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Classified Boards and Managerial Entrenchment: Evidence from Seasoned Equity Offerings

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Abstract

We investigate the effect of classified boards on the market reaction to seasoned equity offering (SEO) announcements and the operating performance following SEOs. We find that firms with classified boards on average earn lower SEO announcement returns and have worse abnormal operating performance following SEOs relative to firms with unitary boards. Our results support the view that classified boards entrench managers and are ineffective in preventing them from misusing funds raised in SEOs.

Key words: classified boards; secondary equity offering; managerial entrenchment

JEL classification: G31; G32; G34

1. Introduction

We provide evidence that poor governance in the form of classified boards can partly explain the negative market reaction to seasoned equity offering (SEO) announcements and the decline in operating performance following SEOs. Previous studies have documented a significant negative stock price reaction to announcement of SEOs. Myers and Majluf (1984) propose an adverse selection hypothesis, where they argue that firms in the presence of information asymmetry between managers and outside investors are more likely to issue equity when the equity is overvalued. Thus, the announcement of an equity offering conveys negative information about firm value.

Another explanation for this negative reaction is agency conflicts between managers and shareholders. This agency explanation, formally introduced by Jung et al. (1996), argues that when managerial interests are misaligned with shareholder interests, managers may undertake value-destroying investments in order to increase

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their private benefits of control. Such misuse of funds raised through equity offerings, if anticipated by investors, could be a possible explanation for negative reactions to SEO announcements.

The notion that SEO firms might sub-optimally invest the proceeds raised through an offering can be traced back to the free cash flow hypothesis proposed by Jensen (1986). Jensen (1986) suggests that a managerial tendency to overinvest is a direct result of empire building and compensation considerations since larger firms offer more private benefits and compensation to their executives. The agency costs of free cash flow are widely documented in the literature. Jensen (1986) points out the overinvestment problem in the petroleum industry had occurred as a direct result of excess free cash flow generated due to high oil prices. Fu (2006) tests the overinvestment hypothesis for SEO firms and concludes that free cash flow problems increase after a firm has gone through a SEO.

Recent empirical research has outlined the importance of corporate governance in understanding the negative reaction to SEOs. Ferreira and Laux (2007) provide evidence that independent directors acting as effective monitors not only help in preventing misuse of funds raised through a SEO but also help in reducing adverse selection, which is often cited as one of the standard explanations for negative announcement returns to SEOs. Kim and Purnanandam (2006) argue that misaligned interests between managers and shareholders is an important determinant of market reaction to SEOs and show that SEO announcement returns are positively related to the sensitivity of managers' wealth to stock price movement.

This paper extends the above literature by looking at the role of board structure (i.e., classified versus unitary) in explaining part of the negative performance of firms going through a SEO. In a unitary board, directors are elected for one year terms at the firm's annual meeting. In contrast, a classified board is a board structure in which every year only a fraction of the directors are elected, each for multiyear terms. Usually, a classified board has three classes of directors, which is the largest permissible number of classes in most states of incorporation.

Although classified boards have encountered growing resistance from activist shareholders and institutional investors during the past decade, a majority of American corporations still utilize such a board structure. Koppes et al. (1999) argue that classified elections encourage board independence and increase the effectiveness of directors in their role as monitors. This also ensures board stability, as the majority of directors serving at any given time have prior experience as directors, thus providing in-depth knowledge of the functioning of the firm and the industry as a whole. Finally, a classified board discourages short-termism by allowing directors to focus on long-term strategies and enhance the firm's ability to create value.

The empirical evidence on classified boards, however, portrays a dismal picture of their effectiveness. Bebchuk and Cohen (2005) provide evidence that classified boards are associated with a lower firm value. Faleye (2007) shows that classified boards reduce director effectiveness, leading to managerial entrenchment and therefore resulting in destruction of shareholder value. Richardson (2006) finds

evidence that firms utilizing a classified board structure are associated with higher levels of overinvestment of free cash flow.

The above lines of reasoning allow us to construct two alternate testable hypotheses regarding market reaction to SEO announcements. The first hypothesis, which we will refer to as the monitoring hypothesis, posits that if classified boards monitor managers more efficiently and are more effective in preventing them from misusing funds raised in SEOs, then we would expect a less negative market reaction to SEO announcements and higher operating performance following SEOs for firms with classified boards relative to firms with unitary boards. On the other hand, if classified boards entrench managers and are ineffective in preventing them from misuse of funds raised in SEOs, we would expect a more negative market reaction to SEO announcements and lower operating performance following SEOs compared to firms with a unitary board structure. We will refer to this as the entrenchment hypothesis.

We contribute to the literature by demonstrating that poor governance in the form of classified boards can partly explain the negative market reaction to SEO announcements. Our empirical results are consistent with the entrenchment hypothesis. The main findings of our paper are the following. Our analysis of cumulative abnormal returns (CARs) around SEO announcements shows that firms with a classified board structure have significantly lower CARs than firms with a unitary board structure. Also, our results from the multivariate regression of CARs on board classification show that announcement returns of SEOs are more negative for firms with a classified board structure compared to firms with a unitary board after controlling for firm and issue characteristics. Moreover, markets react negatively to the capital expenditures by firms with a classified board structure following the SEOs. Our results from the regression analysis of change in operating performance suggest that firms with classified boards have lower abnormal operating performance compared to firms with unitary boards.

2. Sample Construction and Variable Definitions

2.1 Sample Construction

Our data for this study are obtained from multiple sources. We obtain data on SEOs from the Thompson Financial Securities Data Corporation (SDC) database for the period 1995–2002. We require that SEOs must be for common stock by US issuers and that the stocks are listed on NYSE, NASDAQ, or AMEX. To be included in our sample, the SEOs must include some primary shares in the offering since pure secondary offerings do not produce proceeds to the issuing firm. We remove utilities (SIC codes 4910–4949) and financial firms (SIC codes 6000–6999) and exclude shelf offerings. We require that the offer price for the issue must at least be $1 to prevent the possibility of bid-ask bounce dominating our analysis. We also require that the financial data on book value of total assets (COMPUSTAT data 6) and operating income (COMPUSTAT data 13) must be available for the fiscal year of the SEO.

Finally, for our operating performance analysis, a SEO will be included in our sample only if the issuing firm does not have a SEO in the last three years prior to the current SEO. Thus, once a firm has a SEO, the firm cannot re-enter the SEO sample within three years of the issue date.

We then merge the resultant sample with the sample on board classification from Faleye (2007) for the period 1995–2002. The Falaye (2007) sample is constructed from proxy statements filed with the US Securities and Exchange Commission in 1995. The sample excludes mutual funds, real estate investment trusts, limited partnerships subsidiaries, and firms with incomplete data in COMPUSTAT. The sample includes only those firms that maintain a unitary or a classified board structure for the whole period 1996–2002. Furthermore, all firms included in his sample do not change their board structure since 1990, thus ensuring that sampled firms not only have the same board structures throughout the empirical window of the study but also have not changed their structures for at least five years prior to the sample period. This goes a long way in mitigating the self-selection problem that has been well documented in the literature regarding the endogenous relation between firm performance and board structure. Since our operating performance analysis looks at a three-year window following a SEO, we extend the Falaye (2007) sample to 2005. For firms that issued stock during 2000–2002, we look at the issuing firm's proxy statement to check whether the firm maintains the same board structure that it utilized prior to the SEO for a period of three years following the SEO. Merging our initial sample of SEOs with the Faleye (2007) sample gives us a total of 210 SEOs.

In Table 1 we report the total and yearly distribution of SEOs in our sample. We also report the mean and median value of market capitalization (*Market Cap*) at the end of the fiscal year prior to the issuance, the amount of money raised through the SEO (*Proceeds*), and the amount of money raised through the SEO as a fraction of the firm's market capitalization (*Offer Size*) at the end of the fiscal year prior to the SEO. Panel A reports the summary for all 210 firms, Panel B for the 108 firms with a classified board structure, and Panel C for the 102 firms with unitary board structure. Thus we see that the sample is divided fairly evenly between firms with classified boards and unitary boards and this observation holds for all years in our sample. The maximum number of SEOs in a year is 58 (this occurs in 1996) and the minimum number of SEOs in a year is 5 (this occurs in 2001).

The mean (median) *Market Cap* for all firms is $870 million ($194 million), for firms with classified boards is $848 million ($254 million), and for firms with unitary boards is $894 million ($163 million). The mean proceeds from the offering for all firms is $96 million (39% of pre-issue market capitalization), for firms with classified boards is $98 million (36% of pre-issue market capitalization), and for firms with unitary boards is $93 million (42% of pre-issue market capitalization). The large *Offer Size* for both firms with either board structure indicates that the SEOs are important events for our sample firms.

Table 1. SEO Sample Distribution by Issue Year

Panel A: All SEOs

Year	Number of SEOs	Percent of Sample	Mean Market Cap	Mean Proceeds	Mean Offer Size	Median Market Cap	Median Proceeds	Median Offer Size
1995	50	23.6	933	67	0.31	148	45	0.25
1996	58	27.8	364	86	0.49	153	58	0.36
1997	31	14.6	200	53	0.42	134	41	0.28
1998	15	7.1	2192	180	0.37	252	57	0.25
1999	17	8.0	1644	116	0.46	256	77	0.23
2000	16	7.5	1269	177	0.45	502	118	0.20
2001	5	2.4	690	75	0.13	639	58	0.15
2002	18	9.0	1349	124	0.21	523	94	0.16
Total	210	100.0	870	96	0.39	194	58	0.26

Panel B: Classified Board

Year	Number of SEOs	Percent of Sample	Mean Market Cap	Mean Proceeds	Mean Offer Size	Median Market Cap	Median Proceeds	Median Offer Size
1995	26	24.1	332	62	0.28	188	54	0.26
1996	29	26.9	379	92	0.49	195	67	0.37
1997	18	16.7	206	50	0.42	155	44	0.27
1998	6	5.6	2783	201	0.23	267	60	0.22
1999	7	6.5	3288	154	0.24	294	105	0.23
2000	8	7.4	700	161	0.55	719	139	0.40
2001	3	2.8	430	65	0.15	389	58	0.15
2002	11	10.2	1970	148	0.17	896	106	0.10
Total	108	100.0	848	98	0.36	254	62	0.25

Panel C: Unitary Board

Year	Number of SEOs	Percent of Sample	Mean Market Cap	Mean Proceeds	Mean Offer Size	Median Market Cap	Median Proceeds	Median Offer Size
1995	24	23.5	1583	72	0.33	135	36	0.24
1996	29	28.4	349	81	0.48	134	44	0.32
1997	13	12.7	191	57	0.40	118	33	0.33
1998	9	8.8	1798	165	0.47	132	50	0.43
1999	10	9.8	494	89	0.62	206	70	0.26
2000	8	7.8	1837	194	0.35	325	112	0.15
2001	2	2.0	1079	90	0.09	1079	90	0.09
2002	7	6.9	371	85	0.27	464	91	0.25
Total	102	100.0	894	93	0.42	163	54	0.27

In Table 2 we report the industry distribution of SEOs in our sample. We use the 12-industry classification of Fama and French obtained from

http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. We find that almost all industries are represented in our SEO sample and that the distributions of industry groups are similar for firms with classified and unitary boards, suggesting that our analysis is unlikely to suffer from industry-induced biases. Firms belonging to the Business equipment industry represent roughly 24% of our sample, whereas Manufacturing, Shops, Healthcare, and Energy represent roughly 23%, 12%, 11%, and 9% respectively of our sample. The statistics are roughly similar for classified and unitary boards.

Table 2. Industry Distribution

Industry	All SEOs	Classified Board	Unitary Board
Business equipment	50	26	24
Chemicals	5	3	2
Consumer durables	8	2	6
Consumer nondurables	9	5	4
Energy	19	13	6
Healthcare	23	10	13
Manufacturing	48	30	18
Shops	26	11	15
Telecom	6	2	4
Other	16	6	10
Total	210	108	102

2.2 Variable Definitions

Our key explanatory variable in the analysis is a dummy variable *Cboard* that equals 1 if the issuing firm has a classified board and 0 otherwise. We draw control variables from the previous literature. We include market-to-book ratios (*MB*) to control for the growth opportunity of a firm. A *MB* ratio is computed as the market value of the firm's equity plus the book value of assets minus the book value of equity divided by the book value of assets. As Kim and Purnanandam (2006) argue, growth firms have more profitable projects, and investors believe that these firms are less likely to conduct value-destroying investments. We expect *MB* ratios to be positively related to announcement returns. We also include past returns (*Past Return*), which are measured as the firm's raw buy-and-hold return over a period of one year prior to the SEO issue date. Previous studies provide competing views on the effect of firms' past returns (see Kim and Purnanandam, 2006). Firms' past returns can be considered as a proxy for the availability of good projects. However, firms' past return can also be considered as a proxy for overvaluation of stocks since firms are more likely to issue equity when their stocks are overvalued. Therefore, we do not clearly predict the relation between firms' past returns and announcement returns.

We control for firm size (*Log*(*TA*)), which is defined as the natural logarithm of the firm's total assets. Larger firms are more likely to be under greater scrutiny and are more likely to be followed more actively by analysts and financial press. Therefore, firm size tends to reduce the information asymmetry (Ferreira and Laux,

2007). We expect a positive relationship between firm size and announcement returns. Following Kim and Purnanandam (2006), we include a firm's cash divided by total assets (*Cash*) to control for financial slack of a firm since financial slack of the firm may reduce the problem of adverse selection.

We control for firm leverage (*Leverage*), which is defined by the sum of debt in current liabilities plus long-term debt divided by total assets. Prior research provides competing arguments on the effect of firm leverage. Leverage can reduce the agency problems by controlling managerial discretion (e.g., Stulz, 1990). On the other hand, high leverage can create incentives to invest in risky negative net present value projects at the expense of lenders (Jensen and Meckling, 1976). Therefore, we do not have a clear prediction about the relationship between leverage and announcement reruns. Following Bates (2005), we include *CAPEX*, which is defined as the difference in capital investments as a fraction of total assets for the issuing firm and the median firm in the same industry (based on two-digit SIC code) as the issuing firm for the fiscal year following the issue. The variable *CAPEX* gives us a measure of relative investment of the issuing firm compared to the median firm in the same industry. Bates (2005) argues that this measure of capital expenditure should, under rational expectations, provide a reasonable ex-post proxy for ex-ante expected investment.

To control for the economy of scale effect (e.g., Ferreira and Laux, 2007), we include *Offer Size*, which is defined as the amount of proceeds raised from the SEO divided by market capitalization at the end of the fiscal year prior to the issue. We expect the offer size of the equity issuance to be positively associated with announcement returns (Smith, 1977). We create a dummy variable *Secondary* that equals 1 if some secondary shares are included in the SEO offering and 0 otherwise. Bates (2005) shows that retention of proceeds from asset sales can lead to reduction in shareholder welfare if the firm has poor growth opportunities. We include a dummy variable *Retention* that equals 1 if the firm intends to retain the proceeds from the SEO for any corporate purpose other than to retire debt or repurchase equity and 0 otherwise. If more than one use of the proceeds is stated, we choose the first stated use of proceeds. This information is obtained by initially conducting a Factiva search. If no information is found regarding the issuing firm's intended use of proceeds, we use the primary use of proceeds data provided in the SDC database. Since earnings management may affect investors' response to the announcement of a SEO, we control for *Accrual*, which is measured as the difference between net income and cash flow from operations divided by total assets (e.g., Kim and Purnanandam, 2006).

We also control for variables of governance attributes. We collect information about insider ownership and board of directors from proxy statements. We control for the shares held by executives and officers (*Insider Ownership*) as a percentage of total shares outstanding. To control for board of directors effects, we include both board size and independence. *Board Size* is measured as the number of directors on the board divided by the log of total assets. We measure *Board Independence* as the ratio of outside independent directors to total directors. We also include a dummy

for Delaware inclusion; *Delaware* equals 1 if the firm is incorporated in Delaware and 0 otherwise.

In Table 3 we report the mean (median) value for the control variables for the whole sample and the sub-samples corresponding to classified and unitary boards. On average, executive officers and directors of firms with classified boards own about 19% of outstanding shares, while executive officers and directors of firms with unitary boards own 23% of outstanding shares. The mean (median) value of *Log*(*TA*) for firms with classified boards is 5.508 (5.256) and for firms with unitary boards is 5.018 (4.783). The statistics indicate that mean value of *MB* is 2.114 for firms with classified boards and 2.657 for firms with unitary boards. The average firm with a classified board has *Leverage* of 27.3%, while the average firm with a unitary board has *Leverage* of 26.8%. The mean *Cash* is 0.101 for firms with classified boards and 0.160 for firms with unitary boards.

Table 3. Summary Statistics

	All SEOs (N=210)	**Classified Board (N=108)**	**Unitary Board (N=102)**
Insider Ownership	20.626	18.635	22.733
	(12.430)	(10.860)	(13.300)
Board Size	1.610	1.579	1.642
	(1.573)	(1.543)	(1.596)
Independent Directors	0.638	0.652	0.622
	(0.667)	(0.667)	(0.625)
Log(TA)	5.270	5.508	5.018
	(5.078)	(5.256)	(4.783)
CAPEX	0.029	0.026	0.033
	(0.004)	(0.005)	(0.003)
MB	2.378	2.114	2.657
	(1.574)	(1.506)	(1.761)
Leverage	0.270	0.273	0.268
	(0.253)	(0.280)	(0.225)
Cash	0.129	0.101	0.160
	(0.054)	(0.039)	(0.057)
Past Return	1.175	1.071	1.286
	(0.758)	(0.669)	(0.884)
Offer Size	0.388	0.361	0.417
	(0.261)	(0.253)	(0.268)
Accrual	–0.050	–0.045	–0.055
	(–0.044)	(–0.040)	(–0.052)
Delaware	0.576	0.583	0.569
	(1.000)	(1.000)	(1.000)
Retention	0.538	0.519	0.559
	(1.000)	(1.000)	(1.000)
Secondary	0.405	0.398	0.412
	(0.000)	(0.000)	(0.000)

Interestingly, firms with unitary boards are more likely to retain the proceeds raised in the SEOs and spend more capital expenditures following the SEOs. On average, 51.9% of firms with classified boards indicate that the proceeds raised in the SEOs will be retained for any corporate purpose, while 55.9% of firms with unitary boards indicate that the proceeds will be retained. Also, average *CAPEX* following the SEO is 0.026 for firms with classified boards and 0.033 for firms with unitary boards. This suggests that if investors react more unfavorably to SEO announcements by firms with classified boards than by firms with unitary boards, this is not because investors are worried about the absolute amount of the spending itself but because they are apprehensive about the agency problems in the use of raised funds.

We also check the level of free cash flows for issuing firms for the fiscal year prior to the SEO. Free cash flow is calculated as the ratio of operating income before depreciation minus interest expenses minus income taxes minus capital expenditures by total assets. It would not be unreasonable to presume that firms raise funds through a SEO because they are cash constrained and need additional capital to finance investments. Table 4 is consistent with this insight. Looking at the free cash flow in the fiscal year prior to the SEOs, Table 4 shows that free cash flow is on average negative for all SEO firms, suggesting that cash constraints might indeed be a motivation for firms to access the equity market to raise funds. Splitting the sample into unitary and classified boards, however, shows that free cash flow is significantly higher for classified boards compared to unitary boards. Moreover, free cash flow for firms with classified boards is positive on average whereas it is negative for firms with a unitary board structure. It is possible that the market also questions the necessity of firms with classified boards to raise capital in the first place, which may partly explain the significant negative reaction to SEOs. In an unreported test, we confirm that there is no significant difference between free cash flows between firms with classified and unitary boards for the fiscal year following SEOs, suggesting that classified boards might be investing at a faster pace compared to unitary boards following the SEO.

Table 4. Free Cash Flow Prior to SEOs

	Mean	**Median**	**N**
All SEOs	–0.005	0.035	199
Unitary Board (A)	–0.031	0.027	97
Classified Board (B)	0.020	0.040	102
(A) − (B)	–0.051	–0.013	
	(0.018)	(0.068)	

Notes: P-values in parentheses are based on a t-test for the difference in means and a Wilcoxon rank-sum test for the difference in medians.

3. Empirical Tests

3.1 Announcement Returns

To get the announcement date of the SEO, we first search for any indication of a firm's plan for a SEO in all publications included in Factiva, including the Wall Street Journal and the Dow Jones News Retrieval Services. If we find any news publication of a firm's plan for a SEO, we consider the first occurrence of such a publication as the announcement date provided it is earlier than the filing date given in the SDC database. Otherwise, the filing date is used as the announcement date of the SEO.

In Table 5 we report CARs around the SEO announcement dates. CARs are computed using a standard market model with parameters estimated over days –249 to –50 relative to the announcement date. Panel A shows CARs for the event window (–1, +1) days and Panel B shows CARs for the event window (–1, 0) days. For each event window, the table reports the mean and median CAR for all SEOs, for firms with classified boards, and for firms with unitary boards. We test differences in means and medians based on a t-test and a Wilcoxon rank-sum test.

Table 5. Announcement Abnormal Returns and Board Classifications

Panel A: Event window (–1, +1)			
	Mean	**Median**	**N**
All SEOs	–0.022	–0.028	210
Unitary Board (A)	–0.014	–0.020	102
Classified Board (B)	–0.030	–0.033	108
(A) − (B)	0.016	0.015	
	(0.095)	(0.084)	
Panel B: Event window (–1, 0)			
	Mean	**Median**	**N**
All SEOs	–0.011	–0.015	210
Unitary Board (A)	–0.002	–0.006	102
Classified Board (B)	–0.019	–0.019	108
(A) − (B)	0.017	0.013	
	(0.030)	(0.029)	

Notes: P-values in parentheses are based on a t-test for the difference in means and a Wilcoxon rank-sum test for the difference in medians.

The results in Table 5 indicate that the average CARs around a SEO announcement for all SEOs is –2.2% over the announcement window (–1, +1) and –1.1% over the announcement window (–1, 0). The results suggest that, on average, investors react negatively to announcements of SEOs, which is consistent with the previous literature on the negative reaction to SEO announcements. The mean and median return differences between unitary and classified boards are positive and statistically significant for both event windows. Specifically, on average, firms with

a unitary board structure have CARs of –1.4% and –0.2% over the announcement windows (–1, +1) and (–1, 0), respectively, while firms with a classified board structure have CARs of –3% and –1.9% over the announcement windows (–1, +1) and (–1, 0), respectively. Thus, on average, classified boards earn 1.6% and 1.7% lower CARs over announcement windows (–1, +1) and (–1, 0), respectively, compared to unitary boards. Thus, the results suggest that the market reacts more negatively to SEOs for firms that have a classified board structure relative to SEOs for firms that have a unitary board structure. This result is consistent with our entrenchment hypothesis that poor governance in the form of classified boards can partly explain the negative reaction to SEOs.

3.2 Multivariate Analysis of Announcement Returns

In Table 6 we present the regression analysis of CARs on board classification. The response variable is the CARs for SEO firms during the event window (–1, 1) days surrounding the announcement date. Qualitatively similar results are obtained for the (–1, 0) event window.

Table 6. Regression Analysis of Announcement Returns and Board Classifications

	Model 1		**Model 2**		**Model 3**	
	Estimate	**p-value**	**Estimate**	**p-value**	**Estimate**	**p-value**
Cboard	–0.020	0.083	–0.021	0.073	–0.018	0.143
Insider Ownership	0.000	0.904	0.000	0.854	0.000	0.954
Board Size	0.000	0.997	0.001	0.798	0.000	0.867
Independent Directors	–0.047	0.150	–0.048	0.150	–0.041	0.256
Delaware	–0.003	0.826	–0.001	0.947	–0.004	0.760
MB	0.007	0.003	0.006	0.006	0.007	0.004
Past Return	–0.010	0.054	–0.010	0.054	–0.009	0.142
Log(TA)	0.012	0.013	0.010	0.040	0.008	0.129
Offer Size	0.023	0.304	0.016	0.451	0.019	0.381
Leverage	–0.001	0.978	0.008	0.804	0.006	0.859
Cash	0.046	0.320	0.042	0.348	0.015	0.797
Secondary	0.014	0.235	0.015	0.212	0.017	0.179
Retention			0.008	0.474	0.009	0.470
Accrual			–0.084	0.192	–0.069	0.351
CAPEX					0.065	0.379
Cboard×*CAPEX*					–0.246	0.023
N	210		210		199	
R^2	0.277		0.288		0.307	

Notes: Intercept coefficient estimates are not reported. All models include industry dummies (based on two-digit SIC code) and year dummies, whose coefficient estimates are also not reported. P-values are corrected for heteroscedasticity.

In Model 1, the coefficient on *Cboard* is negative and significant at the 10% level, which indicates that the market reacts more negatively to SEOs by firms with

classified boards relative to firms with unitary boards. This suggests that outside investors worry more about the misuse of funds raised in the SEO for firms with a classified board structure compared to firms with a unitary board structure. Therefore, this result is consistent with our entrenchment hypothesis.

The estimated coefficient on the *MB* ratio is positive and statistically significant at the 1% level. This result indicates that investors believe that firms with high growth opportunities conduct value-increasing investments by raising funds from the SEOs. The coefficient on *Past Return* is negative and statistically significant at the 10% level, which supports the view that firms are more likely to issue equity when their stocks are overvalued. The estimated coefficient of *Log*(*TA*) is positive and statistically significant at the 5% level. This evidence is consistent with the argument that firm size tends to reduce the information asymmetry. The coefficients on other control variables in Model 1 are not statistically different from zero. In Model 2, we add two more control variables: *Retention* and *Accrual*. The results are similar to those reported in Model 1 and the two added variables turn out to be not statistically significant.

In Model 3, we add the predictor variable *CAPEX* and the interaction term between *CAPEX* and *Cboard* to investigate the effect of investors' expectations about the increased capital expenditures after the SEO on the announcement returns. The estimated coefficient on the interaction term between *CAPEX* and *Cboard* is negative and statistically significant at the 5% level. This result supports the view that the market believes that firms with a classified board structure are more likely to conduct value-destroying expenditures using the proceeds from the SEO relative to firms with a unitary board structure. The coefficient on *Cboard* is negative but loses its statistical significance, suggesting that the potential to engage in value-destroying expenditures could be the primary concern that investors have when firms with classified boards announce their intention to raise funds through SEOs.

3.3 Multivariate Analysis of Change in Operating Performance

In this section we investigate the operating performance of firms following SEOs. We use a matching firm benchmark to compute abnormal operating performance. Similar to Barber and Lyon (1996) and Loughran and Ritter (1997), non-issuing matching firms are selected on the basis of industry, asset size, and operating performance. Each issuing firm is matched with a firm that has not issued equity during the three years prior to the issue date. To be included in the pool of candidate matching firms, the firms should be listed in COMPUSTAT and report operating income and total assets in a given calendar year. To be consistent with our sample selection criteria, we exclude utilities and financial firms and we include only firms with US common stocks listed on NYSE, NASDAQ, or AMEX. From this pool of candidate matching firms, we identify those firms with the same historical two-digit SIC code as the issuing firm and asset size between 25% and 200% of the issuing firm at the fiscal year of the issue (year 0). From these firms we select the firm with the closest OIBD/assets ratio to that of the issuing firm as the matching firm. Whenever no matching firm is available that meets these conditions,

we match on size and performance in the following way. We identify those firms with asset size between 90% and 110% of the issuing firm at year 0. From these firms we select the firm with the closest OIBD/assets ratio to that of the issuing firm as the matching firm. If a matching firm issues equity during the three years following the issue date, we do not replace it. However, if a matching firm is delisted, we replace it with the next best matching firm as of the original matching date. We require that the replacement firm must not have issued equity between the issue date and the replacement date. If an issuing firm is delisted, the matching firm is also removed at the same time. Therefore, we use the same number of event years for the issuing firm and matching firm.

To measure the accuracy of the matching process, we conduct a t-test and a Wilcoxon rank-sum test for the difference in the means (medians) of the issuer and non-issuer ratios of operating income and total assets. The mean (median) ratio for the issuing firms is 10.5% (12.4%) whereas the median ratio for the matched non-issuing firms is 10.8% (12.5%). The p-value for the difference in means is 0.819 and for the difference in medians is 0.871, implying that we cannot reject the hypothesis that the issuer and matched non-issuer ratios are drawn from the same distribution.

Table 7. Regression Analysis of Change in Operating Performance on Board Classification

	Estimate	**p-value**
Cboard	–0.052	0.036
Insider Ownership	0.000	0.464
Board Size	0.011	0.046
Independent Directors	–0.003	0.969
Delaware	0.012	0.655
MB	0.006	0.330
Log(TA)	–0.006	0.598
Offer Size	–0.006	0.797
CAPEX	0.017	0.900
N	199	
R^2	0.050	

Notes: Intercept coefficient estimates are not reported. P-values are corrected for heteroscedasticity.

In Table 7 we report the results of the regression analysis of change in matched-firm-adjusted operating performance. The response variable is the change in matched-firm-adjusted return on assets (ROA), measured as the difference between the median of matched-firm-adjusted ROA for the three years following the issue (years 1, 2, and 3) and matched-firm-adjusted ROA in the prior year to the issue (year –1). The matched-firm-adjusted ROA is calculated as the difference between the issuing firms's ROA and the corresponding ROA of the matching firm. We find that the coefficient on *Cboard* is negative and statistically significant at the 5% level. Firms with a classified board have 5.2% lower abnormal operating performance compared to firms with a unitary board. This result suggests that firms

with classified boards suffer from agency problems when the firms raise funds through the SEOs. This evidence supports our entrenchment hypothesis.

4. Conclusion

This paper attempts to understand the relevance of board classification in explaining the well-documented negative market reaction to SEOs. In particular, we show that announcement returns of SEOs are more negative for firms with a classified board structure compared to firms with a unitary board. More importantly, we show that the market believes that firms with a classified board structure are more likely to misuse the proceeds from the SEOs relative to firms with a unitary board structure. Our analysis of change in matched-firm-adjusted operating performance shows that firms with classified boards earn significantly lower abnormal operating performance following SEOs compared to firms with unitary boards. This is consistent with the market's expectation that firms with classified boards suffer from agency problems when the firms raise funds through the SEOs. Overall, our results support the entrenchment hypothesis that classified boards entrench managers and are ineffective in preventing them from misuse of funds raised in SEOs.

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