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## Board influence on the selection of external accounting executives

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### ABSTRACT

We hypothesize that boards of directors systematically influence the selection of external candidates to the top accounting executive position. This inquiry is motivated by prior evidence that boards influence the selection of external candidates to the CEO position, and by evidence that boards influence financial reporting outcomes. Analyzing a comprehensive sample of top accounting executive appointments from the United States we identify links between board attributes and the likelihood of an external accounting executive appointment. We also find that external appointments are more likely to be associated with forced compared to voluntary turnover. The importance of accounting executive turnover is reinforced by analysis of changes in discretionary current accruals. Together, the results are broadly consistent with boards being involved in the appointment of accounting executives, and monitoring in this way the firm's accounting function.

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**Data availability:** The list of firm-appointments, the data coded from each announcement, and the detailed board data from the proxy statements are available from the authors upon request.

## 1. Introduction

The recent financial reporting scandals and ensuing regulation have focused considerable attention on the executives in charge of the corporate accounting function. In particular, a rapidly growing number of academic studies have shed light on the link between financial reporting quality and financial executive turnover (e.g., [Arthaud-Day, Certo, Dalton, & Dalton, 2006](#); [Desai, Hogan, & Wilkins, 2006](#); [Geiger & North, 2006](#)), leading to a growing realization that the level of accounting quality is both an antecedent and a consequence of financial executive turnover. Importantly, analyzing financial executive departure alone does not provide a complete picture of turnover unless one considers the person replacing the departing executive. [Geiger and North \(2006\)](#) suggest that the origin of the successor is an important appointment parameter, and document evidence that externally appointed CFOs are associated with greater changes in discretionary accruals compared to internally promoted candidates.

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Casual observation suggests nearly half of all newly appointed financial executives are promoted from within the firm while the rest are selected from outside. Despite the apparent importance of the origin of financial executive hires, the conditions under which a firm opts for an external over an internal hire are not currently well understood. Further, although prior academic research has linked boards of directors to CEO successor affiliations (e.g., [Huson, Parrino, & Starks, 2001](#)), it is not a priori clear whether the findings of research linking boards to CEOs can be extended to lower level financial executives. The present study combines these two strands of research by examining the factors leading a firm to choose an external over an internal candidate to head its accounting function, and in particular the role of the firm's board of directors in making this decision. It is important to note this study focuses on top accounting executives, the officers of the corporation who are responsible for all accounting tasks, and have no non-accounting (e.g., finance) responsibilities. As explained in the next section of the paper, we believe this choice provides a cleaner setting for testing the role of boards in the turnover of the firm's accounting decision makers.

We posit three main expectations. First, we expect that accounting executive origin is dependent on the profile of the board of directors that is responsible for making the hiring decision. To the extent that hiring an external top accounting executive is more consistent with shareholder interests, then more diligent boards are expected to be more likely to hire an outside candidate to fill this position (see analogous empirical evidence for board influence on external CEO hires by [Boeker & Goodstein, 1993](#); [Borokhovich, Parrino, & Trapani, 1996](#); [Dahya & McConnell, 2005](#); [Huson et al. 2001](#); and theoretical evidence by [Hermalin, 2005](#)). Second, we expect that the need to hire an outside candidate will be more pronounced when the firm has exhibited poor accounting quality in the past, essentially forcing the departing executive out of the firm. The rationale is that a firm facing accounting problems is in a greater need for a change in its accounting policies. Finally, given that boards tend to become more active at times of crises, we expect that an effective board is associated with a higher likelihood accounting problems will lead to an external appointment.

To address the research questions in hand we compile and use an elaborate dataset combining data on appointee origin and turnover reasons that are coded from the appointment announcements; the appointing firm's board and ownership profile that is coded from corporate proxy statements; and data on accounting problems firms encountered that are identified through SEC filings, articles in the financial press, and GAO reports. The statistical tests employ a total of 941 firm-appointments, comparing the characteristics of 544 external and 397 internal firm-appointments.

Our analysis is separately performed for the pre- and post-Sox periods. This treatment is motivated by a long line of papers that are centered around the impact of Sox on corporate governance (e.g., [Burks, 2011](#); [Collins, Masli, Reitenga, & Sanchez, 2009](#)). The tension in this debate stems, on one hand, from the position that increased disclosure and tighter regulation following Sox trigger more effective monitoring through various facets of governance. On the other, there is a belief Sox regulation imposed additional unnecessary costs on firms, leading to seemingly homogeneous board structures without affecting the substance of governance quality. Therefore, a secondary quest of our paper is to extend earlier work, providing some empirical evidence of how accounting executive turnover, and the role of boards of directors upon it, changed after Sox regulation.

The results are consistent with the board of directors being involved in the determination of accounting executive origin. Other things equal, external appointments are more likely when the appointing firm has a more effective board. We also find evidence that in the post-SOX period external appointments are more likely in cases where accounting problems lead to forced turnover. Finally, in the post-SOX period accounting-related forced turnover leads to external appointment when boards are small.

Our results contribute to prior literature in the following ways: First, the results extend the rapidly growing financial executive turnover literature by illuminating empirical determinants of the appointed financial executive's origin, and providing evidence, albeit indirect, regarding the role of the hiring board in this decision. Our results from accounting executives appears to be aligned with existing evidence on the importance of external CEO and CFO appointments (e.g., [Arthaud-Day et al. 2006](#); [Desai et al. 2006](#); [Geiger & North, 2006](#)). Compared to external appointments in the CEO and, to a lesser extent, the CFO post, instituting change in a more strictly defined area like accounting is a more concrete task, suggesting there are specific steps external accounting hires can take to achieve change. Also, given the more specialized technical knowledge of the accounting job, compared to the higher level CEO and CFO posts which require a broader set of skills, the availability of more technically qualified accounting candidates externally is an important issue for the hiring bodies to consider.

Second, the results extend prior accounting research that has linked board attributes to accounting quality (e.g. [Agrawal & Chadha, 2005](#); [Dechow, Sloan, & Sweeney, 1996](#); [Klein, 2002](#); [Setia-Atmaja et al. 2011](#)) by empirically showing one specific means boards may employ to control accounting quality in public corporations; involvement in accounting executive hiring decisions. Third, our results extend prior evidence that has suggested boards are systematically involved in the likelihood of CEO turnover (e.g., [Huson et al. 2001](#); [Weisbach, 1988](#)) and the selection of a CEO replacement (e.g., [Boeker & Goodstein, 1993](#); [Borokhovich et al. 1996](#); [Huson et al. 2001](#)). Given that, in theory, boards delegate decision rights to CEOs to manage the firm's human capital, the extent of board involvement in the hiring of executives other than the CEO is not a priori clear. This study finds results that are consistent with boards being involved in the selection of lower level corporate executives. Finally, this study reports some evidence of discretionary accruals changes following accounting executive turnover, extending a large body of accounting research on discretionary accruals around other corporate settings, including studies focusing on CFOs and CEOs (e.g., [Bergstresser & Philippon, 2006](#); [Geiger & North, 2006](#)).

## 2. Background and hypotheses development

### 2.1. CEOs, CFOs, and top accounting executives

A considerable body of academic work has previously examined the CEO successor origin,<sup>2</sup> and the board's involvement in this decision. Below, to justify our separate study of the board's involvement in accounting executive origin, we discuss how top accounting executives are likely to differ from CEOs and CFOs in incentives and responsibilities as well as in their focus on the financial reporting function. We argue that the separate study of accounting executive turnover over and above CEO and CFO turnover is both relevant and interesting.

The responsibility of CEOs over the accounting function is analogous to their responsibility over every other function of the firm—it is ultimate but mostly indirect. Prior work has found that earnings management is often tied to CEO personal incentives, lending credence to the notion that CEOs may sometimes influence the financial reporting process. For example, [Bergstresser and Philippon \(2006\)](#) find that CEO equity and option incentives are tied to the magnitude of discretionary accruals. Further, there is at least some evidence to suggest that CEOs achieve such influence by forcing CFOs to succumb to CEO influence, rather than CFOs seeking earnings management for personal financial benefit ([Feng, Ge, Luo, & Shevlin, 2011](#)). In turn, CEOs appear to be targeted by the board in cases of financial misreporting. For example, the likelihood of CEO turnover and the length of a CEO's job tenure are negatively related to the firm's earnings management, measured by absolute discretionary accruals ([Hazarika, Karpoff, & Nahata, 2012](#)).

A related stream of work has recently provided evidence that CFOs have a distinct influence of their own on corporate policies, beyond CEOs. On one hand, CFOs have a scope that is more focused on financial reporting than CEOs. Further, following Sox CFOs have to sign off on the management certification and are thus usually held personally responsible for financial misstatements because misstatements are in their broad area of responsibility. On the other hand, however, CFOs are also responsible for the firm's treasury function; they are chiefly responsible for the firm's financing and investment decisions which may detract from their financial reporting responsibilities and cloud their attention to the accounting function. Furthermore, CFOs are frequently not accounting specialists. A Spencer Stuart 2001 survey suggests only 20% of the CFOs of Fortune 500 firms had a CPA certification, and [Aier, Comprix, Gunlock, and Lee \(2005\)](#) find the proportion of CFOs who were CPAs in their combined sample to be a little below 50%. [Aier et al. \(2005\)](#) argue that “instead of choosing CFOs based on their accounting backgrounds firms appear to have embraced a new revised role for the CFO ... (who is) ... prized more for his ability to raise money than as an accounting officer.” [Chara and Purnanandam \(2010\)](#) find that CFOs influence both financial reporting and corporate financing policies. Similar to evidence from CEOs, [Jiang, Petroni, and Wang \(2010\)](#) find that CFO equity incentives are correlated with financial reporting measures such as the magnitude of accruals and beating analyst forecasts; and [Indjelkian and Matejka \(2009\)](#) find that firms mitigate CFO misreporting practices by deemphasizing CFO incentive compensation.

The treasury and investor relations responsibilities of CFOs, the fact there is only a partial link between their accounting credentials and job responsibilities, and their occasionally distorted incentives cloud their role in shaping corporate accounting choices. In the sizeable number of cases where the CFO's main background is in finance, rather than in accounting, it is reasonable to expect that technical accounting issues are dealt with by the firm's chief accountant, not by the CFO. Even when the CFO has a background in accounting, it is likely that the accounting tasks are delegated to the firm's chief accountant and only supervised by the CFO. Therefore, one possibility is that CFOs influence financial reporting by exerting pressure on top accounting executives, much like CEOs do on CFOs, as described in [Feng et al. \(2011\)](#). That is, CFOs may indirectly influence financial reporting outcomes even when they are not involved first-hand in making accounting decisions.

Unlike CFOs, the responsibilities of top accounting executives are confined to accounting tasks, at least in theory.<sup>3</sup> Top accounting executives are responsible for all of the firm's accounting functions including the preparation of financial reports as per SEC requirements, preparing budgets and cost reports, adhering to internal controls, and preparing the firm's tax reports together with outside professionals. We therefore expect that, on average, accounting executives are the firm officials who are most involved in the determination of accounting policies. We believe that by focusing on the highest accounting-specific position in the firm, as opposed to the CFO or other financial executive positions, our analysis heightens the consequences of the hiring decision on accounting quality. The perspective we adopt in this paper is that the study of top accounting executives provides a relatively cleaner setting for studying how boards become involved in monitoring the firm's accounting infrastructure.

### 2.2. Benefits and costs of external accounting executive appointments

The endogenous determination of board structures has recently received significant attention by academic research (e.g., [Boone, Field, Karpoff, & Raheja, 2007](#); [Linck, Netter, & Yang, 2008](#)). One of the few empirical findings that have persisted

<sup>2</sup> The CEO succession literature has long recognized the importance of successor origin, illuminating the contrast between internal and external CEO selection (e.g., [Cannella & Lubatkin, 1993](#); [Dalton & Kesner, 1985](#); [Farrell & Whidbee, 2003](#); [Huson et al. 2001](#); [Parrino, 1997](#)).

<sup>3</sup> Top accounting executives are typically titled controllers or Chief Accounting Officers and frequently carry the vice president's title.

beyond endogeneity concerns is the board's influence on top executive turnover (e.g., Adams, Hermalin, & Weisbach, 2010). Notably, the appointment and replacement of the top executive team is one of the board's most important responsibilities. Weisbach (1988) first showed that board composition influences the decision to fire the firm's CEO. Much subsequent work has refined this link, with a subset focusing on the appointment process. In particular, Zajac and Westphal (1996) illuminate the role of board and departing CEO power in selecting the demographic profile of new CEOs. Further, there is a long line of research that has studied how board characteristics relate to the choice between internal and external successors for both CEOs (e.g., Boeker & Goodstein, 1993; Borokhovich et al. 1996; Huson et al. 2001; Park & Rozeff, 1986) and corporate directors (Shivdasani & Yermack, 1999). A primary theme emerging from this work is that board composition and ownership structure are important determinants of an outside CEO appointment. Importantly, despite the apparent relevance of external appointments, our understanding of executive origin is limited to CEOs. Nevertheless, there is an increasing body of evidence that lower level executives, including financial executives, play a value-relevant role in a publicly traded firm (e.g., Brochet, Faurel, & McVay, 2011; Ge, Matsumoto, & Zhang, 2011; Geiger, Lennox, & North, 2008; Mian, 2001). Geiger and North (2006) report evidence that external CFO appointments are associated with greater changes in discretionary accruals, and Vafeas (2009) reports that externally appointed controllers holding a formal accounting degree are positively valued by the stock market.

Analogous to arguments from the CEO literature, there appear to be both benefits and costs associated with externally appointed financial executives. The main cost of an external hire is that it is associated with lower firm-specific knowledge. An external hire is associated with a lower understanding of the firm's idiosyncrasies, and a disruption of continuity and the status quo in the accounting function. A second cost is that the skills and personality of an external candidate are known with less certainty.

On the other hand, an external hire is potentially beneficial because, first, it signals the consideration of a broader pool of talent outside the firm. Second, Hermalin (2005) argues that external hires are more desirable because their skills are known with less certainty compared to insiders. Given the option to dismiss a poorly performing executive, firms can enjoy the upside potential while escaping the downside risk of this option, which is more valuable when monitoring boards are more diligent.

Third, most importantly at times of crises, external hires are more likely to be "change agents" that can help revise the firm's accounting function to become better. The reason is that external hires were not involved in the development of the firm's accounting practices, and because they have no implicit "understanding" with senior management about how things should be done. Internal candidates are more likely to continue "more of the same" policies, signaling current management's control over the accounting area. It is plausible to argue that a precondition for a successful turnaround strategy in the accounting function is an external, and thus more independent, hire, who is more likely to produce objective accounting information.

The preceding discussion about the costs and benefits of accounting executive origin is differentiated from analogous literature on CEO successor origin on several dimensions. First, the value of firm-specific knowledge is likely to be relatively less important for an accounting executive compared to a CEO, and to a lesser extent a CFO. The standardized nature of accounting rules suggests accounting knowledge is more easily transferrable across firms, which lowers the value of firm-specific knowledge for accounting candidates. The value of firm-specific knowledge is potentially higher in a less structured post, such as that of CEO, with a less structured mandate. Therefore, in terms of firm-specific knowledge, an external accounting executive hire is likely to be less costly than an external CEO hire.

Second, the skills required for a top accounting position are better specified compared to the skills required for the CEO position. Therefore, it may be harder for a hiring body to justify appointing an internal accounting candidate who does not have the minimum required skills (e.g., having the CPA certification). This restriction may objectively narrow the pool of internal qualified candidates, dictating that a firm searches the external talent pool for a replacement. Similarly, because the required skills of candidates for the top accounting job are, on average, better defined, uncertainty about an external candidate's skills becomes a less relevant factor.

Further, it is much "safer" to blame an accounting executive in cases of accounting failure, (for example an irregularity giving rise to a restatement) because of the well-defined nature of accounting tasks. In the CEO's case the link between actions and firm-wide failure may exist, but it is often noisier and harder to pin down. When accounting problems arise it is easier to place blame internally, and to therefore justify an external accounting executive hire.

In a related vein, compared to external appointments in the CEO and CFO post, instituting change in a technical area like accounting is a more concrete task, involving distinct accounting method and estimate choices, suggesting there are specific steps external appointees can take to make a difference in financial reporting. After the external appointment, change is likely to show in the firm's accounting policies, such as in the choice of accounting methods and in the chosen level of discretionary accruals.

### 2.3. Board structure and external accounting executive appointment

Taking these arguments together, in this paper we posit that external accounting executive hires can be important contributors towards improving a firm's accounting function. Drawing from this discussion and prior work, a maintained assumption in this paper is that, on balance, accounting executives can foster change in the accounting function; change that is incremental to what is expected from external CEOs and external CFOs. Accordingly, we investigate the hypothesis that in addition to hiring CEOs, boards become involved in hiring financial executives and that, more specifically, board

characteristics influence the decision to hire an outside replacement for a departing accounting executive. The presumption is that boards seek to influence the quality of the financial reporting process through external accounting executive appointments.

In a nutshell, we follow prior work to argue that board profile is related to the likelihood the firm hires an external candidate as its top accounting executive. We use four governance measures to capture board effectiveness. First, we examine whether the representation of outside directors on the board influences the likelihood of an external appointment. Outside directors are more mindful of their obligations to shareholders, and have been found to be more likely to hire an external CEO candidate (Boeker & Goodstein, 1993; Borokhovich et al. 1996; Huson et al. 2001; Park & Rozeff, 1986). Second, we examine the role of the CFO in the accounting executive appointment. A CFO (who is practically always the top accountant's immediate supervisor) may be more inclined to continue the firm's previously established accounting policies by promoting someone from within who is more likely to adhere to management's wishes in running the accounting function; someone who has an "understanding" with the CFO about how things should be done. In general, more powerful CFOs, who supervise both the accounting and treasury and investment relations functions, may seek to maintain control over the accounting process by supporting the appointment of a replacement who already works under their supervision. We hypothesize that the influence of CFOs in making an internal hire will be greater when they are more powerful in the firm, and proxy for CFO power with a CFO board seat. That is, we expect that CFOs who also serve on the company's board are more powerful in the firm, and thus more likely to promote an internal candidate rather than accepting the appointment of an outsider to the top accounting position.

Third, we propose that accounting expert directors will influence the decision to hire an external accounting executive. The value of accounting expertise has previously been highlighted in numerous studies (e.g., DeFond, Han, & Hu, 2005; Srinivasan, 2005) in other contexts primarily pertaining to earnings quality. Importantly, we focus on accounting as opposed to non-accounting financial experts motivated by rapidly growing evidence that accounting-specific expertise is more important in making accounting-related decisions than non-accounting financial expertise (e.g., DeFond et al. 2005; Dhaliwal, Naiker, & Navissi, 2010; Krishnan & Visvanathan, 2009). Accounting experts are more likely to be discerning about hiring an independent and more capable candidate to head the firm's accounting function due to their more relevant knowledge and experience. The absence of at least one accounting expert from the board decreases the likelihood the firm will search for an external candidate to fill this position, whereas an accounting expert director increases the likelihood of an external appointment.

Fourth, we consider the effects of ownership structure on accounting executive origin. Previous studies have examined the link between ownership concentration and CEO successor origin. Huson et al. (2001) find evidence that as insider ownership increases, so does the likelihood of an outside CEO replacement, while Boeker and Goodstein (1993) do not find such evidence.<sup>4</sup> In general, firms with a greater fraction of officer and director ownership are thought to have lower agency conflicts, thus producing better quality accounting reports (e.g., Warfield, Wild, & Wild, 1995). We also hypothesize that a company's ownership structure will be a determinant of an outside hire, and specifically, that higher levels of insider ownership are more likely to be associated an external controller appointment. To streamline our expectations with respect to the impact of boards on appointee origin, we consolidate the relevant data into a single board effectiveness index which captures the extent to which each corporate board reflects desired attributes pertaining to board expertise and independence.

A board feature that is distinct from independence, knowledge, and incentives, and which is potentially value-relevant is board size. There are mixed views on the unconditional impact of board size on firm performance. Early research starting with the seminal work of Yermack (1996) and later of Eisenberg, Sundgren, and Wells (1998) finds that other things equal, smaller boards are associated with higher market values, possibly due to the higher processing costs, self-censorship and diffusion of responsibility that are associated with larger boards. In contrast, more recent work by Coles et al. (2008) and Linck et al. (2008) highlights the more complex and endogenous nature of board size determination, the higher value of having a greater number of directors upon whom to draw knowledge, and the fact that more numerous directors are harder to manipulate for the CEO, raising doubts about the monotonic effect of board size on monitoring performance. In the executive turnover setting, Yermack (1996) documents evidence that smaller boards are more likely to dismiss CEOs following poor performance. Similarly, Faleye (2004) reports evidence that smaller boards are more effective in firing the CEO and more likely to hire an external CEO candidate. In contrast, Huson et al. (2001) do not identify such a link, although they suggest this may be due to the small sample of forced turnover they study. Drawing a parallel between CEO turnover and accounting executive turnover, we investigate in our paper whether board size is also related to the likelihood of appointing an external candidate to head the accounting function.

Given the relatively uniform views on our board effectiveness measures and the more ambiguous expectations on board size, we conceptually and empirically treat these as two distinct constructs. We state a directional proposition with respect to board effectiveness and a non-directional proposition with respect to board size. Taking the preceding arguments together we posit the following proposition:

<sup>4</sup> One refinement that is necessary in these studies is to separate the ownership power of the departing CEO from the ownership of the remaining officers and directors, the rationale being that a powerful departing CEO would have a say in who the replacement would be. This issue is not pertinent in the case of departing accounting executives.

**Research proposition 1a.** There is a positive relation between a company's board effectiveness with the likelihood it selects an external candidate to head its accounting function.

**Research proposition 1b.** There is a relation between a company's board size with the likelihood it selects an external candidate to head its accounting function.

#### 2.4. Accounting problems and external accounting executive appointments

The difference between voluntary and forced CEO turnover has been recognized at least since Weisbach (1988). The main insight of this distinction is that more purposeful action is taken in response to changes in leadership that are out of the ordinary, or forced, compared to routine executive changes. Early management research typically relied on earnings and returns measures of performance to separate disciplinary from voluntary turnover, at least implicitly suggesting poor performance is associated with forced CEO turnover (Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993; Dalton & Kesner, 1985). Other work has controlled for financial performance, relying on more direct evidence from press reports to this end (e.g., Borokhovich et al. 1996; Farrell & Whidbee, 2003; Huson et al. 2001; Parrino, 1997; Weisbach, 1988). The results uniformly suggest that the incidence of external appointments to the CEO position is significantly higher following forced compared to voluntary turnover.

We extend this thinking to accounting executive appointments. There are at least two reasons a firm would choose an external candidate over an internal candidate in the case of forced turnover. First, if the forced turnover is due to poor performance of the accounting function (e.g., through errors and irregularities) an external candidate may be hired to institute change in the accounting function. Analogous to forced CEO turnover being linked to poor firm performance overall, given the CEOs' wider responsibilities, forced accounting executive turnover is linked to accounting problems in particular. Second, an external accounting executive appointment may be necessary because an equally qualified internal candidate is less likely to be available in the case of forced accounting turnover. Unlike forced turnovers, routine turnovers are potentially planned years in advance, allowing the firm to engage in succession planning, leading to the appointment of an internal candidate. Drawing from these arguments, our overriding expectation is that disciplinary turnover is more likely to be followed by the appointment of an external candidate.

We approximate accounting executive turnover as disciplinary as follows: First, we consider turnover that coincides with a financial restatement as disciplinary. There is recent empirical evidence by Desai et al. (2006), Arthaud-Day et al. (2006), and Hennes, Leone, and Miller (2008) that corporate boards terminate top managers following earnings manipulation and restatement. Collins et al. (2009) report similar evidence for a sample of CFOs, especially in the post-SOX period, while Burks (2010) finds that restatements are followed by compensation penalties for CEOs and by termination penalties for CFOs. Further, Srinivasan (2005) documents significant labor market penalties for outside directors, particularly in terms of turnover and lower directorships, when their companies restate their earnings.

Second, we consider accounting executive turnover to be disciplinary when that coincides with management filing a material weakness in internal controls. We only focus on material weaknesses, as opposed to milder deficiencies, in internal controls because the heightened severity of material weaknesses is likely to have a tighter link to executive turnover decisions. Prior research by Sarens, Beelde, and Everaert (2009) suggests the internal control function complements the audit committee in attaining a joint audit effort. Doyle, Ge, and McVay (2007) report that internal control deficiencies are associated with lower accruals quality, and Ashbaugh-Skaife, Collins, Kinney, and LaFond (2009) find that internal control effectiveness is associated with lower firm risk and cost of equity. Kim and Park (2009) link the stock market reaction to a material weakness disclosure to market uncertainty about the firm's financial reporting quality. Further, Hoitash, Hoitash, and Bedard (2009) show that a stronger corporate governance system is associated with a lower incidence of internal control problems and Goh (2009) reports that stronger boards and audit committees are likely to remediate internal control problems faster. Finally, Wang (2010) finds that CFOs of firms with weak internal control structures receive lower compensation and experience higher forced turnover rates. Taking this evidence together, it is reasonable to assume internal control problems are associated with accounting executive turnover. We hypothesize that the discovery of an internal control problem of such severity will increase the need for a change in the accounting function, and thus increase the likelihood that an external candidate replaces the departing accounting executive. Finally, in line with earlier evidence on CEO turnover from the field of management, we identify disciplinary turnover by relying on direct evidence from press releases. In sum, we test the proposition linking poor accounting executive performance with successor origin by combining the three measures of disciplinary turnover outlined above as follows:

**Research proposition 2.** There is a positive relation between forced departure of a top accounting executive and the likelihood of appointing an external candidate as a replacement.

#### 2.5. The moderating effect of board structure on the relation between forced turnover and external appointment

A plethora of prior research has suggested that disciplinary action against managers in response to crises is more likely when the firm has a more effective board of directors in place (see the review of Adams et al. 2010.) In the context of CEO appointments, prior work has examined the interactive effects of poor performance, approximated by financial and stock

**Table 1**

Distribution of 941 firms appointing a top accounting executive between 1993 and 2008 partitioned by announcement year and appointee origin.

Announcement year	N	Frequency (% of 941)	# Outsiders	Frequency (% in year)
1993	22	2.34%	10	45.45%
1994	26	2.76%	8	30.67%
1995	40	4.25%	20	50.00%
1996	48	5.10%	24	50.00%
1997	60	6.38%	33	55.00%
1998	66	7.01%	40	60.61%
1999	56	5.95%	37	66.07%
2000	75	7.97%	39	52.00%
2001	64	6.80%	42	65.62%
2002	57	6.06%	32	56.14%
2003	47	4.99%	29	61.70%
2004	72	7.65%	34	47.22%
2005	93	9.88%	53	63.44%
2006	80	8.50%	51	63.75%
2007	81	8.61%	52	64.20%
2008	54	5.74%	34	62.96%
Total	941	100.00%	544	57.81%

return metrics or the characterization of a turnover as forced, and board characteristics, on the appointment of an external CEO; the rationale being that the selection of an outside candidate following poor performance is more likely when the firm has an effective board in place. [Boeker and Goodstein \(1993\)](#) find modest evidence that board characteristics moderate the firm performance-CEO succession relation. [Borokhovich et al. \(1996\)](#) search for but do not find a link between forced turnover and the fraction of outside directors in hiring a CEO and conclude that "... outside directors are more likely to hire outside CEOs regardless of whether the succession is forced or voluntary" ([Borokhovich et al. 1996](#); p. 351). Similarly, [Huson et al. \(2001\)](#) find that the intensity of the firm performance-CEO succession relation has not changed in time despite the vast improvements in corporate governance structures.

This study follows an analogous path in investigating this question for accounting executive appointments. Specifically the tests address whether board effectiveness accentuates the link between forced accounting executive turnover and the selection of an external accounting executive replacement. The expectation is that the relation between forced turnover and external replacements is stronger among firms with more effective boards in place. Further, consistent with [Research Proposition 1b](#) regarding the uncertain effect of board size, we also investigate whether board size influences the relation between forced turnover and external replacements. Thus,

**Research proposition 3a.** The relation between forced accounting executive turnover and the likelihood of appointing an external accounting executive is stronger among firms with more effective boards.

**Research proposition 3b.** The strength of the relation between forced accounting executive turnover and the likelihood of appointing an external accounting executive is influenced by board size.

### 3. Sample and variable selection

We initially identify top accounting executive appointments made by firms that are publicly traded in the United States through a standard word search in the Lexis-Nexis database covering the period 1993–2008. We search for articles with the words "controller" or "chief accounting officer" in the title, using both the standard topical Lexis/Nexis classifications and an unconditional general search. Only announcements where the appointee is fully responsible for all of the firm's accounting functions are included in the sample to ensure relative consistency in the range of responsibilities for the position across firms.<sup>5</sup>

Also, we exclude appointments that are accompanied by other important news within  $\pm 1$  trading day of the press release; such as an acquisition or restructuring, a CEO change, a change in three or more executives, or an earnings or dividends release. We also exclude firms that are not publicly traded, and firms for which we could not identify a proxy statement from which to gather the governance data. This comprehensive and detailed search produces a final sample of 941 unique top accounting executive appointments. We use the published announcement as the source of information for determining the origin of the appointees. We classify appointees with less than one year of tenure with the firm as outsiders, with all other appointees being classified as insiders. Two randomly selected announcements, one of an external hire, and one of an internal hire, are presented in the appendix.

<sup>5</sup> The extent of involvement with accounting tasks was approximated by the title of the appointed executive. If the title included references to finance responsibilities (e.g., treasurer and controller, VP of accounting and finance, or CFO—as opposed to chief accounting officer or controller) or references to the executive having only some of the accounting responsibilities (e.g., assistant controller) the appointment was excluded from the sample.

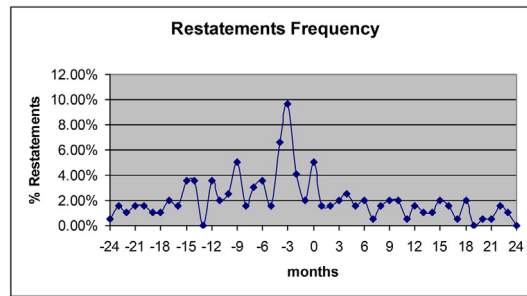


Fig. 1. Frequency of restatements relative to controller appointments.

Table 1 presents the time distribution of the appointments and the corresponding origin of appointees in some detail. In general there does not appear to be a serious clustering of events in time although the frequency of announcements is somewhat higher in the more recent years, ranging from 22 in 1993 to 93 in 2005. The appointment of outsiders to this position averages 57.81% for the entire sample and appears to rise through the 1990's, leveling off at a little over 60% in the more recent years. This figure is higher compared to the incidence of outsiders appointed to the CEO position as reported by Huson et al. (2001). A possible explanation is the earlier time period studied in Huson et al. (2001) and the tendency of firms to make more external executive hires in more recent years.

Data on the board variables and inside ownership are manually collected from the last proxy statement filed with the SEC before the appointment announcement or, in rare cases where that was not available, the first proxy statement filed within 12 months after the appointment. The characterization of directors as accounting experts is gleaned from the biographical information provided for each director in proxy statements. Specifically, our governance variables are as follows: *Pct outside directors* is the proportion of outside to total directors; *CFO on board* is a binary variable that is set to one if the CFO sits on the board, and zero otherwise, and is a proxy of CFO power; *accounting expert on board* is also binary and set to one if the firm has an accounting expert on board and zero otherwise, where an accounting expert is strictly defined as a director with prior experience in auditing, or accounting in the industry at any level, including CPA, audit manager, partner, director of accounting, assistant controller, and controller, and directors holding an accounting degree. Finally, *inside ownership* is the percentage of common equity beneficially owned by all officers and directors as a group.

Rather than examining the separate impact of the four variables on the controller turnover decision, to reduce complexity in hypothesis testing, and to streamline the theoretical underpinnings of our hypotheses, we combined the four different governance proxies into a single board effectiveness index. This index receives a maximum value of four for a board with above average independent directors, an accounting expert director, where the insider-CFO does not serve on the board, and where insider ownership is above the sample median. We alternatively estimate the significance of the four governance variables separately in the model. Interpretation of results employing the single variables was the same in spirit, although in the paper we present results from analysis of the consolidated board effectiveness index. Finally, we examine the separate impact of *board size*, defined as the sum of all directors on the proxy statement date, on controller affiliation.

The first way we use to classify turnover as disciplinary is by identifying firms that restated their financial statements in the period surrounding the appointment. Given that restatements may be announced, if not rumored, for several months before occurring, that disciplinary accounting turnover may occur at any one point of the restatement process, and that the search for a new accounting executive also takes months, we include all firms restating their earnings in a broad time range; from 24 months before to 12 months after the appointment announcement.<sup>6</sup> We initially identified appointing firms that restated their earnings during the period of interest from Lexis-Nexis by making an electronic search for each of the 941 appointments individually using key word searches to identify potential restatements. Additionally, for the period between January 1st 1997 and June 30<sup>th</sup> 2006 we also use the GAO (2002, 2006) reports as a source of restatements, identifying the intersection between each of our sample of appointments to each of the firms listed in the reports as having restated at least once during the pre-defined period surrounding the appointment.<sup>7</sup> In general, restatements are more frequent in the months preceding the controller turnover announcement. Consistent with prior research (e.g. Collins et al. 2009) and the GAO (2002, 2006) reports, we found restatements to be much more frequent after the Sarbanes-Oxley Act of 2002 than before.

The second definition we use to classify turnover as disciplinary is by identifying firms that disclosed a material weakness in their internal controls anywhere from 24 months before to 12 months after the appointment announcement. We initially identify appointing firms reporting a material weakness in internal controls from the Doyle, Ge, and McVay (2007) sample

<sup>6</sup> We alternatively considered events occurring between months  $-24$  to  $+6$ , and  $-24$  to  $0$  relative to the appointment announcement. The results are interpreted in much the same spirit in the first case, and are slightly weaker but still exhibiting the same effect in the second. This suggests a small fraction of turnover announcements precede the public announcement of the firm's accounting difficulties.

<sup>7</sup> In assessing the importance of financial restatements, Hennes et al. (2008) highlight that errors and irregularities are likely to carry different weights. Also, Burks (2011) documents that the valuation of restatements by investors did not change after SOX.



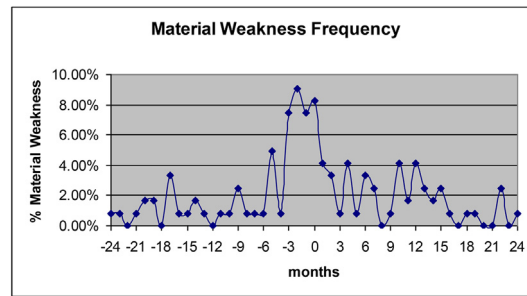


Fig. 2. Frequency of material weaknesses relative to controller appointments.

which is made publicly available by the authors. We then complement this data through a search of the 10-k, 10-q, and 8-k reports of interest for each of the turnover firms in our sample for the remaining period. Given that internal control disclosures started after June of 2002, first on a voluntary and then a mandatory basis, our analysis of material weaknesses in internal control focuses on 459 firms announcing accounting executive turnover after 6/1/2002.<sup>8</sup>

Figs. 1 and 2 graphically show the incidence of financial restatements and material weaknesses in the months surrounding the controller turnover announcement. In both cases the incidence of problems is higher around the turnover period – in the case of financial restatements the peak is three months prior to the turnover announcement and in the case of material weaknesses it is in the month of the appointment itself. Also, there appear to be more frequent accounting problems in the months preceding the turnover compared to the following months. Restatements and material weaknesses are rather infrequent as one moves further away from the event month. The frequency of financial restatements and reported internal control problems around accounting executive turnover provide a clear, albeit non-statistical indication that is consistent with frequent disciplinary accounting executive departures due to internal control problems. These executive departures parallel analogous evidence from the restatement literature (e.g., Desai et al. 2006).

We also examine the text of the turnover announcement from Lexis/Nexis for each firm to decipher the turnover reason. Disclosed reasons for a controller appointment are planned retirements (81), promotions, most typically to CFO (98), lateral moves within the company (e.g., to become treasurer; 44), personal reasons such as illness or death (16), where the position was newly created (53), when firms explicitly disclose that the accounting executive was fired or quit (25), that the controller left “to pursue other (unspecified) interests” (67) or, in the largest of categories, the announcement is silent as to the turnover reasons (560).

We consider turnover announcements as non-routine when either party apparently unilaterally initiates termination of the employment agreement. This comprises cases where the executive is specifically fired or quits, for example, to pursue other employment opportunities. Turnover is considered not to be forced if the executive stays in the firm in another capacity, such as being promoted or laterally moved as head of another function, and when the executive retires or leaves for health reasons.

The multivariate tests control for the existent talent pool in the firm proxied by *logged employees* (EMP) expecting that more internally available talent increases the probability of an internal appointment. *Logged sales* (SALES) proxy for firm size. Larger firms are more likely to have the resources for an external search on one hand, but may be more likely to have internal qualified candidates on the other. We also control for the firm's operating performance (e.g., Farrell & Whidbee, 2003) given that the choice between an external vs. an internal candidate may depend on contemporaneous firm performance. Performance is measured by *return on assets* and defined as operating income after depreciation (OIAD; line item 178) divided by total assets. Analyst following, measured by the *number of analysts* issuing at least one annual forecast for the firm from IBES, proxies for the firm's information environment; having more scrutiny from analysts increases the monitoring pressure on firms to make value-maximizing appointment decisions. Conversely, firms with little coverage by analysts may have the need to attract a well-known external controller to improve the information environment or to attract more analysts (Fich, 2005). Being audited by a top audit firm, proxied by a *top audit* firm (AU) dummy is intended to capture the monitoring vigor of external auditors who indirectly exert pressure on firms to make the appropriate appointments. In cases where the financial data in question were not available from Compustat, the required financial data were manually collected from 10-k reports. Finally, we include two dummy variables for concurrent *external CFO* and *external CEO* appointments, defined as appointments of a new CFO and CEO from outside the firm respectively from two years before to one year after the controller appointment. These controls are intended to account for the confounding effect of larger scale management changes, and the tendency of new external CEOs and CFOs to “clean house” by appointing external accounting executives. Last, the tests control for the appointment time, proxied by *year dummy* variables given the considerable length of the sample period which has witnessed changes in economic conditions and the regulatory environment.

<sup>8</sup> With respect to the lack of material weakness data before Sox, we believe that several types of problems in the accounting function could force an accounting executive out. In this sense, any forced turnover proxy would only partly capture these problems, many of which are not observable—and lack of material weakness disclosures should not negate our effort to measure forced turnover in the pre-sox period.

**Table 2**

Univariate comparisons of firms appointing a top accounting executive between 1993 and 2008 partitioned by appointee origin.

Variable name	Full sample 941	Internal 397	External 544	t-test	Pre-Sox 457	Post-Sox 484	t-test
<b>Board variables</b>							
Pct. outside directors	75.37%	75.88%	75.00%	-0.95	71.31%	79.21%	-8.77***
CFO on board	12.37%	15.19%	10.31%	-2.19**	15.64%	9.30%	2.94***
Accounting expert on board	50.96%	44.19%	55.88%	2.34**	27.57%	47.93%	-6.59***
Insider ownership	13.30%	10.32%	15.47%	4.67***	14.20%	12.46%	1.52
Board size	9.31	9.91	8.88	-5.35***	9.26	9.36	-0.50
Board effectiveness	2.31	2.15	2.43	4.02***	2.10	2.54	-8.03***
<b>Disciplinary turnover variables</b>							
Financial restatement	14.45%	12.34%	15.99%	1.60	6.78%	21.69%	-6.73***
Material weakness report ( <i>n</i> = 484)	25.00%	13.98%	32.30%	4.93***	–	25.00%	–
Non-routine departure	9.46%	10.83%	8.46%	-1.21	6.78%	11.98%	-2.75***
Forced departure	27.42%	23.43%	30.33%	2.38**	12.47%	41.53%	-10.67***
<b>Control variables</b>							
# Employees	16.90	21.44	13.59	-3.25***	17.98	15.89	0.92
Sales (in \$millions)	234699.54	277988.69	203108.01	-0.85	4038.89	452492.75	-5.90***
Return on assets	3.46%	6.19%	1.46%	-2.70***	2.66%	4.21%	-0.77
cfo outsider	10.73%	5.29%	14.71%	4.98***	3.94%	17.15%	-6.80***
ceo outsider	5.53%	3.02%	7.35%	3.07***	3.94%	7.02%	-2.09**
# Analysts	9.10	11.03	7.69	-5.67***	10.02	8.23	3.14***
Top audit firm	91.29%	93.20%	89.89%	-1.83*	94.09%	88.64%	3.00***

Proxy and financial statement information come from the last available pre-appointment document. CFO on board is a binary variable that is set to one if the CFO sits on the board and zero otherwise. Accounting expert on board is set to one if at least one director has direct accounting experience and zero otherwise. The board effectiveness index receives a value from one to four for a board with above average independent directors, an accounting expert director, where the insider-CFO does not serve on the board, and where insider ownership is above the sample median. Financial restatement and material weakness report, respectively, is set to one if the firm filed a restatement or a material weakness report anywhere from 24 months before to 12 months after the appointment announcement. Non routine departure takes the value of one if the announcement states that the prior controller was fired. Forced turnover is set to one if a firm made a financial restatement, or filed a material weakness report, or publicly announced the turnover was forced. Return on assets is the ratio of operating income after depreciation to total assets. CFO (CEO) outsider takes the value of one if the firm hired an external CFO (CEO) from two year before to one year after the controller appointment, and zero otherwise. The total number of analysts comprises analysts making at least one annual earnings forecast in the 12 pre-appointment months. To top audit firm takes the value of one if the firm's auditor is among the top five (later top four) audit firms, zero otherwise. One, two, and three asterisks denote a significant difference at the 0.10, 0.05, and 0.01 level, two-tailed, respectively.

#### 4. Empirical model

In sum, our main tests focus on the following logistic regression model:

$$\begin{aligned}
 P(\text{outside appointment}) = & a_0 + \alpha_1 \text{ board effectiveness} + \alpha_2 \text{ board size} + \beta_1 \text{ forced turnover} + \delta_1 \ln(\text{employees}) \\
 & + \delta_2 \ln(\text{sales}) + \delta_3 \text{ Return on assets} + \delta_4 \text{ CFO outsider} + \delta_5 \text{ CEO outsider} + \delta_6 \text{ Analysts} \\
 & + \delta_7 \text{ Top audit} + \delta_8 \text{ year} + u
 \end{aligned}
 \tag{1}$$

where the variables of interest are defined as described in Section 3. If boards are involved in the selection process, consistent with our first research proposition, we would expect coefficient  $\alpha_1$  to be positive signifying the beneficial effects of better monitoring and expertise in appointing an external candidate as the lead accounting executive. We have no directional expectations for coefficient  $\alpha_2$ , signifying the uncertain effect of board size on monitoring performance. Further, we would expect coefficient  $\beta_1$  to be positive, consistent with the second research proposition suggesting forced turnover is more likely to be related to an outside appointment.

To test the third research proposition, hypothesizing that the effects of forced turnover are stronger in cases where the board is more effective and smaller, we further estimate a logistic regression model that in addition to the variables above interacts the board effectiveness index and board size to a binary variable capturing forced turnover as follows:

$$\begin{aligned}
 P(\text{outside appointment}) = & a_0 + \alpha_1 \text{ board effectiveness} + \alpha_2 \text{ board size} + \beta_1 \text{ forced turnover} \\
 & + \gamma_1 \text{ forced*board effectiveness} + \gamma_2 \text{ forced*board size} + \delta_1 \ln(\text{employees}) \\
 & + \delta_2 \ln(\text{sales}) + \delta_3 \text{ Return on assets} + \delta_4 \text{ CFO outsider} + \delta_5 \text{ CEO outsider} + \delta_6 \text{ analysts} \\
 & + \delta_7 \text{ top audit} + \delta_8 \text{ year} + u
 \end{aligned}
 \tag{2}$$

**Table 3**

Pearson correlations below the diagonal between the variables used in the logit regressions.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Outsider	1.00																	
2 Pct. outside directors	0.03	1.00																
3 CFO on board	<b>0.07</b>	<b>-0.33</b>	1.00															
4 Accounting expert on board	<b>-0.08</b>	-0.05	<b>0.15</b>	1.00														
5 Insider ownership	<b>-0.15</b>	<b>-0.40</b>	<b>0.13</b>	<b>0.12</b>	1.00													
6 Board size	<b>0.17</b>	<b>0.22</b>	0.04	0.03	<b>-0.26</b>	1.00												
7 Board effectiveness index	<b>-0.13</b>	<b>0.24</b>	<b>-0.32</b>	<b>0.72</b>	<b>0.21</b>	-0.03	1.00											
8 Financial restatement	-0.05	<b>0.06</b>	-0.04	<b>0.07</b>	-0.02	-0.04	<b>0.08</b>	1.00										
9 Material weakness ( <i>n</i> = 484)	<b>0.21</b>	-0.02	0.00	0.03	0.06	<b>-0.19</b>	<b>0.06</b>	<b>0.37</b>	1.00									
10 Non-routine departure	0.04	0.00	-0.01	-0.01	0.01	-0.02	0.01	<b>0.08</b>	0.02	1.00								
11 Forced turnover dummy	<b>-0.08</b>	<b>0.07</b>	-0.05	<b>0.08</b>	0.01	<b>-0.09</b>	<b>0.11</b>	<b>0.67</b>	<b>0.69</b>	<b>0.53</b>	1.00							
12 log (employees)	<b>0.19</b>	<b>0.25</b>	-0.02	<b>-0.11</b>	<b>-0.38</b>	<b>0.50</b>	<b>-0.20</b>	0.06	<b>-0.07</b>	0.02	0.01	1.00						
13 Log (sales)	<b>0.07</b>	<b>0.34</b>	<b>-0.07</b>	<b>0.14</b>	<b>-0.28</b>	<b>0.30</b>	<b>0.09</b>	<b>0.13</b>	0.00	0.06	<b>0.14</b>	<b>0.48</b>	1.00					
14 Return on assets	<b>0.08</b>	0.01	0.03	0.01	-0.03	<b>0.15</b>	-0.01	0.00	<b>-0.11</b>	-0.01	-0.02	<b>0.26</b>	<b>0.22</b>	1.00				
15 CFO outsider	<b>-0.15</b>	0.03	<b>-0.09</b>	0.06	0.00	<b>-0.09</b>	<b>0.10</b>	<b>0.46</b>	<b>0.53</b>	<b>0.09</b>	<b>0.49</b>	-0.01	<b>0.10</b>	-0.01	1.00			
16 CEO outsider	<b>-0.09</b>	-0.02	-0.03	0.00	0.04	<b>-0.08</b>	0.01	<b>0.31</b>	<b>0.36</b>	-0.01	<b>0.31</b>	-0.01	-0.01	-0.05	<b>0.40</b>	1.00		
17 # analysts	<b>0.19</b>	<b>0.18</b>	0.03	<b>-0.11</b>	<b>-0.35</b>	<b>0.42</b>	<b>-0.22</b>	0.02	<b>-0.13</b>	-0.02	-0.06	<b>0.52</b>	<b>0.31</b>	<b>0.15</b>	-0.04	<b>-0.08</b>	1.00	
18 top audit firm	0.06	<b>0.08</b>	<b>-0.07</b>	-0.06	<b>-0.14</b>	0.04	<b>-0.09</b>	0.02	0.00	0.02	0.00	<b>0.28</b>	<b>0.16</b>	<b>0.19</b>	-0.04	<b>-0.09</b>	<b>0.12</b>	1.00

Proxy and financial statement information come from the last available pre-appointment document. CFO on board is a binary variable that is set to one if the CFO sits on the board and zero otherwise. Accounting expert on board is set to one if at least one director has direct accounting experience and zero otherwise. The board effectiveness index receives a value from one to four for a board with above average independent directors, an accounting expert director, where the insider-CFO does not serve on the board, and where insider ownership is above the sample median. Financial restatement and material weakness report, respectively, is set to one if the firm filed a restatement or a material weakness report from 24 months before to 12 months after the appointment. Non routine departure takes the value of one if the announcement states that the prior controller was fired. Forced turnover is set to one if a firm made a financial restatement, or filed a material weakness report, or the controller was fired. Return on assets is the ratio of operating income after depreciation to total assets. CFO (CEO) outsider takes the value of one if the firm hired an external CFO (CEO) from two year before to one year after the controller appointment, and zero otherwise. The total number of analysts comprises analysts making at least one annual earnings forecast. Top audit firm takes the value of one if the firm's auditor is among the top five (later top four) audit firms, zero otherwise. Characters in bold denote correlations that are significant at  $p < 0.05$ .

Forced turnover is set to one if a firm made a financial restatement, or received a material weakness report, or publicly announced the accounting executive turnover was non-routine. The additional expectation is that coefficient  $\gamma_1$  interacting forced turnover with board effectiveness will be positive. Given the uncertain effect of board size in corporate governance, for coefficient  $\gamma_2$  interacting forced turnover with board size we do not posit a directional expectation. Both interactions aim to capture whether the relation between forced turnover and appointee origin is influenced by board characteristics.

## 5. Results

### 5.1. Univariate tests

Table 2 presents descriptive statistics and univariate comparisons of a partition of the sample of 941 appointments to sub-samples of outside appointees ( $n = 544$ ) and internal appointees ( $n = 397$ ), as well as the pre-Sox ( $n = 457$ ) and post-Sox ( $n = 484$ ) sub-periods. The tests compare the board variables and disciplinary turnover proxies across sub-samples. Notably, the incidence of poor accounting practices is higher for the full sample employed here compared to respective statistics on the general population of firms reported by previous studies. Specifically, 14.45% of appointing firms restated the financial results at least once during the period under examination. Also, among the firms appointing an accounting executive after the internal control disclosure rules came into effect in 2002, 25% stated that they observed a material weakness in their internal controls. The comparisons based on appointee origin are very telling. Focusing first on the board variables, with the exception of board composition there are significant differences in the board profile dimensions in the predicted direction. Specifically, firms appointing outsiders are less likely to have the CFO sitting on the board ( $t = -2.19$ ;  $p < 0.04$ ), and more likely to have at least one accounting expert sitting on the board ( $t = 2.75$ ;  $p < 0.01$ ) while they have a much greater percentage of insider ownership ( $t = 4.67$ ;  $p < 0.01$ ). Last, firms appointing outsiders have smaller boards ( $t = -5.35$ ;  $p < 0.01$ ). The board effectiveness index is higher for firms making external appointments compared to those making internal appointments ( $t = 4.02$ ;  $p < 0.01$ ).

Further, there appears to be a strong association between the material weakness-forced turnover measure and a firm's likelihood to appoint an outsider as its top accounting executive (32.30% vs. 13.98%). The evidence about the propensity to hire an external candidate is weaker following financial restatements and announced forced departures. Turning to the control variables, firms appointing outsiders to the accounting executive position appear to be smaller in terms of employees and perform relatively more poorly compared to firms appointing insiders. Also external accounting hires are significantly more likely following concurrent external hires in the higher CEO and CFO posts. Further, it appears that analyst following, and

**Table 4**

Logistic regressions explaining the likelihood of an external accounting executive appointment.

Variable	Pre-Sox		Post-Sox		Full	
	Estimate	X <sup>2</sup>	Estimate	X <sup>2</sup>	Estimate	X <sup>2</sup>
Intercept	1.740	4.07**	0.648	1.16	0.698	2.46
Board effectiveness	0.332	7.76***	0.038	0.15	0.175	5.58**
Board size	-0.073	2.84*	-0.031	0.62	-0.053	3.48*
Forced turnover	-0.537	2.33	0.083	0.13	-0.094	0.25
Log (employees)	0.035	0.11	-0.002	0.00	-0.057	1.31
Log (sales)	-0.224	3.83*	0.034	0.59	-0.013	0.10
Return on assets	0.020	0.00	-1.793	4.17**	-0.374	0.86
CFO outsider	2.479	8.42***	0.785	5.41**	1.065	12.21***
CEO outsider	0.691	1.01	-0.034	0.01	0.380	0.98
# analysts	0.007	0.24	-0.052	10.87***	-0.022	4.81**
Top audit	-0.270	0.28	0.046	0.02	-0.084	0.09
Post-Sox					0.131	0.06
Year dummies	Yes		Yes		Yes	
Sample size	457		484		941	
Internal	253		291		544	
External	204		193		397	
R square	0.195		0.122		0.129	
Likelihood	71.90***		45.90***		95.26***	
Goodness of fit	8.36		10.83		5.74	

Proxy and financial statement information come from the last available pre-appointment document. The dependent variable equals one if the appointed accounting executive is external to the firm and zero otherwise. The board effectiveness index receives a value from one to four for a board with above average independent directors, an accounting expert director, where the insider-CFO does not serve on the board, and where insider ownership is above the sample median. Forced turnover is set to one if a firm made a financial restatement, or filed a material weakness report, or publicly announced the turnover was forced. Return on assets is the ratio of operating income after depreciation to total assets. CFO (CEO) outsider takes the value of one if the firm hired an external CFO (CEO) from two year before to one year after the controller appointment, and zero otherwise. The total number of analysts comprises analysts making at least one annual earnings forecast in the 12 pre-appointment months. To top audit firm takes the value of one if the firm's auditor is among the top five (later top four) audit firms, zero otherwise. Post-Sox equals 1 if the appointment is after 2002, 0 otherwise. One, two, and three asterisks denote significance based on the Wald  $\chi^2$  statistic at the 0.10, 0.05, and 0.01 level respectively.

more weakly top audit firms are associated with the likelihood of external hires. Even though the univariate differences outlined above are seemingly consistent with the first two research propositions there is a possibility the documented relations are spurious. More definitive evidence to this end is provided by the multivariate tests that control for company size and firm performance, and are described below.

Partitioning the sample by time period, in the post-Sox period we observe a rise in the fraction of outside directors on the board ( $t = -8.77$ ;  $p < 0.01$ ), and in the incidence of accounting experts ( $t = -6.59$ ;  $p < 0.01$ ), with an accompanying decrease in the fraction of CFO directors ( $t = 2.94$ ;  $p < 0.01$ ), and an increase in the board effectiveness index overall ( $t = -8.03$ ;  $p < 0.01$ ). The disciplinary turnover variables have higher post-Sox values. Among the control variables, there is a noteworthy trend towards more contemporaneous external CEO and CFO appointments ( $t$ -values of  $-2.09$  and  $-6.80$  respectively).

Next, Table 3 presents pair-wise Pearson correlations for the variables used in the logit regressions. Correlations between the dependent variable and each of the independent variables largely reproduce the results in Table 2. The correlations among governance variables suggest more independent boards tend to be larger, and appearing in firms with a lower percentage of insider ownership. Importantly, the forced turnover proxies based on restatements, material weaknesses, and non-routine controller departures are positively correlated among them at  $p < 0.01$ , signifying these variables partly measure some of the same effect, and provide some comfort about their ability to capture disciplinary turnover.<sup>9</sup> Correlating these variables with a year trend dummy (not tabulated) indicates boards have evolved in time, comprising more outside directors, fewer CFO directors, and being more likely to have an accounting expert director on board. Also, there have been more outside accounting executive appointments and more forced turnover in recent years.

## 5.2. Multivariate tests

Table 4 presents results from logistic regressions estimating the relation between appointee affiliation with board variables, forced turnover, and control variables, for pre- and post-Sox sub-periods and for the entire sample period. The

<sup>9</sup> Notwithstanding their statistical significance, the correlation coefficients between non-routine departures and restatements/material weaknesses are admittedly fairly low. To probe further into this issue, we explored whether the correlations were 1) higher in the post-SOX period, and 2) dependent on the treatment of announcements that were silent as to the reason as routine changes. We do not discern a meaningful difference in correlations between the pre- and post-SOX periods. We also find that firms are not likely to lie about the turnover reason, preferring instead to remain silent on the matter. Specifically, there is a strong positive (negative) correlation between cases of restatements and material weakness reports and announcers being silent (stating a routine turnover reason). The latter results provide some comfort about the ability of our construct to capture the forced turnover variable.

**Table 5**  
Logistic regressions explaining the likelihood of an external accounting executive appointment.

Variable	Pre-Sox		Post-Sox		Full	
	Estimate	X <sup>2</sup>	Estimate	X <sup>2</sup>	Estimate	X <sup>2</sup>
Intercept	1.448	2.69	0.200	0.10	0.328	0.49
Board effectiveness	0.386	9.26***	0.086	0.52	0.238	7.87***
Board size	-0.055	1.51	0.004	0.01	-0.033	1.18
Forced turnover	1.866	1.91	2.156	4.78**	1.685	5.18**
Forced*board effect.	-0.348	0.80	-0.195	1.06	-0.252	2.68
Forced*board size	-0.197	2.34	-0.166	4.03**	-0.127	4.00**
Log (employees)	0.028	0.07	0.012	0.03	-0.049	0.94
Log (sales)	-0.210	3.31*	0.030	0.45	-0.017	0.18
Return on assets	0.015	0.00	-1.840	4.34**	-0.389	0.94
CFO outsider	2.671	8.11***	0.737	4.60**	1.049	11.56***
CEO outsider	0.936	1.58	-0.108	0.05	0.380	0.95
# analysts	0.006	0.18	-0.051	10.46***	-0.022	4.73**
Top audit	-0.3405	0.42	0.0481	0.02	-0.067	0.06
Post Sox					0.225	0.18
Year dummies	Yes		Yes		Yes	
Sample size	457		484		941	
Internal	253		291		544	
External	204		193		397	
R squared	20.44%		13.48%		13.78%	
Likelihood	75.74		50.82		101.79	
Goodness of fit	8.67		9.96		5.61	

Proxy and financial statement information come from the last available pre-appointment document. The board effectiveness index receives a value from one to four for a board with above average independent directors, an accounting expert director, where the insider-CFO does not serve on the board, and where insider ownership is above the sample median. Forced turnover is set to one if a firm made a financial restatement, or filed a material weakness report, or publicly announced the turnover was forced. Return on assets is the ratio of operating income after depreciation to total assets. CFO (CEO) outsider takes the value of one if the firm hired an external CFO (CEO) from two year before to one year after the controller appointment, and zero otherwise. The total number of analysts comprises analysts making at least one annual earnings forecast in the 12 pre-appointment months. To top audit firm takes the value of one if the firm's auditor is among the top five (later top four) audit firms, zero otherwise. Post-Sox equals 1 if the appointment is after 2002, 0 otherwise. One, two, and three asterisks denote significance based on the Wald  $\chi^2$  statistic at the 0.10, 0.05, and 0.01 level respectively.

likelihood ratio test is highly significant suggesting the model variables are jointly meaningful in explaining the likelihood a firm appoints an outsider as its lead accounting executive. Focusing first on the full sample model, the results largely reiterate univariate results from Table 2 and the first research proposition. An outside appointment is significantly more likely when the firm's board is more effective. This result holds for the pre-Sox period and for the full sample period. The variable's odds ratio is 1.19 suggesting that a one-unit increase in board effectiveness increases the odds of an external appointment by 19%. This result is consistent with research proposition 1a, suggesting more effective boards are more likely to hire an outsider to the top accounting executive position. Also, external appointments are more likely when boards are smaller, consistent with the involvement of smaller boards in CEO turnover (Faleye, 2004; Yermack, 1996).<sup>10, 11</sup> An increase in board size by one director decreases the odds of an external appointment by 6%, a finding that appears to be more consistent with the disadvantages rather than the benefits of larger boards. In Table 4 we do not discern a significant relation between our proxy for forced turnover and outside appointments.

Among the controls, the most significant variable is the concurrent appointment of an external CFO, suggesting a new CFO from outside is more likely to "clean house" upon assuming the CFO position ( $p < 0.01$  in the full model).<sup>12</sup> Notably, a concurrent appointment of an external CFO increases the odds of appointing an external accounting executive by 190%. Further, firms with greater analyst following are less likely to make an external hire, while the firm size variable is negatively

<sup>10</sup> We alternatively estimated the separate impact of the four board index components. We found that an external hire is more likely when the board includes at least one accounting expert, consistent with accounting as opposed to other types of financial expertise being valued in making accounting decisions (e.g., DeFond et al., 2005; Dhaliwal et al. 2010; Krishnan & Visvanathan, 2009); and when officers and directors hold more of the company's equity, consistent with the beneficial role of insider ownership in CEO turnover (e.g. Boeker & Goodstein, 1993; Huson et al. 2001). Finally, we found that an external appointment is less likely when the CFO sits on the board, possibly because powerful CFOs wish to maintain control over the accounting function by promoting an internal candidate.

<sup>11</sup> We alternatively substituted the CFO director variable with CFO ownership as a proxy for CFO power. Various specifications of CFO ownership were insignificant in the model. Notably, there is very little variation in the percentage of shares owned by CFOs, with the vast majority owning a negligible percentage, and suggesting CFO ownership is not an effective proxy for CFO power.

<sup>12</sup> Strictly speaking, the "clean house" hypothesis would be consistent with 75 of the 101 CFO changes in our sample, where the CFO change preceded the accounting executive appointment. Re-coding the CFO outsider variable by screening out the remaining 26 observations where the CFO change followed the accounting executive appointment did not alter the substance of our results.

**Table 6**  
Descriptive information on discretionary Accruals.

	N	t = -1		t = 0		t = 1		time(t+1)–time(t-1)	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
<b>Panel A – Full sample of appointees</b>									
All hires	622	0.008	0.006						
				0.002	-0.003	-0.019	-0.002	-0.027	0.002
controls	622	0.023	0.007		0.012	0.070	0.003	0.047	0.001
difference		-0.015	-0.001	0.045	-0.016***	-0.089***		-0.075*	0.001
				-0.043			-0.005		
<b>Panel B – External vs. internal appointee</b>									
Internal hires	259	0.013	0.008		0.003	0.017	0.005	0.004	-0.004
				0.009	0.003	0.047	0.008	0.008	0.004
Controls	259	0.038	0.004		0.003	0.047	0.008	0.008	0.004
difference		-0.026	0.004	0.060	0.000	-0.030	-0.004	-0.004	-0.007
				-0.051	-0.011	-0.041	-0.006	-0.046	0.009
External Hires	363	0.005	0.003		-0.011	-0.041	-0.006	-0.046	0.009
				-0.007	-0.011	-0.041	-0.006	-0.046	0.009
controls	363	0.011	0.007		0.015	0.090	0.002	0.079	-0.001
difference		-0.006	-0.004	0.031	-0.025***	-0.131***	-0.008	-0.125**	0.010
				-0.038					
<b>Panel C Contemporaneous CEO or CFO turnover</b>									
CEO or CFO turnover	125	0.028	0.006	0.055	-0.007	0.007	0.007	-0.021	0.001
controls	125	0.099	0.026	0.118	0.004	0.181	0.009	0.083	-0.017
difference		-0.071	-0.020	-0.063	-0.011	-0.175***	-0.002	-0.104	0.018
No CEO or CFO turnover	497	0.004	0.006	-0.011	-0.002	-0.015	-0.003	-0.019	-0.008
controls	497	0.004	0.003	0.026	0.014	0.042	0.002	0.038	-0.001
difference		0.000	0.003	-0.038	-0.016***	-0.057**	-0.004	-0.057	-0.007
<b>Panel D: External CEO/CFO appointments eliminated</b>									
CEO and CFO are insiders or there is no executive change	544	0.002	0.006	-0.009	-0.004	-0.020	-0.002	-0.022	-0.007
control	544	0.022	0.004	0.033	0.014	0.060	0.003	0.038	-0.001
difference		-0.020	0.002	-0.042	-0.018***	-0.080***	-0.004	-0.060	-0.006

\*\*\*, \*\*, \* Denotes significant difference compared to the sample of non-hire firms at the 1%, 5% and 10% levels, respectively. *P*-values are calculated using the two-tailed *t*-tests (Wilcoxon signed ranks test) for differences in means (medians). Discretionary accruals are generated by the Jones (1991) model.

significant in the pre-Sox period and operating performance is negatively significant post-Sox with neither being significant in the full sample model.<sup>13</sup>

Table 5 presents results additionally testing the third research proposition, examining interaction effects between board effectiveness and disciplinary turnover on appointee origin. We estimate the model for the pre-Sox, post-Sox and full sample periods. Each of the models is again jointly significant in explaining appointee affiliation. Interestingly, the results on the forced turnover dummy are positively significant as expected in the post-Sox period, when data on material weaknesses is available and included in the forced turnover variable. In fact, our results suggest the odds of an external appointment are higher by 439% when turnover is forced. This finding is consistent with the study's second research proposition, that external hires are more likely when turnover is forced. While there is no evidence supporting the moderating role of board effectiveness on the importance of forced turnover, we find that the relation between forced turnover and external hires becomes weaker for firms with larger boards. An increase in board size by one decreases the odds of an external appointment by 12% more for firms with forced turnover compared to all remaining firms. Similar results are obtained when the board effectiveness and forced turnover variables are broken down into their components. The evidence on board effectiveness is broadly consistent with previous findings by Borokhovich et al. (1996) and Huson et al. (2001) suggesting boards are equally involved in the CEO succession decision in forced and voluntary turnover. In contrast, the evidence on board size is consistent with Faleye (2004) on the importance of smaller board size in executive turnover.<sup>14</sup>

<sup>13</sup> In addition to the variables presented here, untabulated test results in Table 4 included institutional ownership and the Bebchuk, Cohen, and Ferrell (2009) index as control governance variables in the model. Institutional ownership turned out to be insignificant whereas the Bebchuk et al. (2009) index was marginally positive in explaining outside hires. However, these models were estimated on a much smaller number of firms due to limited data availability. The significance of the other board variables remained in this smaller sample. We opted not to report these results in the paper.

<sup>14</sup> Although the literature posits the incentive effects of ownership as being dominant, at the extreme inside ownership may be a sign of managerial entrenchment, compromising the willingness of managers to bring in an independent accounting executive to manage the accounting function. These entrenchment effects are likely to be present for a small number of firms with very high inside ownership levels. As it turns out, decomposing the board effectiveness index and presenting each board variable separately reveals a strong incentive effect and no entrenchment effect for ownership. That is the relation between inside ownership and external appointment is positive with no evidence of non-linearity.

### 5.3. Further tests

#### 5.3.1. Discretionary accruals tests

One prevalent notion in the accounting literature is that, if an executive change really matters on the firm's accounting, the results will show on the firm's discretionary accruals levels. There is a long line of research suggesting that discretionary accruals are a vehicle for earnings management, and that managers who behave in accordance with shareholder interests will be more likely to contain discretionary accruals levels to lower levels. In our setting, if controller turnover truly matters as a meaningful accounting event for the firm, its impact will possibly show on the firm's accruals choices. An analogous effect was discerned by Geiger and North (2006) who studied discretionary accruals for a sample of CFO changes.

Accordingly, we employed standard Jones (1991) methodology to estimate discretionary accruals levels for our sample firms and an equal number of control firms each of which was selected as the firm with the closest return on assets to the experimental firm within the same two-digit SIC. The discretionary accruals of the two samples were then compared for each of the three years surrounding the controller turnover year. We deleted firms from this part of the analysis if i) firms belonged to the financial or utility industries, ii) the respective industry two-digit SIC had fewer than ten observations in any given year for the computation of discretionary accruals and iii) either the experimental or the control firm had unavailable data for any one of the three years under examination. Because of these criteria, we were able to carry these tests out for 622 appointing and matched control firms.

The results are presented in Table 6 of the paper. Panel A of Table 6 shows that discretionary accruals for the sample of appointing firms is significantly lower compared to the sample of matched controls. Further, the difference in discretionary accruals changes is also significantly lower for appointing firms. These results are consistent with the notion controller appointments matter.

Breaking the sample down by appointee affiliation in panel B we find that decreases in discretionary accruals originate from the sample of external appointees, consistent with the driving notion in this paper, that external appointees are more likely to bring about a change in accounting practices. In contrast, there is no difference in discretionary accruals between firms making internal controller appointments and matched control firms, suggesting internal appointees are more likely to maintain existing accounting policies. The difference-in-difference test corroborates this view, providing more convincing evidence that the change in discretionary accruals post-an external controller appointment differs from the corresponding change in controls; an analogous effect is absent for internal appointments. Panel C of Table 6 attempts to ascertain whether the observed discretionary accruals differences were a result of contemporaneous changes in the CEO or the CFO position, thus rendering the previous results spurious. We therefore broke the sample down accordingly. The results suggest that, at least in year +1, both the clean sample of controller changes, and the somewhat smaller sample of concurrent CEO and CFO changes are accompanied by lower discretionary accruals compared to the respective control samples. Nevertheless, the difference-in-difference test for the sub-sample without other executive turnover in Panel C is marginally insignificant ( $p = 0.11$ ) and does not definitively rule out the possibility contemporaneous CEO or CFO changes account for the discretionary accruals changes. Last, in Panel D of Table 6 we attempt to ascertain whether external CEO or CFO appointments in particular cloud our results. We accordingly eliminate from our sample 78 cases where either an external CEO or an external CFO was appointed at the time of the accounting executive appointment. The results on the remaining 544 appointments, where there is no change in the CEO or CFO or where the contemporaneous CEO and/or CFO hires are insiders, also suggest a decrease in discretionary current accruals in years 0 and +1, broadly in line with other panels in Table 6 but, similar to panel C, also without statistical significance in the differences-in-difference test. In sum, although not strong, our evidence from the accruals tests in Table 6 is suggestive of an association between external top accounting executive appointments and a firm's discretionary accruals levels.

#### 5.3.2. Sample selection bias

Our analysis thus far has only included firms that announced the controller appointment. This may create a problem if the selected sample of publicly announced appointments differs systematically from the population of firms appointing accounting executives. Econometrically, the sample selection process poses a problem if the error terms from our appointment models are correlated with the factors affecting the decision to publicly announce the controller appointment. For example, a selection bias exists if the decision to announce a new appointment is correlated with unobserved (and uncontrolled) firm factors which may be correlated with board effectiveness such as information asymmetry, accounting quality, or the importance of the accounting function, and which may influence the likelihood of an external appointment. This omission may lead to a spurious relation between board effectiveness and the likelihood of an external appointment.

We attempt to detect and potentially correct for this bias, which requires the use of a sample selection model. In our case both the dependent variable of interest and the selection variable of the decision to make a turnover announcement are binary leading us to the use of a bivariate probit selection model (Greene, 2000; Maddala, 1983). More specifically, we need to estimate a system of equations where in the first equation we estimate the probability of announcement (i.e., selection to the sample) and in the second the probability of appointing an external controller conditioned on having made a public appointment announcement. Effectively, this process takes the error from the selection equation and includes it in the appointment equation, thus correcting for the fact the error term from our appointment equation may be correlated with determinants of the announcement decision.

**Table 7**

Univariate comparisons of firms that did not publicly announce their accounting executive change with sample firms. Silent accounting executive changes are identified from Execucomp.

Variable name	Total 1010	Silent 69	Announced 941	t-Test	p-Value
External appointment	56.63%	40.58%	57.81%	−2.79	0.0067
Pct. outside directors	75.42%	76.13%	75.37%	0.49	0.6255
CFO on board	12.41%	13.04%	12.37%	0.16	0.8731
Accounting expert on board	50.74%	47.83%	50.96%	−0.38	0.706
Insider ownership	12.99%	8.82%	13.30%	−2.75	0.0074
Board size	9.25	8.42	9.31	−2.93	0.0045
Board effectiveness	2.31	2.12	2.32	−1.93	0.0574
# employees	16.25	7.11	16.90	−5.45	0.0001
Sales (in \$millions)	4296.98	1997.99	4465.56	−4.97	0.0001
return on assets	3.72%	7.35%	3.46%	1.85	0.068
# analysts	8.92	6.58	9.10	−3.10	0.0027
Pct. institutional holdings	50.15%	58.13%	49.56%	1.95	0.0555
Post-Sox	52.08%	60.87%	51.43%	1.54	0.1286

Estimating this system of equations requires the identification of a sample of firms with silent controller appointments. We use Execucomp to identify the sample of non-announcing firms; cases where the top accounting executive was replaced by another top accounting executive among the top five and for which there is no related announcement in Lexis/Nexis. We identified 69 such changes, collected governance data from proxy statements for each, and performed univariate comparisons to the 941 announcing firms (see Table 7). Announcements are more likely for firms that are larger, as proxied by sales and number of employees, with greater analyst following, a higher board effectiveness score, a higher insider ownership percentage, and a larger board. Last, external appointments are more likely to be announced.<sup>15</sup>

In order to account for sample selection bias we repeated the analysis presented in the full models of Tables 4 and 5 taking into account the announcement decision as described above. The results are presented in models 1 and 2 of Table 8 respectively. For the determinants of the announcement decision we include board effectiveness, board size, institutional holdings, analyst following, firm performance as proxied by return on assets, firm size as proxied by the logarithm of sales, and a post-Sox dummy to capture increased disclosure requirements in the post-Sox era. Estimation of the bivariate probit selection model is done by maximum likelihood in one step (Greene, 2011).<sup>16</sup> The system of equations produces results that are qualitatively similar to those reported earlier in the paper, mainly suggesting the board effectiveness index is positively correlated to the likelihood of an external appointment.

This finding provides some comfort that our main result is not determined by a sample selection bias.<sup>17</sup> Nevertheless, given the lack of publicly available data on the population of non-announcers, this test is best seen as providing useful but not definitive evidence on the selection issue.

### 5.3.3. Other robustness tests

We perform two additional robustness checks. First, we examine whether the audit committee, which has previously been documented to influence accounting quality (e.g., DeFond et al., 2005; Karamanou & Vafeas, 2005; Klein, 2002) may be involved in the selection of accounting executives. We therefore examine the relation between the corresponding audit committee characteristics with accounting executive origin; i.e., audit committee independence (a variable that is only relevant before Sox), committee size, and accounting expertise. None of these variables is significant in the main model while the significance of the board effectiveness index remains; consistent with the full board, not the audit committee, being involved in the appointment (results not tabulated).

Second, we attempted to sharpen the definition of forced turnover by disentangling between restatement errors and irregularities. We follow a method that is similar to Hennes et al. (2008) for this purpose where a restatement is classified as

<sup>15</sup> Although we cannot definitively ascertain that our method identifies true silent accounting executive changes, we believe it provides a reasonable approximation. Also, we attempted to control for an Execucomp listing bias in identifying the silent firms given that Execucomp only considers hires that rank among the top five firm executives overall. We repeated the univariate tests comparing the 69 silent Execucomp firms to the 74 announcing firms in our sample that were listed in Execucomp. The differences between those two groups are similar to the differences between the 69 silent firms and our entire sample of 941 announcing firms reported in Table 7 of the paper.

<sup>16</sup> RHO values, reported in Table 8, are intuitively similar to but distinct from inverse Mills ratios. Greene (2011; pp. 880–881) explains why the two-stage process used in linear regression and involving the inverse Mills ratios cannot be used in probit models used here. He shows how the maximum likelihood approach used here can be used in probit regressions to correspond to the two stage treatment used in linear regression.

<sup>17</sup> To ascertain correctness of the selection tests reported in the paper we compare Table 8 tests using both the SAS and STATA software. The results are substantially the same in the two cases and confirm what we report in the paper. The statistical insignificance of the RHO disturbance correlations despite the high coefficient estimates is explained by a large dispersion in the errors against which the coefficients are compared to assess statistical significance (errors of 0.89 for −0.41 and 1.76 for −0.63). In their seminal work using a variant of this method, Van de Ven and Van Praag (*Journal of Econometrics* 1981; vol. 17, p. 244) find coefficients that range between 0.52 and 0.78 for three of their four models, which are nevertheless statistically insignificant as well.



**Table 8**  
Bivariate probit with sample selection.

Variable	Model 1		Model 2	
	Estimate	P-value	Estimate	P-value
<b>Announcement decision</b>				
Intercept	0.782***	0.007	0.764**	0.011
Board effectiveness	0.105	0.172	0.11	0.169
Board size	0.018	0.485	0.019	0.476
log (sales)	0.101***	0.001	0.101***	0.001
Return on assets	-0.673*	0.084	-0.637	0.179
# analysts	0.026**	0.023	0.026**	0.023
% institutions	-0.811***	0.001	-0.813***	0.000
Post-Sox	-0.268*	0.058	-0.27*	0.058
<b>Appointment decision</b>				
Intercept	0.591	0.556	0.482	0.633
Board effectiveness	0.110*	0.055	0.147*	0.051
Board size	-0.034*	0.050	-0.022	0.219
Forced turnover	-0.048	0.679	1.019**	0.027
Forced*board effectiveness	—	—	-0.176	0.104
Forced*board size	—	—	-0.073*	0.055
Log (employees)	-0.037	0.211	-0.032	0.285
log (sales)	-0.02	0.437	-0.025	0.347
Return on assets	-0.115	0.636	-0.1	0.711
CFO external	0.639***	0.001	0.609***	0.002
CEO external	0.212	0.346	0.218	0.345
# analysts	-0.013**	0.038	-0.013**	0.047
Top audit	-0.045	0.787	-0.027	0.872
Post-Sox	0.371	0.489	0.356	0.504
year dummies	Yes		Yes	
<b>Disturbance correlation</b>				
RHO	-0.417	0.643	-0.634	0.72
Sample Size	1010		1010	
Announcement	941		941	
Silent	69		69	
Likelihood ratio	-825.96		-822.97	

The dependent variable in the announcement decision model equals one if the firm announced the appointment and zero otherwise. The dependent variable in the appointment decision model equals one if the appointed accounting executive is external to the firm and zero otherwise. The board effectiveness index receives a value from one to four for a board with above average independent directors, an accounting expert director, where the insider-CFO does not serve on the board, and where insider ownership is above the sample median. Forced turnover is set to one if a firm made a financial restatement, or filed a material weakness report, or publicly announced the turnover was forced. Return on assets is the ratio of operating income after depreciation to total assets. CFO (CEO) outsider takes the value of one if the firm hired an external CFO (CEO) from two year before to one year after the controller appointment, and zero otherwise. The total number of analysts comprises analysts making at least one annual earnings forecast in the 12 pre-appointment months. To top audit firm takes the value of one if the firm's auditor is among the top five (later top four) audit firms, zero otherwise. % institutions is the percentage ownership of institutional investors. Post-Sox equals 1 if the appointment is after 2002, 0 otherwise. Rho is the correlation between the error terms of the substantive (appointment decision) and selection model (announcement decision). A value of rho closer to zero would suggest that data are randomly missing (i.e., less evidence of selection bias). One, two, and three asterisks denote significance at the 0.10, 0.05, and 0.01 level respectively.

irregular if there is use of the words fraud or irregularity in the announcement, or if there is an independent SEC investigation in relation to the restatement. Out of 136 restatements we classified 48 as irregularities, and 74 as errors while we did not feel comfortable classifying the remaining 14 restatements in either category.<sup>18</sup> However, redefining the forced turnover variable by excluding restatement errors did not meaningfully alter the results in the regressions. We therefore conclude that our results are not sensitive to this methodological refinement.

## 6. Conclusions

This study documents evidence suggesting a board effectiveness index, comprised of a board's composition and accounting expertise, a CFO director, and insider ownership, is positively related to the board's decision to hire an external candidate for the firm's top accounting executive position. We also find that in the post-SOX period smaller boards are more likely to be associated with external accounting hires when turnover is forced. Finally, we find some somewhat weak but suggestive statistical evidence of a decline in the extent of earnings management, as proxied by discretionary accruals, following an external top accounting executive appointment. Together, this evidence suggests the affiliation of hired accounting executives is not random. Consistent with evidence from CEOs, it is a relevant dimension of the candidate's profile.

<sup>18</sup> The fraction of irregularities (48 out of 122 or 39.3%) is higher than the 27% reported by Hennes et al. (2008) probably because this is a conditional sample; i.e., reflecting the probability of a restatement being due to an irregularity conditioned on there being financial executive turnover in the following period.

One potential limitation of this study is that the sample may suffer from a self-selection bias. Firms self-selecting into publicly announcing an accounting executive change may be systematically different from firms remaining silent when such a change occurs. Although we have made an effort to address this issue empirically in robustness tests in the paper, one cannot definitively preclude the possibility this bias exists to an extent in our analysis.

This caveat notwithstanding, the evidence presented in this paper has implications for accounting research. First, for the financial executive turnover literature, this paper shifts attention away from the turnover decision as an event in general to the characteristics of the appointee in particular. In doing so, it brings the candidate's origin into focus as a potentially important attribute. Second, for the corporate governance literature, this study highlights the role of boards of directors in a new setting. Even though boards have been known to be associated with accounting quality in the past (e.g., Klein, 2002), this study provides initial evidence that is consistent with the notion boards can manage accounting quality by influencing the selection of the firm's accounting leadership. Finally, this study is also relevant to the finance literature that has documented board involvement in CEO turnover (e.g., Weisbach, 1988; Borokhovich et al. 1996; Huson et al. 2001) by presenting evidence that is consistent with boards being involved in the hiring of other executives in the upper echelon of management.

These results are potentially useful to groups outside academe, such as boards that are responsible for making accounting executive hiring decisions, by highlighting the relevance of candidate affiliation. The results could also be useful to accounting managers hoping to climb the corporate ladder by improving their understanding of the conditions leading to external appointments as opposed to internal promotions. Finally, the results provide a new lens through which investors may view and evaluate accounting executive appointments. In conclusion, the present study has provided initial evidence, albeit indirect, on the role played by boards in financial executive turnover, and in the decision to achieve greater independence in the accounting function in particular.

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## Appendix. Sample announcements

June 19, 2007.

CastlePoint Holdings, Ltd. Appoints Senior Vice President & Chief Accounting Officer.

CastlePoint Holdings, Ltd. (NASDAQ:CPHL) today announced the appointment of Richard M. Barrow as Senior Vice President & Chief Accounting Officer. Mr. Barrow's primary responsibilities will be to manage the accounting and financial reporting function for CastlePoint Holdings, Ltd. and its subsidiaries. Michael H. Lee, chairman and CEO, commented "We are very pleased to have a chief accounting officer with Mr. Barrow's broad financial and management experience. His hiring will allow us to have another senior level manager in addition to our current CFO, Joel Weiner. They will continue to build our accounting function to meet the requirements of our expanding company." With over 25 years of experience in the insurance industry, Mr. Barrow most recently served from 1996 until April 2007 as Senior Vice President, Treasurer & Chief Financial Officer for Gerling America Insurance Company, New York, NY, a subsidiary of the Talanx Group, Hannover, Germany. Prior to that, Mr. Barrow was Senior Vice President & Treasurer at Public Service Mutual Insurance Company, New York, NY. Mr. Barrow is a CPA. Mr. Barrow holds a Bachelor of Science degree in Accounting from SUNY Albany, New York.

July 31, 2008.

Jay A. Nutt Named Controller of FMC Technologies.

FMC Technologies, Inc. (NYSE: FTI) announced today that Jay A Nutt has been named Controller. Mr. Nutt, who currently serves as Assistant Corporate Controller of FMC Technologies, will assume his new position effective August 1. Mr. Nutt began his career with FMC Corporation in 1987. During his 21-year career he has progressed through a number of positions of increasing responsibility. In 2001, following FMC Corporation's spin-off of FMC Technologies, he was named Division Controller of Energy Production Systems. He advanced to Controller of Energy Systems in 2007 and assumed his current responsibilities in January 2008. Mr. Nutt is a 1985 graduate of Michigan State University, where he earned a Bachelor of Science degree in accounting, and a 1991 graduate of Loyola University where he was awarded a Master of Business Administration (MBA) degree.

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