Agency Problem with Staggered Board Structure

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ABSTRACT:

This paper examines the impact of agency problem on the relation between staggered board and firm value. Addressing the endogeneity problem, I find that staggered board is not necessarily value destroying. Further, I show that the impact of staggered board is not conditional on the severity of agency problem. The result is against the argument that the impact of staggered board differs in different firm types. The finding suggests that a firm optimally adopts and abolishes staggered board.

Keywords: staggered board, corporate governance, agency problem, firm value

INTRODUCTION:

Staggered board is a board structure in which directors have different overlapping terms, such that not all of the directors' terms expire at the same time. Commonly, directors in a staggered board are divided into three classes, where approximately one-third of the board of directors is elected each year for a three-year term. Staggered board serves as an anti-takeover defense because a hostile bidder cannot replace entire board of directors in a single proxy contest. Staggered board also makes it difficult for minority shareholders to elect a director. It is argued that staggered board structure is harmful to firm value by reducing the chance of hostile takeovers (Gompers, Ishii, and Metrick, 2003; Bebchuk and Cohen, 2005 among others). Empirical studies confirm a negative association between staggered board and firm value (Gompers, Ishii, and Metrick, 2003; Bechuck and Cohen, 2005; Cremers and Nair, 2005; and Faleye, 2007). Proxy advisory firms and corporate governance reform activists oppose staggered boards as well. The recent trend also shows that staggered board structure decreases in recent years with 60% of S&P 1500 companies and 80% of S&P 500 companies elect all directors annually. Nonetheless, some proponents argue that staggered board enhances firm value because it ensures board continuity and increases the negotiation power of managers from hostile takeover attempts. It also consistent with the fact that over 50% of large public firms continue to hold staggered board. The potential benefits and costs of staggered board suggests that the relation of staggered board and firm value is complex, non-linear. Endogeneity problem in the empirical tests and transaction costs could be responsible for the observed negative relation between staggered board and firm value (Ahn, Hong, and Kim, 2011; Coates, 2009). It is also possible that the impact of staggered board is detriment for some firms but not for other type of firms. In this vein, Coles, Daniel, and Naveen (2008), Chi and Lee (2009), and Duchin, Matsusaka, and Ozbas (2009) argue that the corporate governance structure has heterogeneous impact on firm value. In this paper, I examine whether staggered board is more value destroying for firms with severe agency problem. The previous studies show that the detrimental effect of staggered board is at least in part due to endogeneity problem between staggered board and firm value. After modeling for endogeneity, staggered board appears unrelated to firm value. The findings suggest the possibility that staggered board could be value destroying for some firms, but it could be value enhancing for others. Thus, I further examine the impact of potential agency problem on the relation of staggered board and firm value. If staggered board has any negative impact on firm value, it is more likely so for firms with severe agency problem. It is also like that managers of such firms are likely to maintain staggered board structure at the costs of shareholders. Empirical test shows that staggered board is not particularly value destroying for firms with severe agency problem. Therefore, the effect of staggered board is not conditional on the potential agency problem. The result is consistent with the notion that firms adopt staggered board structure if it is necessary to optimize firm value. It is also against the view that the impact of staggered board on firm value is heterogeneous to firm characteristics. This paper is organized as follows. Next, I discuss the related literature and develop hypotheses. It follows by sample data description, empirical tests, and discussion of the

result. Lastly, conclusion of the paper is presented.

Previous literature and hypothesis:

There are ample studies on the impact of corporate governance structure on firm value. Recent literature includes those of Gompers, Ishii, and Metrick(2003), Bebchuck, Cohen, and Ferrell(2004), Bechuck and Cohen (2005), Core, Guay, and Rusticus (2006), Gompers et al. (2003), Lehn, Patro, and Zhao (2007), Masulis, Wang, and Xie (2007), Bates, Becher, and Lemmon (2008), Duchin, Matsusaka, and Ozbas (2010), and Ahnand Shrestha (2013), among others. Arguably, staggered board is the formidable deterrent against hostile takeover attempts and thus it lowers firm value. Nonetheless, empirical evidence on the adverse impact of staggered board is inconclusive due to the endogeneity nature of the relation between staggered board and firm value. Previous empirical test utilizing OLS estimation ignores endogeneity problem and thus yields biased result. Poorly performing managers may use staggered board structure to entrench themselves against hostile takeovers. It is also likely that other unknown reasons may affect the decision to adopt and maintain staggered board structure. This paper uses Heckman's two-stage modeling to econometrically address the endogeneity problem in the estimation. If the endogeneity problem matters, the negative relation of staggered board and firm value weakens and may disappear in Heckman's model. Managers have incentives to maintain staggered board structure at the cost of shareholders. I argue that agency problem could provide incentive for managers to maintain value destroying staggered board. If this is the case, staggered board could be more detrimental for firms with severe agency problem. In empirical analysis, I test this implication of agency problem and find that staggered board does not particularly detrimental for firms with severe agency problem. Therefore, controlling for the endogeneity and the severity of potential agency problem, staggered board is unrelated to firm value, thereby the prevalence of staggered board till recent years can be justified.

Description of Data:

I collect data on staggered boards from RiskMetrics database for the period of year 2000 to 2006. After excluding firm year observations lacking financial information in Compustat database, the final sample has 6,410 firm-year observations by 1,555 unique firms.

Table 1 is descriptive statistics of variables used in analysis. In the sample observations, fifty eight percent of the firms have staggered boards. Firm performance or growth opportunities is measured with the market-to-book ratio. The average market-to-book ratio is 1.98 and median is 1.48. The average (median) market-to-book of firms with staggered boards is 1.88 (1.43), compared to 2.11(1.57) of firms without staggered boards. The difference is significant at 1% level. This suggest that firms with staggered board tend to have lower value or lower growth opportunities than firm without staggered boards. However, the causality is not established. That is, if firms with poor performance are more likely to adopt staggered boards, then staggered board may not trigger lower firm value. Firm characteristics are used as control variables. Firm size is the book value of assets, the number of segments measures the scope of business, and firm age is the number of years since the firm is covered on CRSP database. Book leverage is the book value of long-term debt to asset ratio, firm profitability is measured by operating margin, and the investment opportunity is measured with the ratio of capital expenditures to assets.

Table 1: Sample description

	All Observations Mean (Median)	Staggered Board Mean (Median)	Non-Staggered Board Mean (Median)
Staggered Board	0.58 (1.00)		
Market-to-Book	1.98 (1.48)	1.88 (1.43)	2.11 (1.57)
Firm Size ($ million)	5,130 (1,230)	4,048 (1,244)	5,258 (1,207)
Segment	2.94 (3.00)	3.01 (3.00)	2.84 (3.00)
Firm Age (Years)	26.1 (20.0)	25.9 (21.0)	26.3 (19.0)
Book Leverage	0.30 (0.31)	0.31 (0.32)	0.28 (0.29)
Operating Margin	0.16 (0.14)	0.16 (0.14)	0.17 (0.15)
Capex-to-Asset	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)
Observations	6,410	3,696	2,714

The association of staggered board and firm value:

In table 2, I examines the relation between staggered board and firm value. Dependent variable is firm performance measure by market-to-book ratio. Coefficients are reported with robust t-statistics in the parenthesis. *, **, and *** represent statistical significance level at 10%, 5%, and 1%, respectively. Regression model is estimated after controlling for

firm size, the number of segments, firm age, book leverage, operating margin, and investment rate.

Model (1) of table 2 is the result from Ordinary Least Squares (OLS) model. As in Bebchuk and Cohen (2005) and Faleye (2007), the coefficient on staggered board is significantly negative, -0.16. Although the result implies that staggered board destroys firm value, such causality is not established because OLS model lacks control for unobservable factors. In the presence of the endogeneity, inference from OLS model is biased. For model (1), adjusted R-squared is 33%, suggesting that some important variables are missing from the regression model.

In model (2), fixed-effect model is used with year dummy variables and industry fixed-effect defined at the two digit SIC. Firm fixed effect couldn't be used here because firms almost do not alter their status of staggered boards over time. Therefore, the inference from the fixed effect model is limited and I turn to Heckman's model to address the endogeneity problem more formally. From the fixed effect model, the coefficient on staggered board is 0.123. Unlike the OLS result, the fixed effect model fails to detect the adverse impact of staggered board. Ahn and Shrestha (2013) also note the positive effect of staggered board for some firms. For model (2), adjusted R-squared is 75%. Thus, the fixed effect model enhances estimation with higher explanation power and it also suggests that OLS estimation is misspecified.

Table 2: The association between staggered board and firm value

	(1) OLS Regression	(2) Fixed Effect Model	(3) Heckman Two-Stage
Staggered Board	-0.160[***] (-4.92)	0.123 (1.28)	1.446[*] (1.87)
Firm Size	0.059[***] (3.92)	-0.736[***] (-10.35)	0.063[***] (4.06)
Segment	-0.154[***] (-5.80)	-0.022 (-0.54)	-0.199[***] (-5.42)
Firm Age	-0.077[***] (-3.39)	-0.577[***] (-3.89)	-0.013 (-0.32)
Book Leverage	-1.031[***] (-9.17)	-0.804[***] (-5.12)	-1.096[***] (-11.19)
Operating Margin	3.593[***] (15.91)	2.507[***] (7.85)	3.846[***] (19.29)
Capex-to-Asset	2.140[***] (5.09)	0.807[*] (1.80)	2.293[***] (4.92)
Intercept	1.266[***] (6.22)	8.946[***] (11.90)	0.229 (0.30)
F-stat	39.4[***]	36.4[***]	
Adj.R^2	0.33	0.75	
Lambda (λ)			-0.99[**] (-2.08)
Chi^2			2,648[***]
Observations	6,410	6,410	6,410

Although the fixed effect model alleviates the endogeneity issue, it is not complete. There might be some additional factors that cause a spurious relation between staggered board and firm value. Firms with staggered boards could be fundamentally different from those firms without staggered boards. This self-selection problem could be modeled with Heckman's two-stage procedure. The instrumental variables used are state antitakeover laws as introduced by John and Kadyrzhanova (2009) and Ahn, Goyal, and Sherestha (2013). First instrument is a dummy variable indicating a firm's incorporation in the state of Massachusetts. The second instrument is the passage of state Business Combination laws.

Model (3) of table 2 presents the result from Heckman's two-step procedure. The coefficient on staggered board is positive 1.446. The inverse Mills ratio (λ) is negative and statistically significant. Thus, after correcting for the impact of unobservable factors, staggered board does not destroy firm value. The evidence thus indicates that the OLS regression is incorrect and biased.

Agency problem and staggered board:
In the previous section, staggered board appears to be unrelated to firm value after controlling for endogeneity. The result is consistent with the view that most of firms optimally adopt staggered boards. It also

explain why staggered boards survive under enormous pressure from shareholder activists to abolish staggered boards. To further confirm the findings, I examines the effect of staggered board on the severity of agency problem. Under no market frictions, firms will optimally adopt classified boards if the benefit of staggered board exceeds its cost of managerial entrenchment. Under this optimal adoption scenario, I would not observe any significant relation between staggered board and firm value. However, when there is non-trivial transaction cost such as agency conflict to make adjustment from the current governance structure, firms may temporarily have sub-optimal governance structure (Core and Larcker, 2002). Therefore, if the negative relation between staggered board and firm value exists, the entrenchment effect of staggered board is more detrimental to firm value for firms with severe agency problems. Following the agency theory of ownership structure, the severity of potential agency problem is measured with directors' share ownership. Higher share ownership by managers and outside directors better aligns the interest of managers with that of shareholders and thus could reduce the adverse impact of staggered board. I construct an indicator variable that takes the value of one if the firm has directors' share ownership below the bottom one-third value and zero, otherwise. The indicator variable is referred to as "High Agency".

Table 3 reports the result that tests the interaction of staggered board with the severity of agency problem (High Agency). Model (1) reports the result from OLS regression. As before, the coefficient on staggered board is significantly negative. The coefficient on High Agency is insignificant -0.028, suggesting firm value is not materially affected by agency problem. In addition, the interaction term between staggered board and High Agency is 0.092 and insignificant. The result suggests that the impact of staggered board on firm value is not worse for firms with. If there is any, the interaction term is positive, though statistically insignificant.

Table 3: Agency problem and staggered board

	(1)	(2)
	OLS Regression	Heckman Two-stage
Staggered Board	-0.190***	1.484*
	(-4.81)	(1.92)
High Agency	-0.028	-0.111
	(-0.49)	(-1.59)
Staggered Board×High Agency	0.092	0.098
	(1.47)	(1.56)
Firm Size	0.055**	0.070***
	(3.19)	(3.85)
Segment	-0.154***	-0.201***
	(-5.81)	(-5.44)
Firm Age	-0.078***	-0.007
	(-3.41)	(-0.17)
Book Leverage	-1.032***	-1.102***
	(-9.18)	(-11.09)
Operating Margin	3.588***	3.852***
	(15.90)	(19.16)
Capex-to-Asset	2.150***	2.305***
	(5.11)	(4.89)
Intercept	1.318***	0.155
	(6.22)	(0.19)
F-Stat	38.34***	
Adj. R^2	0.33	
Lambda (λ)		-1.033**
		(-2.17)
Chi^2		2601.1***
Observations	6,410	6,410

Model (2) presents the result from Heckman's two-stage regression. Here again, the coefficient of staggered board is positive. The interaction term of staggered board with High Agency is 0.098. Therefore, this indicates that the severity of agency problem does not exacerbate the entrenchment effect of staggered board. The results are robust to alternative definition of the potential agency problem. In particular, I construct indicator variables based on the bottom one-third values of CEO ownership, and the proportion of independent directors. Following Chi and Lee (2009) and Jensen (1986), I also measure the potential agency

problem with a firm's free cash flows. In the case, high agency is defined as firms having free cash flows-to-asset ratio above the top one-third value of the sample distribution. In untabulated results, the coefficients on the interaction terms between staggered board and the measure of potential agency problem are all insignificant. Chi and Lee (2010) also find consistent evidence that the interaction of staggered board and free cash flow is insignificant. They conjecture that the insignificant result occurs because other corporate governance variables subsume the effect of non-staggered board in constraining the free-cash flow conflict. Overall, the result reinforces the view that staggered board is unrelated to firm value after correcting for the endogeneity issue including agency problem.

CONCLUSION:

In this paper, I examine the relation between staggered board and firm value. The previous empirical studies document a negative relation between staggered board and firm value. These result suggests that managers would abolish staggered board structure to maximize firm value. Nonetheless, many firms maintain staggered board structure till recently. After econometrically addressing the endogeneity problem, the negative relation between staggered board and firm value disappears. The result is consistent with the view that a firm's decision to use staggered board structure is optimal. I further test a model specification that includes potential agency problem. Grounded in agency theory, I examine the relation between classified boards and firm value as a function of the severity of agency problem. The result shows that staggered board is not necessarily detrimental for firms with severe agency problem. The finding suggests that a firm adopts staggered board when it is optimal and abolishes it when it is value destroying. The result also suggests that the impact of staggered board on firm value is complex and non-linear.

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