708	72.134	.000	**
Pledge	.104	.257	.612	
Insufy	1.022	35.390	.000	**
MgInsid	-.362	17.901	.000	**
Concure	.162	3.123	.077	*
CEO	.176	13.364	.000	**
CFO	.134	10.381	.001	**
CSR	-.158	.540	.463	
Big 4	.658	42.648	.000	**
Spec	-.221	3.069	.080	**
Size	.083	1.596	.206	
Constant	-1.268	8.380	.004	**
Obs.	3,625			
Cox & Snell R	.112			
Nagelkerke R	.149			

Variable Definitions:

D &O	1 if the company purchase D&O insurance, 0 otherwise;
D1~D5	A company's information transparency has been rated A+, A, B, C, or C-, respectively. 1 if the company's information transparency is rated A+, 0 otherwise;
Dshare	The proportion of shares held by directors and supervisors;
Ishare	The proportion of institutional investor shareholdings;
Pledge	Ratio of pledged shares held by directors and supervisors;
Insufy	1 if the shares held by directors and supervisors below the legal minimum number, 0 otherwise;
MgInsid	1 if the manager internalization, 0 otherwise;
Concure	1 if the manager concurrent board chairperson and CEO, 0 otherwise;
CEO	The times of CEO has been replaced in the previous three years;
CFO	The times of CFO has been replaced in the previous three years;
CSR	1 if the occurrence of corporate social responsibility events in previous year, 0 otherwise;
Big4	1 if the company is audited by Big 4 firms, 0 otherwise;
Spec	1 if the company is audited by industry specialist, 0 otherwise;
Size	Company scale, natural logarithm of total assets.

*, ** and *** denote significance at the 0.10, 0.05 and .0.01 levels (two-tailed), respectively.

TABLE III
T-TEST OF THE INSURE AND UNINSURED SUBSAMPLES

	Insure	Uninsured	t –test		
	mean	mean	t-value	p-value	
Transparency rating					
D1_A+	.04	.02	3.60	.000	***
D2_A	.34	.23	7.39	.000	***
D3_B	.46	.47	-1.16	.248	
D4_C	.08	.16	-8.16	.000	***
D5_C-	.01	.02	-4.50	.000	***
Corporate governance					
Dshare (%)	22.01	24.80	-5.73	.000	***
Ishare (%)	9.80	6.74	10.61	.000	***
Pledge (%)	9.87	8.54	2.20	.028	**
Insufy	.09	.03	7.67	.000	***
MgInsid	.38	.49	-6.56	.000	***
Concure	.28	.30	-1.49	.137	
CEO	.59	.45	5.29	.000	***
CFO	.65	.51	4.76	.000	***
CSR	.04	.03	1.35	.176	
Big4	.89	.78	8.80	.000	***
Spec	.11	.10	1.41	.158	
Size(Billion)	52.38	20.56	4.33	.000	***
n	1,867	1,758			

1. This table shows the t-test of the two subsamples: insured and uninsured.
2. All variables are defined in Table II.
3.*, ** and *** denote significance at the 0.10, 0.05 and .0.01 levels (two-tailed), respectively.

IV. CONCLUSIONS

The results show that companies with superior information disclosure transparency had a significant demand for D&O insurance, whereas companies with poor information disclosure transparency exhibited significantly reduced purchases of D&O insurance. This phenomenon shows that the higher risks of insuring clients with poor information transparency affect the willingness of insurers to provide.

Deeper analysis of the subsamples of companies that with and without insurance showed that uninsured companies had superior corporate governance mechanisms compared to insured companies and, thus, had a lower demand for D&O insurance. Although the insured companies had weaker corporate governance structures, they compensated for this weakness by hiring industry specialist auditors or the Big 4 firms to perform audits. These empirical results indicate that the purchase of D&O insurance can strengthen external governance mechanisms, which increases companies' willingness to voluntarily disclose more transparent information.

We contend that insurance costs are important factors considered by companies when making insurance purchase decisions. However, corporate financial reports do not clearly disclose information related to insurance premium. This was one of the study limitations.

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