The Effect of Board Gender Diversity on Stock Price Informativeness: Evidence from Listed Companies in the Tourism Industry

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Received 21 March 2016; received in revised form 13 June 2016; accepted 24 June 2016

Abstract

This study investigates the effect of gender diversity among members of the board of directors on stock price informativeness. Stock price informativeness is the price volatility that is unexplainable by market model. This study uses the data of listed companies in the tourism industry in Taiwan in 12 consecutive years from 2000 to 2011, as example to determine the impact of board gender diversity on stock price informativeness. We find that the number of female board members and the percentage of female board members are negatively associated with stock price informativeness, while managers' holding has positive relation with stock price informativeness. However, there is no significant evidence indicating that female chief executive officers (CEO), female board members, female board existence or female threshold are associated with stock price informativeness. Furthermore, we find that the number of female board members and the percentage of female board members have negative association with stock price informativeness only before the financial crisis in 2008.

Keywords: Board gender, price informativeness, ownership structure

1. Introduction

In modern society, as social status elevated and education improved, many policies that are aimed at achieving gender equality and guarantee for minorities are established, such as maternity leave with pay, guaranteed member quota, and so on. The European Commission is enforcing the guaranteed quota for the number of female directors to majority of listed companies in its member countries. It requires that at least 40% of the boards of directors are female. In 2014, Germany passed a bill that regulates the percentage of female members in the board of directors to be at least 30% of the total board members in big companies despite the pending criticism.[1] Norway, on the other hand, has already implemented a policy in 2006 that female board members should take up 40% of total board members, and the ratio for female board members stays around 36% to 40%. In addition, Fortune shows that in top 1000 companies, there are 54 female CEOs[2] a post usually dominated by males. From this, female nowadays not only has the same right as male but also enjoys a lot of assur-

[1]http://www.dw.de/germany-to-legislate-30-percent-quota-for-women-on-company-boards/a-18088840
[2]http://www.catalyst.org/knowledge/women-ceos-fortune-1000

ance, especially in what used to be male-dominating corporations. In other words, there is a guaranteed percentage for female board members and rise of percentage for female CEO because of the constant focus gained by gender equality. However, the lack of Enlightening and Feminism in Asia continued the culture of neglect against women. The statistic from Catalyst in 2014 shows that the percentage of female directors in Taiwan is only 4.4%[3], it is far lower than 9.6% in Hong Kong, while 8.1% in China and 7.9% in Singapore. The percentage of female CEOs, which is 1.9%, is even lower than 4.0% in China, 2.7% in Singapore and 2.1% in Hong Kong.[4] Therefore, in Asian countries, women always play an invisible role in corporate governance.

Apart from the gender role in management, other factors that greatly influence the price informativeness include government policy and global economy. For instance, Taiwanese corporations have focused on expanding in China due to government policy such as ECFA, study programs for China students, investments from Chinese funds, individual free travels for Chinese people, the CSSTA that gained attention, and so on, all of which may deeply affect the Taiwanese industries.

According to the Ministry of Transportation and Communication's Tourist Bureau, Taiwan's tourism income from foreign exchange has surpassed domestic travels since 2008 and the total income is rising after its traveling policy opens to Chinese tourists. In addition, the number of Chinese tourists has increased from 300 thousand to almost a million in 2009 since the policy was implemented in July 2008. As the individual free travel was carried out in June 2011, the number of Chinese tourists rose from 1.7 million to nearly 3 million. According to the figures from the Tourist Bureau, the total number of tourists in Taiwan in 2012 was 5,479,099. Japan, Hong Kong and Macau took up 2 million while China took up 2 million. From this, Taiwan's Chinese-friendly travel policy has drastic impact on its tourism industry.

The current literature suggests that female directors provide greater oversight and monitoring of managers' actions and reports (Hillman et al., 2007; Adams and Ferreira, 2009). Gender diverse boards improve the quality of public disclosure through better monitoring. Gul et al. (2011) show that stock prices of firms with gender diverse boards reflect more firm-specific information. Therefore, this study takes board gender as primary factor to investigate the correlation between female directors and stock price informativeness.

This study focuses on the effect of the management's gender equality in listed companies in Taiwan's tourism industry[5] and investigates its influence on stock price informativeness. In addition, it also looks at whether gender has an impact on stock price informativeness before and after the financial crisis.

2. Methodology

2.1 Data

This study focuses on listed companies in the tourism industry in Taiwan and collects ownership structure and financial sheets from TEJ, Taiwan Economic Journal, ranging from 2000 to 2011.[6] Among them, stock price informativeness is derived from the daily stock price, annual performance and gender of board members and supervi-

[3]http://www.catalyst.org/knowledge/women-boards
[4]http://www.catalyst.org/knowledge/2014-catalyst-census-women-board-directors

[5]Similar to Hillman et al. (2002) and Srinidhi et al. (2011), we believe that the percentage of women employed in an industry influences the likelihood of female participation in the boards of firms belonging to that industry. In 2011, the proportion of female directors in listed companies in the tourism industry rose up to 34.13 percent ranks the highest in all kinds of industries. Therefore, we focus on the tourism industry for our study.

[6]Eliminating missing values in ownership structure and other variables drastically reduces our sample. Finally, 96 observations from eight listed companies each year from 2000 to 2011 left in the full sample for further analysis.

sors at the end of each year. The details of our sample are in Panel A of Table 1.

2.2 Definition of Dependent Variable

This study takes idiosyncratic volatility (IV) as the dependent variable (Ψ) to measure a corporation's information disclosure. Idiosyncratic volatility is defined as the variance of stock returns that cannot be explained in market model after logit transformation. The steps are as follows:

$$r_{i,d} = \alpha_i + \beta_i r_{m,d} + \varepsilon_{i,d} \quad (1)$$

$r_{i,d}$ is the excess rate of return for a company and *i*,$r_{m,d}$ is the excess rate of return for market portfolio under capital asset pricing model (CAPM) α_i and β_i are measured through regression analysis. In terms of the variance of al Var $(\varepsilon_{i,d})$ ، the variance of stock price return $\mathrm{Var}(r_{i,d})$ can been presented in equation (2) as systematic risk and idiosyncratic volatility risk.

$$\mathrm{Var}(r_{i,d}) = \beta^2 \mathrm{Var}(r_{m,d}) + \mathrm{Var}(\varepsilon_{i,d}) \quad (2)$$

Because $= \sigma_{i,m,d}/\sigma^2{}_{m,d}$ ، $\sigma_{i,m,d} = \mathrm{Cov}(r_{i,m,d}, r_{m,d})$ and $\sigma^2{}_{m,d} = \mathrm{Var}(r_{m,d})$, in equation (2), the systematic risk and idiosyncratic volatility risk can be expressed as in equation (3)

$$\sigma^2{}_{i,e,d} = \sigma^2{}_{i,d} - \frac{\sigma^2{}_{i,m,d}}{\sigma^2{}_{m,d}};\ \sigma^2{}_{i,d} = \mathrm{Var}(r_{i,d}) \quad (3)$$

The ratio for idiosyncratic volatility to total volatility is $(\sigma^2{}_{i,e,t}/\sigma^2{}_{i,t})$, showing the part not explained by market risk, which also equals to $(1 - R^2{}_{i,t})$ in equation (1). Therefore, through logit transformation of $(1 - R^2{}_{i,t})/R^2{}_{i,t}$, the idiosyncratic volatility is obtained as shown in equation (4).

$$\Psi_{i,t} = \mathrm{Ln}\left(\frac{1-R^2{}_{i,t}}{R^2{}_{i,t}}\right) = \mathrm{Ln}\left(\frac{\sigma^2{}_{i,e,t}}{\sigma^2{}_{i,t} - \sigma^2{}_{i,e,t}}\right) \quad (4)$$

2.3 Definition of Independent Variable

This study takes board gender equality and corporate governance as primary independent variables as shown in Panel B of Table 1. With higher gender equality, what used to be a male-dominant board gradually adds female characters. Therefore, the board gender variable in this study focuses on female influence. Variables on corporate governance primarily consist of ownership structure, management holding, institution holdings, and earning quality.

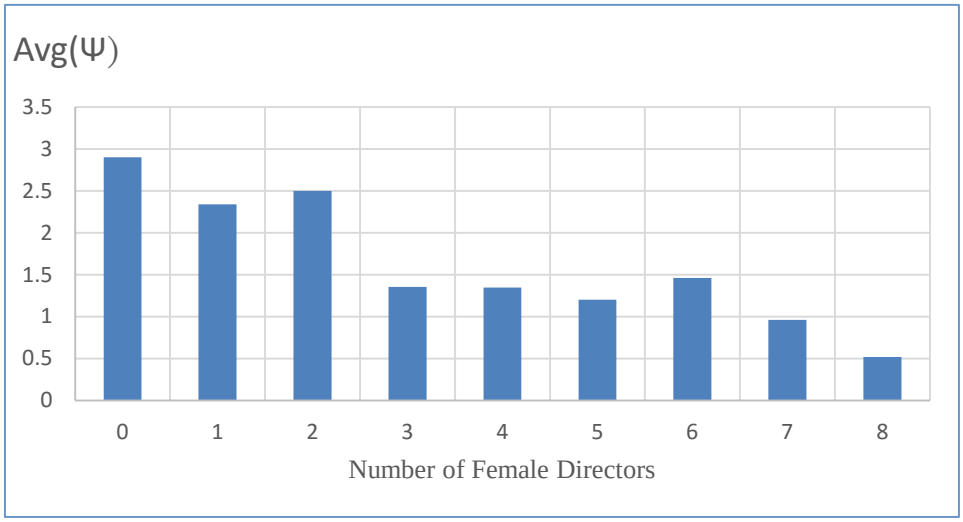

Figure 1: Graphical Representation of Relative Idiosyncratic Volatility.

Table 1: Sample Detail & Definitions of Variables

Panel A		Sample Detail:	Period：2000 - 2011
Code	Name		Website
2701	WANHWA ENTERPRISE COMPANY		http://www.wanhwa.com.tw/
2702	HOLIDAY GARDEN HOTEL		http://www.hotelhg.com.tw/
2704	A M B A S S A D O R H O T E L S		http://www.ambassadorhotel.com.tw
2705	LEOFOO TOURISM GROUP		http://www.leofoo.com.tw/
2706	FIRST HOTEL		http://www.firsthoteltaipei.com/
2707	REGENT HOTELS & RESORTS		http://www.regenttaipei.com/
5706	PHOENIX TOURS		http://www.travel.com.tw/
8940	NEW PLACE INTERNATIONAL CO. LTD.		http://www.newpalace.com.tw/
Panel B		**Definition**	
Stock price informativeness variable			
Ψ	Idiosyncratic volatility of stock return	$\Psi_{i,t} = \mathrm{Ln}\left(\frac{1-R^2{}_{i,t}}{R^2{}_{i,t}}\right) = \mathrm{Ln}\left(\frac{\sigma^2{}_{i,e,t}}{\sigma^2{}_{i,t} - \sigma^2{}_{i,e,t}}\right)$	
Gender diversity variables *(GDIV)*			
LFDIR	Ln of number of female directors	Ln(number of female directors+1)	
FDIRP	Percentage of female directors	Percentage of female directors to total directors	
FDIR	Number of female directors	Seats of female directors in board of director	
FD	Existence of female directors	Dummy variable. 1 for at least one female director; 0 for no female director	
FD2	Threshold of female directors	Dummy variable. 0 for more than two female directors; 1 for less than 3 female directors. From Figure 1, with more than 2 female directors, firm's price informativeness decreases.	
FCEO	Female CEO	Gender dummy variable. 1 for female CEO; 0 for male CEO	
FCHAIR	Female chairman	Dummy variable. 1 for female chairman; 0 for no female chairman	
Governance variables *(GOV)*			
LDIR	Ln of number of directors	Ln(number of directors+1)	
BOARD	Percentage of stock held by board members	(total number of stock held by directors+ total number of stock held by supervisors)/ number of outstanding stocks at the end of year.	
MGT	Percentage of stock held by managers	Total number of stock held by the management/ number of total outstanding stocks.	
Control variables			
AGE	Firm age	Log(difference between current year and year of establishment)	
DD	Dividend distribution	Dummy variable. 1 for dividend in any form; 0 for no dividend.	
LEV	Leverage ratio	total liabilities/ total asset	
MB	Market-to-book value	(stock price*number of outstanding shares)/ book value	
ROE	Return on equity	Net profit/ total equity.	
SIZE	Market value	Stock price * number of outstanding shares.	
VROE	Volatility of return on equity	Var (ROEi,t)	

2.4 Hypotheses

This study takes board gender as primary factor to investigate the correlation between female directors and stock price informativeness, and establish hypotheses. In past research, Carter et al. (2010) use financial indicators to examine the effect of board diversity but does not find any significant influence on corporate performance and proposes endogenous relation between board diversity and corporate financial performance. Rose (2007) finds no significant connection between Tobin's Q and female board members. He argues that directors with diversity are often influenced by directors without diversity, and further take their opinions. Shrader (1997) uses data from *Fortune* magazine to conduct study on the relation between ratio of female board members and accounting indices of performance, and finds significant negative connection. Adams and Ferreira (2009) point out that on average, gender diversity has negative effect on corporate performance, and find that female quota on board member reduces firm value. Boehren and Stroem (2007) propose that heterogeneous board has less effectiveness on making decision so small firms with less diverse board or board members not holding concurrent position perform better. Therefore, the following hypotheses are set up.

H1: Female board members have negative effect on stock price informativeness.

H1a: The number of female directors has negative effect on stock price informativeness.

H1b: The ratio of female directors has negative effect on stock price informativeness.

H2: The female management has negative effect on stock price informativeness.

H2a: Female chairperson has negative effect on stock price informativeness.

H2b: Female CEO has negative effect on stock price informativeness.

In addition, firms with more than two female board members have better price informativeness than those with two or less female board members. Therefore, the following hypothesis is established.

H3: Board with two female members or less has positive effect on stock price informativeness.

2.5 Descriptive Statistics Analysis

This study performs descriptive statistics on collected data, i.e. listed companies in the tourism industry, in order to understand their basics. The data is categorized from whole sample into firms with and without female board members to conduct descriptive statistics on medium and mean for primary analysis and characteristics.

2.6 Regression Analysis

This study takes stock price informativeness as a dependent variable. Model 1 utilizes panel regression model to examine the effect of board gender equality and ownership structure on stock price informativeness. Model 2 utilizes panel regression model to examine the effect of residual from female directorship prediction model on stock price informativeness, with β being the regression coefficient, γ being the coefficient for control variable, and ε being the residual.

$$\Psi_{i,t} = \alpha + \beta_1 GDIV_{i,t-1} + \beta_2 GOV_{i,t-1} + \beta_3 LDIR_{i,t-1} + \gamma_1 ROE_{i,t-1} + \gamma_2 VROE_{i,t-1} + \gamma_3 SIZE_{i,t-1} + \gamma_4 LEV_{i,t-1} + \gamma_5 MB_{i,t-1} + \gamma_6 SIZE_{i,t-1} + \gamma_7 DD_{i,t-1} + \gamma_8 AGE_{i,t-1} + \varepsilon_{i,t} \quad (5)$$

3. Empirical Results

3.1 Descriptive Statistics

This study samples its data for 12 consecutive years from 2000 to 2011, for analysis and sets 2008 as cut off point to conduct empirical analysis. Because there are few listed companies in the tourism industry and little of them have data in the past 12 years, only eight companies are included in the study. The data is divided into a whole set with and without female directors as shown in Table 2.

From Table 2, the average of stock price informativeness in years without a female director (2.898) is higher than that

with female directors (1.662). This indicates that the stock price informativeness is higher in years without female directors. Boards with more than two female directors have declined price informativeness. On average, 3.130 of 8.343 directors are females. Every 11.614 directors comes with 3.429 female directors, showing that even though the number of female directors is higher than the average by 0.3, the number of board members also increases by 3.271. It signifies that the number of female directors increases with the number of board members. About 18.8% of the corporations once had female as their CEO while only 9.13% of them had female chairperson. Table 2 shows that every company included in this study has female directors throughout the period, except for 2000, 2004 and. In addition, the number of female directors increases with time, from nearly three seats to four seats.

Table 2: Descriptive Statistics

	Entire Sample		**With female board member**		**Without female board member**	
	n=96		n=88		n=8	
Stock price informativeness	Mean	Median	Mean	Median	Mean	Median
Ψ	1.77	1.455	1.662	1.34	2.898	2.513
Gender diversity						
DIR	8.343	7	11.614	10	6.625	8
FCEO	0.188	0	0.205	0	0	0
FCHAIR	0.094	0	0.107	0	0	0
FD	0.913	1	1	1	0	0
FDIR	3.130	3	3.429	3	0	0
FDIRP	0.307	0.273	0.336	0.286	0	0
LDIR	3.327	3.303	3.335	3.303	3.242	3.303
LFDIR	0.833	0.693	1.232	1.098	0	0
Corporate governance						
BOARD%	26.844	23.59	26.184	22.81	31.35	26.51
MGT%	1.882	0.195	0.238	0	0.177	0.23
Control variables						
AGE	1.146	1.361	1.394	1.361	0.942	0.301
DD	0.761	1	0.738	1	1	1
LEV	0.341	0.352	0.343	0.352	0.327	0.327
MB	3.337	1.716	3.516	1.818	1.456	1.267
ROE	0.070	0.052	0.067	0.050	0.098	0.104
SIZE	6027095	3250923	6313252.65	3767455.5	3022440.63	1149680
VROE	0.030	0.018	0.030	0.017	0.018	0.018

3.2 Panel Regression Analysis

We apply panel regression with random effects to obtain our empirical results.[7] Table 3 shows the number of female directors and the effect of female directors on stock price informativeness. Columns 3 and 4 show results under control variable of management holdings, and columns 7 and 8 show results under control variable of board holdings. The coefficients for number of female directors (LFDIR) in columns 3 and 7 are -0.113 and -0.219, both with 1% significance level. The results are consistent with H1a.The coefficients for percentage of female directors (FDIRP) in columns 4 and 8 are -0.386 and -0.624, with significance levels of 1% and 5%, respectively. These support H1b. Therefore, the results indicate that both the number of female directors and the percentage of female directors have negative effect on stock price informativeness, corresponding to H1.

Table 4 examines the effect of other board gender variables on stock price informativeness, with management holdings

[7]After employing a Hausman (1978) test, we adopt random effects (for discussion see Wooldridge (2002, p. 288) and Baltagi (2005, p. 70)).

under control. The coefficients for number of female directors (FDIR) in columns 1, 4 and 5 are -0.066, -0.064 and -0.066, with 1% and 5% significance levels. These show that the number of female directors has negative effect on stock price informativeness, corresponding to H1a. The coefficients for female chairperson (FCHAIR) and female CEO (FCEO) in columns 2 and 3 are -0.1 and -0.107, with no significance level. These show that female chairperson and female CEO have no significant effect on stock price informativeness and contradict with H2a and H2b. The coefficients for two female directors or less (FD2) are both 0.157 at 1% significance level, specifying that the number of female directors being 2 or less has positive effect on stock price informativeness, corresponding to H3. The results above agree with the findings in Adams and Ferreira (2009) that board diversity decreases corporate performance, and the argument for heterogeneous board in Boehren and Stroem (2007).

In addition, the results for before and after financial crisis are shown in Table 5 and Table 6. Table 5 represents pre-financial crisis and Table 6 represents post-financial crisis. With management holdings under control, the coefficients for the number of female directors (LFDIR) and percentage of female directors (FDIRP) are -0.404 and -1.389, each significant at 5% and 1% significance level. With board holdings under control, both variables appear to have negative correlation even if their coefficients are not significant. The results show that both the number of female directors and the percentage of female directors before financial crisis have negative effect on stock price informativeness. While the results for both variables after the financial crisis are not significant even under control of management holding and board holdings,, and coefficients are negative. However, the coefficients for the number of directors (LDIR) are significantly positive under board holdings control (0.524, 0.365), implying that the number of directors has positive effect on stock price informativeness. On December 15, 2008, the Taiwan Stock Exchange Corporation announced that listed companies need to report their information on the directors' and officers' liability ance[8]which can increase information disclosure quality of listed companies(Liu, Liou and Jian; 2015). Our findings are consistent with theirs.

4. Conclusion

This study applies the concept in Gul et al. (2011), considering female board members and corporate governance in the discussion of the effect of female board member on stock price informativeness. The sample comes from the stock holding structure, financial reports, and stock price data from listed companies in Taiwanese tourism industry from 2000 to 2011, and analyzed with OLS regression analysis and robust test for empirical results.

The empirical results show that in listed companies in Taiwanese tourism industry, variables on number of female directors (LFDIR) and (FDIR) have negative effect on stock price informativeness and this corresponds to Boehren and Stroem (2007), i.e. firms with heterogeneous board have worse performance. In addition, that percentage of female directors (FDIRP) and female director threshold (FD2) have negative effect on stock price informativeness, which match the findings in Adams and Ferreira (2009). Management holdings (MGT) have positive effect on corporate price disclosure, which agree with Jensen and Meckling (1976). Also, the board holding (BOARD) has negative effect on corporate price disclosure. The results above indicate that female board member's positive effect on stock price informativeness agrees with Ferreira et al. (2011) and Dasgupta et al. (2010), while ownership

[8]Please see the article 3, paragraph 26 of Taiwan Stock Exchange Corporation's Rules Governing Information Reporting by Listed Companies (2008.12.15). http://twse-regulation.twse.com.tw/ENG/EN/law/DAT06.aspx?FLCODE=FL007250&FLDATE=20081215&LSER=001.

Table 3: The Effect of Number of Female Directors and Percentage of Female Directors on Stock Price Informativeness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	1.524***	2.057***	2.754***	2.247***	1.971***	1.549***	2.066***	1.810 ***
	(18.345)	(14.134)	(4.678)	(8.645)	(10.922)	(4.266)	(4.295)	(4.875)
GDIV= LFDIR			-0.113**				-0.219***	
			(-2.570)				(-3.266)	
GDIV= FDIRP				-0.386***				-0.624**
				(-2.791)				(-2.045)
LDIR			-0.066	-0.105			0.037	-0.107
			(-0.591)	(-1.654)			(0.418)	(-0.846)
GOV=MGT	46.296***	49.101***	51.950***	45.291***				
	(5.561)	(11.106)	(10.558)	(9.074)				
GOV= BOARD					-0.008*	-0.015***	-0.007*	-0.012**
					(-1.970)	(-2.696)	(-1.803)	(-2.173)
ROE		0.928	0.494	0.706		-0.799	-0.818	-1.240
		(1.408)	(0.855)	(0.893)		(-0.632)	(-0.621)	(-0.957)
VROE		5.055***	4.462*	4.686**		7.641**	7.223**	7.187***
		(2.696)	(1.996)	(2.345)		(2.388)	(2.035)	(2.705)
LEV		0.960 ***	0.817**	0.976***		0.364	0.773**	0.406
		(3.871)	(2.675)	(4.683)		(0.866)	(2.652)	(1.062)
MB		-0.021*	-0.020	-0.023		0.020	-0.002	0.025
		(-1.827)	(-0.976)	(-1.561)		(0.846)	(-0.140)	(1.227)
SIZE		0.000	0.000	0.000		-0.000**	-0.000	-0.000**
		(0.479)	(0.557)	(0.698)		(-2.088)	(-1.206)	(-2.288)
DD		0.146	0.156	0.107		0.586	0.443	0.438
		(1.557)	(0.936)	(1.148)		(2.440**)	(1.801*)	(1.999*)
AGE		-0.763***	-0.900***	-0.565***		-0.142	-0.460*	0.064
		(-12.167)	(-3.504)	(-5.716)		(-0.586)	(-1.873)	(0.246)
Adj R^2	0.752206	0.741661	0.774519	0.736283	0.735359	0.762239	0.741848	0.788152
N	84	71	71	71	86	71	64	71

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: The Effect of Other Gender Variables on Stock Price Informativeness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	1.823***	2.070 ***	2.040 ***	1.798***	1.804***	2.303***	1.823***	1.898***
	(5.430)	(6.578)	(4.979)	(5.399)	(4.071)	(9.075)	(8.302)	(6.371)
GDIV= FDIR	-0.066***			-0.064**	-0.066**			
	(-3.350)			(-2.483)	(-2.570)			
GDIV= FCHAIR		-0.100		-0.044				
		(-0.717)		(-0.298)				
GDIV= FCEO			-0.107		-0.061			
			(-1.107)		(-0.735)			
GDIV=FD						0.179		
						(1.417)		
GDIV=FD2							0.157***	0.157***
							(3.792)	(3.752)
LDIR	0.025	-0.001	0.022	0.038	0.051			-0.027
	(0.291)	(-0.016)	(0.192)	(0.426)	(0.435)			(-0.423)
GOV=	44.762***	49.501***	50.559***	44.745***	45.719***	50.588***	46.081***	46.603***
MGT	(8.819)	(10.912)	(8.368)	(8.649)	(6.969)	(9.604)	(10.189)	(10.397)
ROE	0.609	1.040	0.649	0.643	0.322	0.489	0.586	0.620
	(0.749)	(1.467)	(0.802)	(0.774)	(0.338)	(0.684)	(0.818)	(0.816)
VROE	5.092**	4.839**	5.174**	5.101**	5.336**	5.28 **	4.867**	4.712**
	(2.527)	(2.513)	(2.592)	(2.535)	(2.466)	(2.67)	(2.649)	(2.426)
LEV	1.007***	0.942***	0.578*	0.986***	0.728*	0.889***	1.090 ***	1.118***
	(4.314)	(3.794)	(1.755)	(4.341)	(1.932)	(3.99)	(5.573)	(5.643)
MB	-0.017	-0.023	-0.006	-0.016	-0.004	-0.013	-0.021	-0.024
	(-0.959)	(-1.217)	(-0.252)	(-0.904)	(-0.165)	(-1.076)	(-1.959*)	(-1.602)
SIZE	0.000	0.000	-0.000	0.000	-0.000	-0.000	0.000	0.000
	(0.287)	(0.313)	(-0.336)	(0.207)	(-0.247)	(-0.304)	(0.922)	(0.870)
DD	0.070	0.121	0.110	0.058	0.046	0.208	0.101	0.111
	(0.648)	(1.068)	(1.011)	(0.525)	(0.396)	(1.865*)	(1.024)	(1.064)
AGE	-0.541***	-0.751***	-0.68***	-0.543***	-0.498***	-1.016***	-0.665***	-0.668***
	(-4.585)	(-11.104)	(-6.395)	(-4.329)	(-3.296)	(-4.877)	(-6.307)	(-6.497)
Adj R^2	0.739167	0.730037	0.736905	0.734078	0.740277	0.740123	0.747706	0.742975
N	71	71	71	71	71	71	71	71

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: The Effect of Number of Female Directors and Percentage of Female Directors on Stock Price Informativeness before Financial Crisis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	2.461***	1.947***	2.987***	-0.229	2.023***	2.615**	5.800	2.366*
	(10.733)	(2.947)	(8.937)	(-0.082)	(13.988)	(2.492)	(1.558)	(1.888)
GDIV=LFDIR				-0.404**			-0.085	
				(-2.209)			(-0.396)	
GDIV=FDIRP			-1.389***					-0.813
			(-4.022)					(-1.104)
LDIR			-0.342**	-0.078			0.156	0.013
			(-2.397)	(-0.287)			(1.303)	(0.073)
GOV=MGT	27.941***	55.496***	62.154***	46.779***				
	(3.511)	(3.821)	(5.505)	(2.871)				
GOVE=					-0.008	-0.038***	-0.045***	-0.049***
BOARD					(-0.965)	(-3.046)	(-4.124)	(-2.965)
ROE		-4.658**	-5.912***	-5.563**		0.025	-0.169	-1.261
		(-2.52)	(-4.653)	(-2.229)		(0.01)	(-0.105)	(-0.446)
VROE		11.612**	15.057***	18.165**		3.074	1.402	5.08
		(2.374)	(3.402)	(2.436)		(0.694)	(0.479)	(1.228)
LEV		-0.485	-1.166	-1.488		0.4	0.408	0.139
		(-0.614)	(-1.331)	(-1.375)		(0.447)	(0.468)	(0.174)
MB		0.178***	0.138***	0.105		0.124**	0.13*	0.155*
		(3.902)	(3.681)	(1.056)		(2.177)	(1.804)	(2.031)
SIZE		-0.000***	-0.000***	-0.000		-0.000**	-0.000*	-0.000*
		(-4.291)	(-4.448)	(-1.305)		(-2.316)	(-1.906)	(-2.018)
DD		1.199***	0.943***	0.892		0.224	0.229	0.065
		(3.552)	(4.007)	(1.601)		(0.504)	(0.496)	(0.176)
AGE		0.437	1.091***	2.723		-0.662*	-2.695	-0.230
		(0.901)	(3.215)	(1.242)		(-1.729)	(-1.145)	(-0.447)
Adj R^2	0.725033	0.803357	0.918865	0.804206	0.732910	0.606140	0.722942	0.622320
N	54	39	39	33	52	39	33	39

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6: The Effect of Number of Female Directors and Percentage of Female Directors on Stock Price Informativeness after Financial Crisis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.841***	2.094***	-0.203	-0.090	1.159***	2.265***	0.721	1.237*
	(13.849)	(9.803)	(-0.127)	(-0.065)	(8.226)	(8.203)	(1.177)	(1.911)
GDIV=LFDIR			-0.078				-0.081	
			(-0.592)				(-0.746)	
GDIV=FDIRP				-0.394				-0.369
				(-1.182)				(-1.54)
LDIR			0.786	0.75			0.524***	0.365*
			(1.46)	(1.578)			(3.318)	(2.173)
GOV=MGT	67.685***	34.560	-24.37	-38.982				
	(5.143)	(0.937)	(-0.393)	(-0.589)				
GOVE=					-0.008**	0.008	0.008	0.010
BOARD					(-2.264)	(1.135)	(0.726)	(0.865)
ROE		1.005	1.657	1.808		1.936	1.378	1.343
		(0.534)	(0.773)	(0.855)		(1.271)	(0.782)	(0.762)
VROE		3.435	7.466	8.936		9.778	8.542	9.663
		(0.407)	(0.913)	(0.993)		(1.377)	(1.097)	(1.143)
LEV		0.755	0.494	0.555**		1.791**	1.196	1.433
		(1.63)	(1.363)	(2.228)		(2.362)	(1.173)	(1.291)
MB		-0.019	0.021	0.016		-0.077	-0.016	-0.031
		(-0.342)	(0.524)	(0.483)		(-1.617)	(-0.284)	(-0.507)
SIZE		0.000	0.000	0.000		0.000	0.000	0.000
		(0.096)	(-1.402)	(-1.691)		(1.158)	(-0.31)	(0.001)
DD		0.089	-0.323	-0.331		0.279	-0.097	-0.022
		(0.257)	(-0.862)	(-0.853)		(0.83)	(-0.24)	(-0.046)
AGE		-1.000***	-0.791***	-0.817***		-1.635***	-1.282	-1.444*
		(-3.135)	(-3.757)	(-4.719)		(-3.046)	(-1.761)	(-1.813)
Adj R^2	0.860723	0.501889	0.294054	0.272727	0.738973	0.493447	0.365098	0.371966
N	24	24	24	24	24	24	24	24

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

structure also shows significant effect on stock price informativeness, but in undetermined directions (Fan and Wong (2002), Lemmon and Lins (2003)).

As Taiwanese regulations on personal privacy, such as gender, education, and tenure and so on are not easily accessible, this study only takes board gender equality as primary variable throughout the study period from 2000 to 2011 on listed Taiwanese companies in the tourism industry, along with variables on corporate governance to investigate the effect on stock price informativeness. However, in terms of stock price informativeness, taking only gender as one variable may not be sufficient in the analysis. Therefore, future research plans might include board members' educational background, age, meeting attendance, salary and other factors as variables in examining the effect on stock price informativeness.References

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