Board Structure and Corporate Governance: Does Hiring a Retired Director Improve Monitoring?*

Pamela Brandes† Ravi Dharwadkar‡ Jonathan Ross§ Linna Shi¶

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Abstract

Using a sample of S&P 1500 firms for the period of 1999 to 2014, we document that the proportion of retired independent directors on corporate boards has increased four-fold from 7% to 28%. This prompts an important yet unanswered question regarding the monitoring effectiveness of these retired independent directors relative to non-retired independent directors and insiders on the board. Using different measures of earnings management to proxy for monitoring effectiveness, we first show that retired independent directors are better monitors than not only insiders but also non-retired independent directors. Additional analysis shows that we are not simply observing an endogenous outcome in which corporations that have already engaged in less earnings management hire more retired independent directors. Further, we show that retired independent directors who hold leadership or audit committee positions help to improve monitoring. Lastly, we investigate several non-mutually exclusive alternative explanations for the superior monitoring effectiveness of retired independent directors and show that this is likely due to their contributing more to the director job, having fewer conflicts of interest and having more experience than non-retired independent directors.

Keywords: board structure, retired independent directors, monitoring effectiveness, earnings management, corporate governance

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†Whitman School of Management, Syracuse University, pbrandes@syr.edu.
‡Whitman School of Management, Syracuse University, rdharwad@syr.edu.
§School of Management, State University of New York at Binghamton, jross@binghamton.edu.
¶Lindner College of Business, University of Cincinnati, shiln@ucmail.uc.edu.

1 Introduction

Corporate boards perform a vital role in monitoring and advising corporations. They are hired by shareholders and charged with hiring key executive officers, establishing broad governing policies for the corporation, ensuring the availability of financial resources, approving annual budgets, setting the compensation policies for management, and being accountable to stakeholders for the corporation's performance. Since boards are so important in helping to ameliorate the agency conflicts between shareholders and management, researchers have put much effort into understanding which board attributes (e.g., board size, independence, activities, expertise etc.) result in effective monitoring.

Our paper is motivated by the noticeable change in board structure over the past decade. Analyzing the directorship data from ISS (formerly Risk Metrics) for the S&P1500 firms over 1999-2014, we find that the proportion of independent directors on boards has increased from about 60% in 1999 to more than 80% in 2014. This indicates that a majority of directors are now outsiders, after the SEC mandated in 2003 that NYSE and Nasdaq listed firms have at least 50% of their board directors be independent. We also find that among independent directors on boards, the proportion of retired independent directors (hereafter RIDs) increased four-fold over this time period from 7% to 28% while the mean proportion of non-retired independent directors (hereafter NRIDs) remained relatively constant at around 52%. Our findings are consistent with the survey results of Spencer Stuart Executive Consultants (2015) that new independent directors, especially lead directors, are more likely to be RIDs. Although numerous studies have examined the monitoring effectiveness of independent directors, very few have studied the monitoring role of RIDs, especially since the dramatic increase of RIDs on boards in recent years. We seek to fill this void.

Using earnings management to proxy for monitoring effectiveness, we investigate and find that accrual-based earnings management, real earnings management, the probability of just meeting or beating earnings forecasts, the probability of a financial reporting misstatement and the probability of auditor-identified material internal control weaknesses are

all negatively related to the proportion of RIDs appointed to the board. Furthermore, the proportion of RIDs on corporate boards is more negatively related to earnings management measures than the proportion of NRIDs is. From these findings, we conclude that RIDs are better monitors than NRIDs; the monitoring ability of corporate boards increases more when an independent member is appointed from the retired ranks than from the non-retired ranks.

It is possible that our finding is an endogenous outcome: perhaps firms that engage in less earnings management simply hire more RIDs. To combat this concern, we apply a change analysis with a sub-sample of firm-years in which the only year-to-year change on the board occurs when one of the independent directors retires from other full time employment but remains on the board. In this scenario, the proportion of RIDs increases by definition, but we assume that this increase has nothing to do with the firm's level of earnings management. We find a decrease in accrual-based and real earnings management with an increase in RIDs, which excludes the possibility that the lower earnings management is caused by RIDs' attraction to these firms. We also perform a change analysis around the Sarbanes-Oxley Act (SOX) for supplementary evidence. Although we could not identify a perfectly exogenous event such as the regulatory change in 2003 for the test of board independence, our two tests show at least some evidence of the causal relation between RIDs and effective monitoring.

Additionally, we observe that even after the dramatic increase of RIDs on boards in recent years, the proportion of RIDs is still much lower than the proportion of NRIDs. This leads to a natural question: how can RIDs dominate any decision that the board makes? Spencer Stuart Executive Consultants (2015) find that many RIDs are appointed to lead positions on boards or to major committee positions. Therefore, we investigate how earnings management changes with the appointment of RIDs to leadership positions or to audit committees. We find lower earnings management in firms that appoint an RID as the board chairman or the chair of a key board committee and in firms that appoint an RID to the audit committee, holding other factors constant.

Lastly, we investigate the underlying mechanism for our findings. We propose and examine several non-exclusive reasons why RIDs are better monitors. Analyzing director-firm-year level data from ISS over our sample time period, we find that RIDs, on average, have more time to spend on board diligence, fewer conflicts of interest, and more expertise and experience. Each of these alone suggests a mechanism by which earnings management falls when a firm hires an RID and falls more when a firm hires an RID than when it hires an NRID.

We contribute to the literature on board structure and monitoring effectiveness by documenting that the increase in RIDs appointed to corporate boards has led to an improvement in monitoring through a reduction of earnings management. Whereas a relatively large number of studies examine the relationship between various attributes of the board and financial reporting, our study is the first to focus on an attribute that has become increasingly salient in the last 15 years: the percentage of retired independent directors on the board. Through several tests, we find that retired individuals (presumably because they have more time on their hands) contribute more to the director job, have fewer agency conflicts, and have more experience.

The remainder of our paper is structured as follows. In Section 2 we provide some background regarding corporate board structure and a literature review for our hypotheses. Section 3 discusses the sample selection, data, and the methodology we use to test our hypotheses. Section 4 discusses our findings. Section 5 presents the results of several tests designed to pinpoint ***why*** retired directors are better monitors in terms of reducing earning management. Section 6 concludes.

2 Background Literature & Hypotheses Development

2.1 Board Structure and Monitoring/Performance

In response to the corporate accounting scandals of 2001-02, the SEC initiated the NYSE and Nasdaq minimum independence threshold criterion to "strengthen corporate governance

practices for listed companies."[1] In response, the NYSE and Nasdaq proposed that listed firms have at least 50% of their board be comprised of independent directors.[2] The SEC approved all of the exchange's proposals in November, 2003, and firms were required to comply with the regulations by the earlier of: (1) the listed issuer's first annual shareholder meeting after January 15, 2004; or (2) October 31, 2004 (Armstrong et al. 2014).

Using the directorship data from ISS (formerly Risk Metrics) for S&P1500 firms over the period 1999-2014, we examine the trends in board composition, especially around and after the 2003 regulation change. We report our findings in Figure 1, which plots the mean proportion of RIDS, NRIDs and dependent directors on corporate boards over our sample period. We find the following: (1) the proportion of independent directors(dependent directors)[3] on boards increases(decreases) from about 60%(40%) in 1999 to about 80%(20%) in 2014; (2) The proportion of RIDs increased by 400% over this time period (from $\approx$ 7% to $\approx$ 28%), while the proportion of NRIDs remained relatively constant at around 52%.

[Insert Figure 1 about here]

Figure 1 illustrates how corporations responded to the minimum independence threshold listing criteria by hiring more RIDs (instead of more NRIDs). Although the proportion of RIDs (RID%) increased pre-regulation from 7% to 13% over 1999-2003, it experienced a discrete jump from 13% to almost 25% from 2004-07 and has continued to rise steadily. In contrast, the proportion of NRIDs (NRID%) declined from 57% to 50% over 2004-07 and has remained relatively constant at 52%.

The proportions in Figure 1 as of 2014 are consistent with those reported in Spencer Stuart Executive Consultants (2015). The executive consulting firm Spencer Stuart puts out a survey-based board index with very detailed information regarding board composition

[1] Securities and Exchange Commission press release 3448745, November 2003; Chhaochharia and Grinstein (2009).

[2] An "independent" director, as defined in Section 303A.02 of the NYSE company listing requirements (NYSE 2016), is an individual with no material relationship with the listed company.

[3] Note that the mean proportion of independent directors is the sum of the proportion of RIDs and NRIDs or one minus the proportion of insiders.

and attributes for the S&P 500 firms every year.[4] Two facts about board composition are particularly relevant to our study. First, a large majority of board members are independent (84% as of 2015), reflecting the fact that firms are moving away from having a majority of insiders on the board (as was the case before the 2004 NYSE 50% minimum independence threshold limit). Second, a majority of the newly appointed independent directors, especially those in lead positions, are retired directors: 53% of board chairmen and 44% of lead directors are independent retired former CEOs, chairs, presidents or COOs while only 13% are non-retired outside executives.

[Insert Appendix B about here]

Several obvious questions result from the trends illustrated in Figure 1, and Appendix B. First, why have firms sought to hire outsiders from the retired instead of non-retired ranks in recent years? Second, given regulators and the exchanges' concerns regarding independence, did the increase in the proportion of RIDs lead to better monitoring and oversight? Third, if the answer to the second question is yes, does corporate board monitoring improve more if the firm appoints an independent member from the retired ranks than if it appoints one from the non-retired ranks? We rigorously tackle these questions in this study.

2.2 Board Attributes and Earnings Management

There is a relatively large literature regarding attributes of the board of directors and whether these attributes have an impact on the board's ability to monitor.[5] In the accounting literature, earnings management is the most often-used proxy for board monitoring effectiveness. Earnings management represents the firm's systematic manipulation of accruals and/or

[4] We summarize some of the major attributes from Spencer Stuart Executive Consultants (2015) in Appendix B. For example, it shows that (1) average board size has remained relatively constant at around 11 board members over the past ten years, (2) the average age of board directors has increased over the last ten years from 60.8 to 63.1, and (3) the number of new independent female board directors has increased by about 50% in the past five years.

[5] Larcker and Tayan (2011) provide a concise synopsis of the main academic results. They argue that the determination of how to structure the board should be based on rigorous statistical evidence.

cash flows in order to make earnings appear higher (usually) or lower than the true earnings for a reporting period. Earnings management is generally thought to reduce shareholder value (Dechow and Skinner 2000) and thus is something that corporate boards should seek to limit. Therefore, earnings management can be thought of as an ex-post proxy for board monitoring effectiveness and has been widely used in numerous studies (e.g., Dechow et al. 1996; Klein 2002 and Peasnell et al. 2005).[6] Also, there are well-developed measures of earnings management in the accounting literature. Since our study is not about designing a better proxy for board effectiveness, we borrow a proxy from prior literature that has been studied in great detail.

Numerous prior studies examine how various attributes of the board (e.g., board independence, board compensation contract structure, board activity and board expertise) affect a firm's propensity to engage in earnings management, and the extent to which it will do so. Due to the volume of literature, we summarize prior findings about the relation between board attributes and board monitoring effectiveness using only several prior studies as examples.

First, many prior studies investigate how board independence affects earnings management and generally find that board independence is negatively related to earnings management. For example, Dechow et al. (1996) use a sample of firms subject to enforcement actions by the SEC and show that income increasing discretionary accruals are statistically higher for firms with a higher percentage of insiders on the board and for firms whose insiders hold a higher proportional number of shares in their firms relative to a control sample of similar firms. Klein (2002) finds a negative relation between both overall board independence and audit committee independence and abnormal accruals. She concludes that boards that are structured to be more independent of the CEO are more effective in mon-

[6]In addition to earnings management, other outcome proxies such as transparency (Armstrong et al. 2014), conservatism (Ahmed and Duellman 2007), and specific accounting choices have also been used in previous literature. Earnings management and the other proxies are often highly correlated because they capture the same/similar perspectives regarding the effectiveness of board monitoring. We therefore select the most often-used proxy rather than including all outcome proxies in this study.

itoring the corporate financial accounting process. In a similar vein, Cohen et al. (2012) show that firms appoint independent directors who are overly sympathetic to management while still being technically "independent" according to regulatory definitions. In addition to highlighting the importance of overall board independence, prior studies also show that the independence of key board positions is relevant. See, for example, Fama and Jensen (1983) and Klein (1998) (on the independence of board committees), Boyd (1995) (on the independence of the chairman), and Cotter et al. 1997 and Larcker et al. 2007 (on the independence of the lead director).

Second, regarding the relationship between the structure of the board member's compensation contracts and earnings management, evidence from prior literature is mixed. Some papers find a positive relationship between the level of stock-based and, in particular, option-based compensation and earnings manipulation (e.g., Cheng and Warfield 2005; Bergstresser and Philippon 2006; Burns and Kedia 2006; Peng and Röell 2008); whereas some papers (e.g. Erickson et al. 2006; Armstrong et al. 2010) do not. Laux and Laux (2009) offer theory explaining why prior empirical literature has found mixed evidence regarding the relationship between the amount of a board member's (especially the CEO's) incentive pay and earnings manipulation.

Third, a few studies have documented the intuitive result that the more active directors are in monitoring, the lower the level of earnings management. For example, Sarkar et al. (2008) find that it is not board independence per se but the diligence of the board, as measured as the percentage of board meetings attended by outside directors, that is associated with lower levels of earnings manipulation. Similarly, Xie et al. (2003) find that board and audit committee meeting frequency is associated with reduced levels of current discretionary accruals. At the same time, more expertise on boards, especially on audit committees, is also associated with a lower occurrence of accounting fraud (Abbott et al. 2004), lower levels of current discretionary accruals (Xie et al. (2003) and better internal control quality (Krishnan 2005). Knapp (1987) and DeZoort and Salterio (2001) find that audit committee

members with financial expertise are more willing to support external auditor involvement in disputes with client management. In sum, it is likely that board vigilance and director experience interact with each other in improving board monitoring effectiveness (Kroll et al. 2008).

Last, other board attributes may also affect board effectiveness. For example, board size has also been studied, but there isn't a strong reason that this should be related to earnings management in either direction, as Xie et al. (2003) point out. Therefore it is not surprising that the few results reported are mixed (e.g., compare the results in Kao and Chen 2004 and Marrakchi Chtourou et al. 2001). Other attributes such as busy board members (Core et al. 1999; Fich and Shivdasani 2006), interlocked boards (Hallock 1997; Chiu et al. 2012; Nguyen 2012; Larcker et al. 2013) and board diversity (Adams and Ferreira 2009; Wang and Clift 2009) are also found to be related to board effectiveness (although that is often not measured by earnings management).

As some recent studies point out (e.g., Ahern and Dittmar 2012; Bhagat and Bolton 2013; Armstrong et al. 2014), the prior corporate governance literature has largely ignored the potentially endogenous relationship between board characteristics of interest and corporate governance due to the inability to find a suitable instrumental variable that exogenously affects the board characteristic of interest while not simultaneously affecting the corporate governance characteristic of interest.[7] Ahern and Dittmar (2012) deal with this problem by identifying a unique regulatory event in Norway that required at least 40% of Norwegian firms' directors to be women. This event affected all firms at the same time and subsequent performance declined in the cross-section. The alternative explanation that firms whose performance was already declining were appointing more women to the board was effectively ruled out by the fact that the regulatory event applied to all Norwegian firms at the same time and to the same degree. Both Bhagat and Bolton (2013) and Armstrong et al. (2014)

[7]However, Armstrong et al. (2014) acknowledge that several prior studies have been able to identify a suitable instrumental variable in order to document a causal effect of board structure on firm value and CEO compensation (e.g., Wintoki 2007; Duchin et al. 2010).

use the exogenous minimum independence threshold imposed by the NYSE and Nasdaq (in response to motivation from the SEC) effective January 2004 to rule out the alternative explanation that firms whose performance (or transparency) was already improving also happened to be hiring more independent directors.

Similarly, Chen et al. (2015) examine whether the regulatory change about board independence around SOX reduces earnings management (proxied by the absolute value of accruals) and find that a significant reduction in earnings management for non-compliant firms is conditional on low information acquisition costs.[8]

2.3 Hypothesis Development

In contrast to the dramatic increase of RIDs in the past decade and the voluminous body of prior literature regarding board attributes, almost no studies have explicitly examined the monitoring ability of RIDs; especially in recent years. To the best of our knowledge, only two papers have examined the role of retired directors on the board. Using the market reaction to poison pills as a proxy for market sentiment regarding board composition, Brickley et al. (1994) find a positive relation between the fraction of outside directors and market reactions and argue that this is evidence that outside directors serve the interests of shareholders. Their finding that the positive relation is mainly driven by professional directors and retired directors on boards indicates that these directors are the ones who improve board efficiency. Anderson et al. (2004) investigate board independence and cost of debt and find a negative relation. However, when they split independent directors into academic, retired, executive and other categories, they do not find significant differences on how each category decreases the cost of debt. Both Brickley et al. (1994) and Anderson et al. (2004) use market-based evidence in the period before 1998, but they show mixed results. Therefore, it is an unanswered question whether RIDs are good or bad monitors, especially if we use more

[8]Other studies, such as Chhaochharia and Grinstein (2009) and Bebchuk et al. (2009), use a fixed effects model to account for unobservable firm characteristics that may affect both monitoring outcomes and governance characteristics; but the fixed effects model cannot exclude the possibility of reverse causality.

direct measures of monitoring outcomes. This question is especially relevant considering the dramatic increase of RIDs on boards and their lead positions in the past fifteen years.

RIDs have some characteristics that may make them good monitors. First, they have more time and thus are more likely to be diligent in their director job. As Pozen (2010) points out, the workloads of board directors have increased dramatically in the past decade, mainly due to the increased regulatory and shareholder scrutiny[9] resulting from the major accounting frauds at the beginning of the century.

After executives retire, they are able to devote more time to their directorship position(s) and are better able to concentrate on their board tasks. They can attend more board meetings and participate more actively in those meetings and satisfy the increased workload and time demands required by board service. Spencer Stuart Executive Consultants (2015) thus surmise that these are the reasons more RIDs than NRIDs are being hired. As a result, the less busy and more focused RIDs will lead to improved governance outcomes, consistent with Fich and Shivdasani (2006).

Also, RIDs may have fewer conflicts of interest, because their personal interests are no longer intertwined with their former employers; thus, the other top managers who cross-sit on the boards cannot influence the RID's compensation or job security. In addition, money is less of a driving force for RIDs. Executives typically retire at around the age of 60 in good health but want to continue to work on a part-time basis. Money is less of a driving force for them at this age because they would not have retired if they could not afford to. As Pozen (2010) points out:

> Many former executives are already wealthy; their motivation to be an independent director is often personal and professional satisfaction rather than monetary rewards. For the retired executive, the role of independent professional director is a perfect fit. After all, who really wants to play golf every day for 25 years?

[9]For example, the recent Dodd-Frank Financial Regulatory Reform requires that all public companies publicly disclose the ratio between the CEO's compensation and the median compensation of the firms other employees for their first fiscal year beginning on or after January 1, 2017. Also, compensation committees must publicly disclose any conflicts of interest involving a compensation consultant advising the board.

In this regard, RIDs are closer to the true spirit of independent directors and should decrease agency concerns, consistent with the "board independence" literature (e.g., Larcker et al. 2007; Cohen et al. 2012; Armstrong et al. 2014).

Furthermore, RIDs are more likely to have related experience and expertise. Since the pool of RIDs is reasonably large (Pozen 2010), firms are more selective when appointing directors to boards. As a result, the successful RID candidates, on average, are more likely to have better qualifications (e.g., financial expertise), than the NRIDs, who are selected from a smaller pool. As a result, RIDs will improve financial quality (e.g., Abbott et al. 2004; Krishnan 2005)). In addition, RIDs are older and naturally have more experience and are more conservative than younger directors (Ge et al. 2011).

Given that retired individuals have more time on their hands, are likely motivated more by personal and professional satisfaction than by money, have a wealth of prior experience to draw upon, and may be less subject to agency conflicts, our first hypothesis comparing RIDs and other directors, stated in alternative form, is:

H1$_A$: Earnings management is decreasing in the percentage of RIDs appointed to the board.

Since the above mentioned characteristics of RIDs hold true not only as they compare to insiders, but also as they compare to NRIDs, our second hypothesis comparing RIDs to NRIDs, stated in alternative form, is:

H1$_B$: Earnings management is decreasing more with the percentage of RIDs than with the percentage of NRIDs appointed to the board.

There are, however, reasons to believe that RIDs may be worse monitors. RIDs may occupy more board seats due to the extra time they have. Consequently, they may devote less time to each board directorship (Fich and Shivdasani 2006). Furthermore, because board membership is more selective for RIDs, alternative opportunities for continuing engagements

are fewer. Thus, RIDs may be less likely to challenge management for fear of jeopardizing their position. Additionally, NRIDs can earn income primarily from other sources even if they lose the independent directorship, and they also need to maintain their reputation as independent directors, just as RIDs do. As a result, NRIDs are not necessarily more motivated by or concerned with monetary rewards than RIDs. Therefore, the null hypothesis is not necessarily rendered infeasible by our earlier reasons for surmising that RIDs are better monitors.

Figure 2 helps to illustrate our hypotheses. A director is either an insider, an NRID, or an RID, and the sum of the proportion of insiders, RIDs, and NRIDs is always 100%. $H1_A$ states that as the percentage of RIDs (group I) increases, earnings management decreases. As group I increases, either group II or group III must necessarily decrease. $H1_A$ doesn't put a restriction on which group decreases. $H1_B$, on the other hand, can be restated as follows: if we hold the percentage of insiders constant (group III), as the percentage of RIDs increases, earnings management will decrease even though the percentage of NRIDs decreases. The increasing effect on earnings management of group I increasing will outweigh the increasing effect on earnings management of group II decreasing.

Because the proportion of RIDs is much lower than the proportion of NRIDs even in recent years, one might ask how the RIDS can dominate board decisions to effectively monitor managers. Survey results from Spencer Stuart Executive Consultants (2015) imply that RIDs are being hired more for leadership positions such as lead director or chairs of board committees (see p. 7). The psychology and sociology literatures suggest that leaders can often exert great influence in a group (e.g., Bikhchandani et al. 1992; Chiu et al. 2013). In a board setting, if a retired director takes the chairman or other leadership position, he/she is likely to have a large influence on the other directors (such as NRIDs) when performing due diligence. Therefore, our second hypothesis related to RIDs with leadership positions, stated in alternative form, is:

$H2_A$: Earnings management decreases when RIDs take leadership positions such

as the board chairman or the chair of key committees.

Survey results from Spencer Stuart Executive Consultants (2015) also imply that RIDs are being hired more for important board positions such as audit committees. Audit committees oversee the financial reporting process, monitor accounting policies and principles, examine internal control processes, and communicate with management, internal auditors and external auditors (Keinath and Walo 2004). According to the survey of audit committee members by Beasley et al. (2009), audit committees play important roles in setting and maintaining firms' earnings quality. This has been confirmed by numerous empirical findings such as those of Klein (2002), Srinivasan (2005), and Vafeas (2005). Due to the important role of audit committees in monitoring accounting quality, the SEC requires that all audit committee members of publicly listed firms be independent and have at least one financial expert. Therefore, our final hypothesis related to RIDs serving on audit committees, stated in alternative form, is:

H2$_B$: Earnings management is decreasing in the percentage of RIDs appointed to audit committees.

3 Sample, Data and Methodology

We use a sample time period of 1999-2014 and OLS or logistic regression to test H1$_A$ and H1$_B$, depending on whether our dependent variable is continuous or discrete. Following prior literature, we use earnings management to proxy for board monitoring. Higher earnings management is assumed to imply lower board monitoring effectiveness. We use different measures of earnings management employed frequently in prior literature[10] to test our hypotheses. These measures capture accrual-based earnings management, real earnings management, barely meeting or beating an earnings benchmark, and ex-post realizations of

[10]e.g., See the review of the earnings quality measures by Dechow et al. (2010).

earnings manipulation such as an earnings restatement and whether the auditor identified internal control weaknesses.

Our main models to test $H1_A$ & $H1_B$ (using panel data)[11] take the following OLS/Logistic regression[12] form with two-way clustering at the firm and year level following **?**.

$$EM = \beta_0 + \beta_1 RID\% + \beta_2 ASSETS + \beta_3 ROA + \beta_4 BM + \beta_5 SG + \beta_6 LEV + \beta_7 SEG + \beta_8 VOL + \beta_9 DUALITY + \beta_{10} INST + \beta_{11} EINDEX + Industry\ FE + \epsilon \quad (1a)$$

$$EM = \beta_0 + \beta_1 RID\% + \beta_2 INSIDER\% + \beta_3 ASSETS + \beta_4 ROA + \beta_5 BM + \beta_6 SG + \beta_7 LEV + \beta_8 SEG + \beta_9 VOL + \beta_{10} DUALITY + \beta_{11} INST + \beta_{12} EINDEX + Industry\ FE + \epsilon \quad (1b)$$

where EM is one of the five earnings management measures described previously for firm i in year t, $RID\%$ is the percentage of the board comprised of independent retired board members, and $INSIDER\%$ is the percentage of the board comprised of insiders. A board director is defined as a retired director if his/her employment category, primary job, or primary company name is or includes "retired" in the ISS database, and is defined as non-retired otherwise. A board director is defined as an independent director if his/her board affiliation is "I" (independent) in the ISS database, and is defined as an insider (or dependent) director if his/her board affiliation is "E" (employed) or "L" (linked). A director is an RID (NRID) if he/she is both retired (non-retired) and independent.

The control variables include firm characteristics such as firm size ($ASSETS$, measured by the natural logarithm of average total asset), profitability (ROA, return on assets), book-to-market ratio (BM), sales growth (SG), leverage (LEV), the number of business segments (SEG), volatility of sales (VOL) and governance attributes such as CEO-Chair duality ($DUALITY$), the percentage of institutional shares ($INST$) and the entrenchment index

[11] We omit the firm-year subscripts in equations (1a) and (1b) for the sake of brevity.

[12] OLS if the dependent variable is a continuous measure of EM, such as discretionary accruals and real earnings management; Logistic regression if the dependent variable is an indicator variable, such as meeting or barely beating earnings forecasts, incidence of a restatement, or incidence of an auditor-identified internal control weakness.

proposed by Bebchuk et al. (2009) ($EINDEX$). These are common control variables used in prior earnings management studies. We also controlled for industry fixed effects to control for the possibility that firms in certain industries may have similar accruals, real operation choices, and other accounting issues related to earnings management. Appendix A provides more detailed definitions of them.

$H1_A$ hypothesizes that $\boldsymbol{\beta_1 < 0}$ in equation (1a). $H1_A$ is technically a check hypothesis that we state for the sake of completeness. $H1_B$ hypothesizes that $\boldsymbol{\beta_1 < 0}$ in equation (1b) and is our prediction regarding the relative effect on earnings management of hiring an RID versus an NRID. Specifically, if we hold constant the percentage of insiders on the board, when the percentage of RIDs increases, earnings management decreases even though the percentage of NRIDs is falling. Thus, if $\boldsymbol{\beta_1 < 0}$ in equation (1b), the relative negative effect on earnings management of the increasing $RID\%$ outweighs the relative positive effect on earnings management of the decreasing $NRID\%$.

We estimate equations (1a) and (1b) with industry fixed effects and calculate t-stats after first clustering the standard errors at both the firm and year level following Petersen (2009).

To test $H2_A$ regarding whether RIDs with leadership positions will decrease earnings management, we modify equation (1a) slightly by replacing $RID\%$ with $RETIRED_{LEADER}$, with two-way clustering at the firm and year level, as follows:

$$\begin{aligned} EM = {} & \beta_0 + \beta_1 RETIRED_{LEADER} + \beta_2 ASSETS + \beta_3 ROA + \beta_4 BM + \beta_5 SG + \\ & \beta_6 LEV \beta_7 SEG + \beta_8 VOL + \beta_9 DUALITY + \beta_{10} INST + \beta_{11} EINDEX + \\ & Industry\ FE + \epsilon \end{aligned} \tag{2a}$$

where $RETIRED_{LEADER}$ is an indicator variable equal to one if the board chairman or the chair of key committees (such as the audit committee, compensation committee or corporate governance committee) is an RID, and zero otherwise. All other variables are defined as in equation (1a). We expect that $\beta_1 < 0$. That is, earnings management is lower in companies whose board chairman or chair of a key committee is an RID than in companies which hire

an insider or an NRID, ceteris paribus.

To test $H2_B$ regarding whether increasing the $RID\%$ on audit committees decreases earnings management, we modify equation (1b) slightly by replacing $RID\%$ with $RID_{AC}\%$, and $INSIDER\%$ with $INSIDER_{AC}\%$. We thus test our main hypothesis with a subset of the board: namely, the audit committee, with two-way clustering at firm and year level, as follows:[13]

$$\begin{aligned} EM = \beta_0 + \beta_1 RID_{AC}\% + \beta_2 INSIDER_{AC}\% + \beta_3 ASSETS + \beta_4 ROA + \beta_5 BM + \beta_6 SG + \\ \beta_7 LEV + \beta_8 SEG + \beta_9 VOL + \beta_{10} DUALITY + \beta_{11} INST + \beta_{12} EINDEX + \\ Industry\ FE + \epsilon \end{aligned} \tag{2b}$$

where $RID_{AC}\%$ is the proportion of the audit committee who are RIDs, while $INSIDER_{AC}\%$ is the proportion of the audit committee who are insiders. All other variables are defined as in equation (1b). We expect that $\beta_1 < 0$, as before.

Descriptive statistics for key variables employed in our analysis are reported in Table 1. The average percentage of RID, NRID and insiders accounts for 20%, 52% and 27% of board directors in our sample from 1999-2014. The absolute values of discretionary accruals and real earnings management, both scaled by total assets, are 4% and 22%, respectively. The probabilities of beating analyst's forecasts by zero or one cent, having a restatement, and having an auditor-identified internal control weakness are 23%, 11% and 4%, respectively. The other control variables are comparable to those in previous published studies. Table 2 reports the Pearson correlations between key variables. $RID\%$ is negatively related to $NRID\%$ and $INSIDER\%$ as their sum equals one. $RID\%$ is negatively and significantly related to $|DACC_{EM}|$, $|REAL_{EM}|$, MB, $RESTATE$ and $ICMW$, providing preliminary evidence that $RID\%$ is negatively related to earnings management.

[13]In the interest of parsimony, we present only the regression results with $INSIDER_{AC}\%$.

4 Empirical Results

4.1 Empirical Results for H1

Following Dechow et al. (2010), we measure earnings management with different measures including accrual-based earnings management, real earnings management, meeting/barely meeting earnings benchmarks, earnings restatements, and internal control weaknesses. We summarize the individual models and their respective results in sections 4.1.1 – 4.1.5. Section 4.1.6 discusses our tests for endogeneity.

4.1.1 Accrual-based Earnings Management

We employ three different accrual-based measures of earnings management. All are absolute measures of discretionary accruals and follow prior literature. Our first discretionary accruals measure, $DACC_{MFLOS}$, follows McNichols (2002) and Francis et al. (2005). This accruals measure controls for cash flows in the previous and future periods and is most consistent with the underlying theory of accounting accruals. Our second measure, $DACC_{ALS}$, is derived by estimating the model of Allen et al. (2013). This accruals measure considers firm growth which is important in deciding the serial correlation of accruals. Our third discretionary accruals measure, $DACC_{ROA}$, follows Kothari et al. (2005). This performance-matched accruals measure considers the performance changes driven by SOX and by the NYSE and Nasdaq listing requirement changes (Bhagat and Bolton 2013). All discretionary accrual measures come from OLS estimation of a cross sectional model with total accruals on the left and different explanatory variables on the right following the original idea proposed in Jones (1991). The estimated residual in the models is the discretionary accrual. Our calculation of the discretionary accruals measures is summarized in Appendix A.

The results from estimating equations (1a) and (1b) using all three discretionary accruals measures of earnings management are reported in Table 3.

[Insert Table 3 about here]

Notice that β_1 (the coefficient on $RID\%$ in equation (1a)) is statistically less than zero for all three measures of accrual-based earnings management. Also, notice that β_2 (the coefficient on $INSIDER\%$ in equation (1b)) is statistically greater than zero for two of the three measures, as intuitively expected: as the percentage of insiders increases, earnings management increases.

Hribar and Nichols (2007) point out the potential bias in using unsigned discretionary accruals to measure earnings management. To address this concern, we split our sample into two sub-samples with positive (or negative) discretionary accruals and then run our tests for each sub-sample. Untabulated results show that positive discretionary accruals (i.e., income increasing manipulations) are decreasing with $RID\%$, but negative discretionary accruals (i.e., income decreasing manipulations) are not statistically related to $RID\%$. Since income increasing earnings management is more of a concern to investors, our results with signed discretionary accruals are consistent with the notion that RIDs are effective monitors and decrease earnings management.

In summary, using three different accrual-based measures of earnings management employed in prior literature, we conclude that when the percentage of RIDs increases, earnings management declines. Furthermore, we conclude that hiring an RID decreases earnings management more than hiring an NRID.

4.1.2 Real Earnings Management

The decline in accrual-based earnings management might be driven by SOX. However, Cohen et al. (2008) and Zang (2011) find that real earnings management substitutes for accrual-based earnings management and increases after SOX. Finding a negative relation between real earnings management and the proportion of RIDs will largely relieve the concern that our findings in section 4.1.1 are totally driven by SOX.

We employ four measures of real earnings management following Cohen et al. (2008) and Cohen and Zarowin (2010). These measures are designed to capture firms' strategic tim-

ing in realizing certain cash flows and recognizing certain expenses and revenues. $|AB_{CF}|$, $|AB_{DISCEXP}|$ and $|AB_{PROD}|$ are abnormal cash flows, abnormal discretionary expenses and abnormal production costs respectively. Real earnings management is assumed to be decreasing in AB_{CF} and $AB_{DISCEXP}$ and increasing in AB_{PROD} (see Cohen and Zarowin 2010). Thus we compute an aggregate measure of real earnings management, $|REAL_{EM}|$, as the absolute value of the sum of minus one times AB_{CF}, minus one times $AB_{DISCEXP}$ and plus one times AB_{PROD}. Therefore, increasing values of $|REAL_{EM}|$ imply higher levels of real earnings management. Our calculation of each of the four measures of real earnings management is summarized in Appendix A.

The results from estimating equations (1a) and (1b) using each of the four measures of real earnings management are reported in Table 4.

[Insert Table 4 about here]

Notice that β_1 is statistically less than zero for each of the four measures of real earnings earnings management. The significance is only at the 5% level for the measure $|AB_{PROD}|$. Thus we find evidence strongly consistent with $H1_A$ and $H1_B$ when using $|REAL_{EM}|$, $|AB_{CF}|$ or $|AB_{DISCEXP}|$, and evidence modestly consistent with $H1_A$ and $H1_B$ when using $|AB_{PROD}|$. Notice that β_2 (the coefficient on $INSIDER\%$ when we test $H1_B$) is statistically greater than zero when $|REAL_{EM}|$ or $|AB_{PROD}|$ is used to measure real earnings management.

Using a procedure similar to our signed test for discretionary accruals, we also investigate the relationship between income increasing and income decreasing earnings management and $RID\%$ separately. Untabulated results provide consistent evidence that income increasing real earnings management is decreasing with $RID\%$.

In summary, using four different measures of real earnings management employed in prior literature, we conclude that when the percentage of RIDs increases, earnings management declines. Furthermore, we conclude that hiring an RID decreases earnings management more than hiring an NRID.

4.1.3 Meeting or Beating Earnings Benchmarks

Following Burgstahler and Dichev (1997), Degeorge et al. (1999) and several later studies, we use meeting or barely beating earnings benchmarks as a proxy for earnings management. Since previous earnings management literature reviews[14] document that analyst forecasts are the most important benchmark for management, we use meeting or barely beating analyst forecasts[15] as another measure of earnings management. Specifically, MB is an indicator variable equal to one if the firm's reported EPS was equal to the median consensus analyst forecast or beat the median consensus analyst forecast by one cent, and zero otherwise. Therefore, we estimate equations (1a) and (1b) using logistic regression. The results are reported in Table 5.

[Insert Table 5 about here]

Notice that β_1 (the coefficient on $RID\%$) is statistically less than zero at the 1% level. We also report the marginal effect to aid in interpretation of β_1. The marginal effect is calculated relative to the mean level of our $RID\%$ variable. Therefore, the interpretation of β_1 when testing $H1_A$ is that when the proportion of RIDs increases by 1% (relative to the mean $RID\%$), the probability of the firm just meeting or beating the median analyst EPS forecast falls by 0.153% when we hold all other variables (control variables in equations (1a) and (1b)) at their mean levels. Consider an average board consisting of 10 members, one of whom is an RID ($RID\% = 10\%$). Adding one more RID such that the new $RID\% = 2/11 \approx 18\%$ (an 8% increase) leads to a 1.53% decrease in the probability of benchmark beating, which is economically significant relative to the average probability of benchmark beating from Table 1 (23%).

Notice as before that, if $RID\%$ increases by 1% while $INSIDER\%$ is held constant, then the percentage of NRIDs must fall. Despite this, we find evidence in favor of $H1_B$ that the probability of just meeting or beating the median analyst forecast declines. Notice

[14] See e.g., Graham et al. (2005) and Habib and Hansen (2008).
[15] We use analyst forecast data from the Institutional Brokers Estimate System (I/B/E/S).

that β_2 (the coefficient on $INSIDER\%$) is statistically greater than zero, consistent with intuition.[16]

In summary, using a discrete measure of earnings management that captures whether a firm just meets or barely beats the median analyst EPS forecast, we conclude that when the percentage of RIDs increases, earnings management declines. Furthermore, we conclude that hiring an RID decreases earnings management more than hiring an NRID.

4.1.4 Earnings Restatements

We use the incidence of earnings restatements as a measure of earnings management. $RESTATE$ is an indicator variable equal to one if the firm restated its current fiscal year's earnings, and zero otherwise.[17] We realize the measure may be noisy in the sense that firms could restate due to intentional earnings manipulation or un-intentional miscalculation of earnings. However, on average, earnings restatements reflect poor earnings quality in general.

The results from estimating equations (1a) and (1b) using earnings restatements are reported in Table 6.

[Insert Table 6 about here]

Notice that β_1 (the coefficient on $RID\%$) is statistically less than zero at the 1% level. We also report the marginal effect to aid in interpretation of β_1. The marginal effect is calculated relative to the mean level of our $RID\%$ variable. Therefore, the interpretation of β_1 when we test $H1_A$ is that when the proportion of RIDs increases by 1% (relative to the mean $RID\%$), the probability of the firm's restating its earnings falls by 0.088% when we hold all other variables (control variables in equations (1a) and (1b)) at their mean levels. Consider an average board consisting of 10 members, one of whom is an RID ($RID\% = 10\%$). Adding

[16] Reporting a small loss or avoiding reporting a loss altogether is another common way in which managers manage earnings. (e.g. Hayn 1995). We use an indicator variable – reporting small negative or zero earnings – as the dependent variable in the regression and find similar results.

[17] We obtain this variable from Audit Analytics. Restatement information is not available in Audit Analytics before 2000; hence, our sample time period for this test is 2000-2014.

one more RID such that the new $RID\% = 2/11 \approx 18\%$ (an 8% increase) leads to a 0.88% decrease in the probability of a restatement, which is economically significant relative to the average probability of an earnings restatement from Table 1 (11%).

Notice as before, if $RID\%$ increases by 1% while $INSIDER\%$ is held constant, then the percentage of NRIDs must fall. Despite this, we find evidence in favor of $H1_B$ that the probability of restating earnings declines. Notice that β_2 (the coefficient on $INSIDER\%$) is statistically greater than zero, consistent with intuition.

In summary, using the incidence of earnings restatements as a measure of earnings management, we conclude that when the percentage of RIDs increases, earnings management declines. Furthermore, we conclude that hiring an RID decreases earnings management more than hiring an NRID.

4.1.5 Internal Control Weaknesses

We use the incidence of an auditor-identified material weakness in internal controls as a measure of monitoring effectiveness. $ICMW$ is an indicator variable equal to one if the firm's auditor identified a material weakness in internal controls in its report on internal controls, and zero otherwise. We obtain this variable from Audit Analytics. Since SOX 404 doesn't require the auditor to report on internal controls until 2004, data on this variable begins in 2004 and our sample period for this test is 2004-2014.

Finding a negative relation between RID% and the probability of internal control weakness in the post SOX period will further indicate that our findings are not purely driven by SOX. The results from estimating equations (1a) and (1b) using auditor-identified material internal control weaknesses are reported in Table 7.

[Insert Table 7 about here]

Notice that β_1 (the coefficient on $RID\%$) is statistically less than zero at the 1% level. We also report the marginal effect to aid in interpretation of β_1. The marginal effect is

calculated relative to the mean level of our $RID\%$ variable. Therefore, the interpretation of β_1 when we test $H1_A$ is that when the proportion of RIDs increases by 1% (relative to the mean $RID\%$), the probability of the firm's auditor's identifying a material weakness in internal controls falls by 0.057% when we hold all other variables (control variables in equations (1a) and (1b)) at their mean levels. Consider an average board consisting of 10 members, one of whom is an RID ($RID\% = 10\%$). Adding one more RID such that the new $RID\% = 2/11 \approx 18\%$ (an 8% increase) leads to a 0.57% decrease in the probability of a restatement, which is economically significant relative to the average probability of an auditor-identified material weakness internal control from Table 1 (4%).

Notice as before that, if $RID\%$ increases by 1% while $INSIDER\%$ is held constant, then the percentage of NRIDs must fall. Despite this, we find evidence in favor of $H1_B$ that the probability of the auditor's identifying a material internal control weakness declines. Notice that β_2 (the coefficient on $INSIDER\%$) is statistically greater than zero, consistent with intuition.

In summary, using the incidence of an auditor-identified material weakness in internal controls as a measure of earnings management, we conclude that when the percentage of RIDs increases, earnings management declines. Furthermore, we conclude that hiring an RID decreases earnings management more than hiring an NRID.

4.1.6 Dealing with Potential Endogeneity

We use earnings management to proxy for board monitoring effectiveness and find that hiring RIDs is associated with a decrease in earnings management. However, we may simply be observing this association due to an endogenous outcome: firms that engage in less earnings management, may appoint more RIDs to the board.

A large majority of the prior corporate governance literature has not been able to rule out this potential alternative explanation due to the inability to find a suitable instrumental variable that exogenously affects the board characteristic of interest while not simultane-

ously affecting the measure for monitoring effectiveness. Some studies use a two-stage least squares model to control for the likelihood of reverse causality between the dependent and independent variables. This cannot address the endogeneity issue in our study however. This design merely ensures that firms choosing a retired director look similar to firms choosing a non-retired director in terms of the pre-shock board composition. The choice between these alternative director types is still endogenous. Some recent studies address the endogeneity issue by introducing an exogenous event to exploit how the exogenous shock affects dependent variables and use a difference-in-difference research design. For example, Armstrong et al. (2014) exploit cross-sectional variation in transparency within the group of firms forced to add independent directors based on some pre-shock characteristics (such as the proportion of independent directors on boards) . However, although the change in percentage of independent directors might be exogenous due to the regulation change, whether firms elect to appoint an RID or an NRID is no longer exogenous to the regulatory shock. In sum, without an effective instrument that is purely unrelated to earnings management or an event that is exogenous to the selection of retired directors on boards, it is unlikely that we can follow previous literature to address the endogeneity concern.

We employ two specific tests to rule out the above-mentioned endogenous alternative explanation for our findings. First, we restrict our sample to firms where at least one independent director retires but remains on the board and hence the percentage of retired directors increases. In this scenario, the increase in $RID\%$ is not because new RIDs are attracted to firms with lower earnings management. Observing a decrease in earnings management would support our hypothesis and show that the association is not caused by the RIDs' attraction to a firm with an already low level of earnings management. We measure the change of earnings management in the year before and the year after the board director's retirement. We also calculate the change of $RID\%$ and the change of the control variables in equation (1b) and perform a change analysis. The results are reported in Table 8 under "Change Analysis Around the Retirement Year." They show that both accrual-based

and real earnings management significantly decline in the year after one or more of the independent directors retire but remain on the board.

Second, we try a difference-in-difference model that centers on the 2003 NYSE and Nasdaq listing requirement for director independence as a supplementary test. Specifically, we regress the change in accrual-based earnings management and real earnings management on the change in $RID\%$ and all other control variables in equation (1b) for year 2004 versus year 2000, following the idea of Bhagat and Bolton (2013) and Armstrong et al. (2014). The results are reported in Table 8 under "Change Analysis Around SOX." We find consistent results that the change in both accrual-based earnings and real earnings management are negatively related to the change in $RID\%$ around the regulation. As mentioned earlier, we admit that this event is not perfectly exogenous, since the decision between choosing an RID or an NRID following the regulatory change is still the firm's. But because only the proportion of RIDs on boards (rather than the proportion of NRIDs; see Figure 1) increases after the regulation, the event is, at least to some extent, exogenous to the decision about hiring more RIDs post-SOX.

In summary, we conclude that when the proportion of RIDs increases, the effectiveness of board monitoring (as measured by accrual-based earnings management, real earnings management, meeting or barely-beating earnings benchmarks, earnings restatements, and internal control weaknesses) increases. Using our measures of real earnings management and internal control weaknesses relieves the concern that our result is a coincidence of an increase of RIDs on boards and a decrease in earnings management after SOX. Although we could not identify a perfectly exogenous event such as the regulatory change in 2003 for the test of board independence, our two tests show at least some evidence of the causal relation between RIDs and effective monitoring.

4.2 Empirical Results for H2

Since the proportion of RIDs is still much lower than the proportion of NRIDs even in more recent years, and RIDs are taking more board leadership positions and serving on important board committees, we summarize the test results regarding how RIDs with leadership positions or RIDs on audit committees affect earnings management in Sections 4.2.1 and 4.2.2 respectively.

4.2.1 RIDs with Leadership Positions

We define a firm as one with retired director(s) in leadership position(s) if the board chairman or chair of key committees (such as the audit committee, compensation committee or corporate governance committee) is an RID. Then we examine whether such firms have less earnings management. The results are reported in Table 9.

[Insert Table 9 about here]

Notice that β_1 is statistically less than zero at the 5% level or better for all measures of earnings management. Thus we find support for $H2_A$ that earnings management is lower for firms whose lead director is an RID than for firms whose lead director is an NRID.

4.2.2 RIDs on Audit Committees

We next test how the proportion of RIDs on audit committees affects earnings management. The results are reported in Table 10.

[Insert Table 10 about here]

Notice that β_1 is statistically less than zero at the 5% level or better for all measures of earnings management. We thus conclude that when the percentage of RIDs on audit committees increases, earnings management declines, which supports $H2_B$.

In summary, using five different measures of earnings management, we conclude that when the percentage of RIDs on the audit committee increases, earnings management declines. Furthermore, we conclude that appointing an RID to the audit committee has a greater decreasing effect on earnings management than appointing an NRID to the audit committee.

5 Why RIDs Are Better Monitors

In this section, we further investigate the underlying mechanism for why retired directors are better monitors. We focus on director-firm-year level data from ISS over the sample period 1999-2014 to examine how RIDS are different from NRIDs. In developing our hypotheses, we surmise that RIDs might spend more time on their board duties, have fewer conflicts of interest, and have more expertise and overall experience. All of these reasons can help explain why RIDs are better monitors than NRIDs.

We employed several univariate tests to understand why RIDs are better monitors than NRIDs. Table 11 summarizes our findings.

[Insert Table 11 about here]

The first two tests investigate whether RIDs contribute more than NRIDs to the director job. We find that RIDs are less likely to miss board meetings: only 0.71% of the RIDs attended less than 75% of firm-year board meetings across all firm-years, compared to 1.92% for the NRIDs on average. We find that RIDs have fewer distractions from other board positions as the mean number of other boards that RIDs sat on was 0.933, versus 0.987 for the NRIDs.

The next three tests are designed to capture the agency conflicts of RIDs versus NRIDs. We find that RIDs are less likely to be involved in an interlocking directorship (0.01%) than NRIDs (0.04%), are less likely to be designated to the board (0.17%) than NRIDs (0.25%), and have fewer business transactions with the company (0.05%) than NRIDs (0.09%).

The final two tests capture the experience of RIDs versus NRIDs. We find that RIDs are more likely to be financial experts: 15.53% of the RID director-firm-years are financial

experts, versus 7.5% for NRIDs. Also, RIDs are older (65.68 years) on average than NRIDs (60.10 years).

In summary, we find that RIDs contribute more to the director job than NRIDs, are subject to fewer agency conflicts than NRIDs and have more experience than NRIDs. We encourage future researchers to examine whether RIDs have other characteristics that make them better monitors and/or how each characteristic contributes to their monitoring effectiveness. We also hope that future research will examine whether retired independent directors and retired insider directors are different, considering that retired insiders may also have more time and more experience but less independence. Last but not least, we focus on director characteristics rather than firm characteristics to explain the direct relation between RIDs and corporate board monitoring effectiveness in this study. Further research may consider the moderating relation between RIDs, firm characteristics and earnings management. For example, RIDs may affect the firms' information environment, which moderates the relation between independent directors and earnings management (see Chen et al. 2015).

6 Conclusion

Since the turn of the century, the proportion of retired independent directors on the corporate boards of S&P 1500 firms has increased four-fold, from 7.5% to 28%. The percentage of non-retired independent directors has remained relatively constant at around 52%, while the percentage of insiders has dropped from 40% to 20%. There was a discrete jump in the proportion of retired independent members on corporate boards in 2004 in response to more stringent listing requirements by the NYSE and Nasdaq. Using different measures of earnings management frequently employed in the literature, we show that the increase in the proportion of retired board members is negatively associated with earnings management. RIDs appear to provide a mechanism by which corporations can improve monitoring and more properly align the incentives of managers and shareholders. Although we could not

find a perfectly exogenous event or instrumental variable, we provide some evidence that our findings at least partially show the monitoring effectiveness of RIDs. Our further tests show that when RIDs take leadership positions or are appointed to audit committees, they can have an influential effect on firms' earnings management even though RIDs are often not the majority on the board. We provide evidence regarding why hiring RIDs leads to greater decreases in earnings management than hiring NRIDs: (1) RIDs contribute more to the director job than NRIDs, (2) RIDs are subject to fewer agency conflicts than NRIDs and (3) RIDS have more experience than NRIDs. We also find that retired independent directors who hold leadership positions on the board and who serve on key committees are important in reducing earnings management at their firms. Our findings suggest that we are not simply observing an endogenous outcome in which corporations, that engage in less earnings management attract and hire more retired directors.

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Figures

Figure 1
Corporate Board Composition (1999-2014)

This figure plots the proportion of the three groups of board members (i.e., retired directors, non-retired directors and insiders) in our sample over the time period 1999-2014.

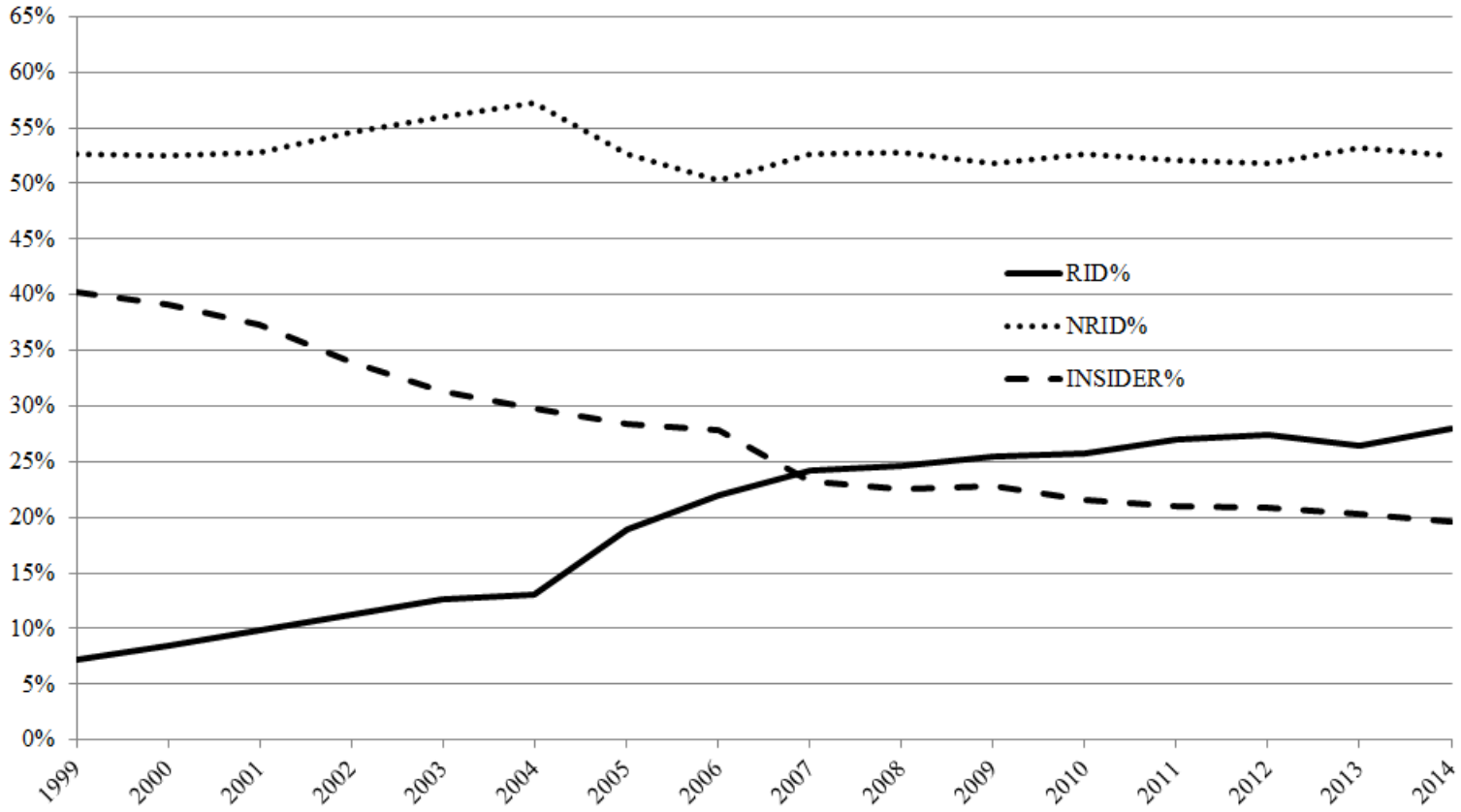
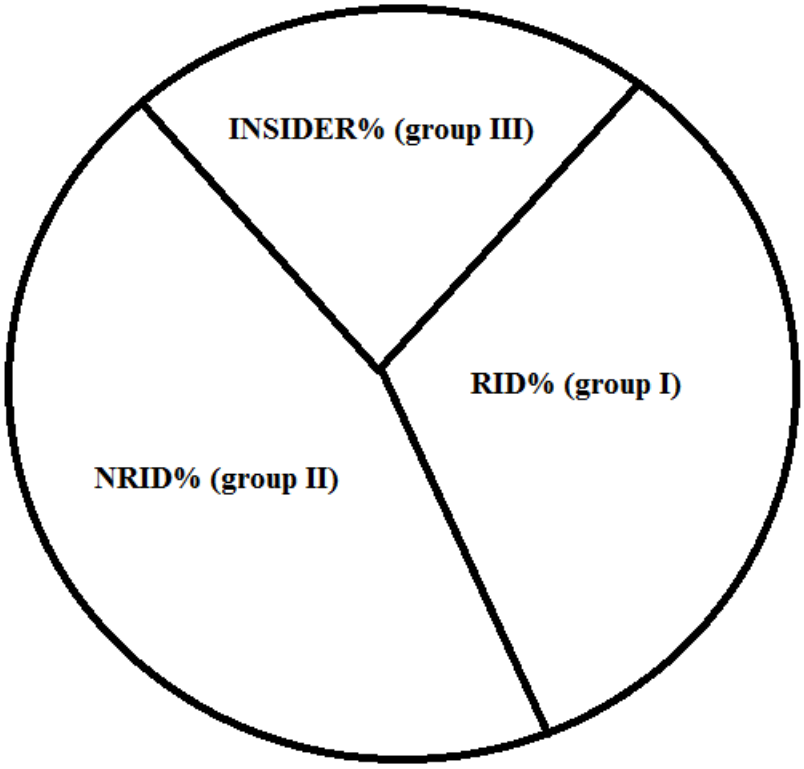


Figure 2
Corporate Board of Directors

This figure displays the three groups of board members (i.e., retired directors, non-retired directors and insiders) and is helpful in visualizing our two hypotheses in section 2.3.



Tables

Table 1
Descriptive Statistics

This table reports descriptive statistics for the variables employed in our study. All variables are defined in Appendix A.

Variable	N	Mean	Std. Dev	Q1	Median	Q3
$RID\%$	11,875	0.20	0.17	0.07	0.17	0.33
$NRID\%$	11,875	0.52	0.18	0.40	0.55	0.67
$INSIDER\%$	11,875	0.27	0.15	0.14	0.25	0.38
$\|DACC_{MFLOS}\|$	10,650	0.04	0.05	0.01	0.02	0.04
$\|REAL_{EM}\|$	11,875	0.22	0.20	0.07	0.17	0.31
MB	11,176	0.23	0.42	0.00	0.00	0.00
$RESTATE$	11,102	0.11	0.32	0.00	0.00	0.00
$ICMW$	7,685	0.04	0.20	0.00	0.00	0.00
$ASSETS$	11,875	7.41	1.46	6.35	7.25	8.31
ROA	11,875	0.05	0.09	0.02	0.06	0.10
BM	11,875	0.51	0.38	0.27	0.43	0.64
SG	11,875	0.09	0.21	-0.01	0.07	0.16
LEV	11,875	0.49	0.21	0.33	0.49	0.62
SEG	11,875	2.79	1.80	1.00	3.00	4.00
VOL	11,875	0.17	0.14	0.07	0.12	0.21
$DUALITY$	11,875	0.65	0.48	0.00	1.00	1.00
$INST$	11,875	0.77	0.20	0.68	0.80	0.90
$EINDEX$	11,875	2.61	1.32	2.00	3.00	3.00

Table 2
Correlations

This table reports Pearson correlations for the variables employed in our study. Correlations with p-values < 0.05 are in boldface.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) $RID\%$																		
(2) $NRID\%$	**-0.61**																	
(3) $INSIDER\%$	**-0.41**	**-0.47**																
(4) $\|DACC_{MFLOS}\|$	**-0.07**	**0.00**	**0.09**															
(5) $\|REAL_{EM}\|$	**-0.07**	0.01	**0.06**	**0.11**														
(6) MB	**-0.08**	0.01	**0.07**	**-0.01**	**-0.01**													
(7) $RESTATE$	**-0.07**	0.01	**0.08**	0.03	0.02	**0.03**												
(8) $ICMW$	**-0.08**	0.03	**0.07**	**0.01**	**0.01**	**-0.02**	**0.18**											
(9) $ASSETS$	**0.11**	**0.08**	**-0.21**	-0.11	-0.12	0.00	**-0.05**	**-0.08**										
(10) ROA	**0.03**	**-0.01**	**-0.02**	**-0.32**	**-0.33**	0.07	**-0.07**	**-0.09**	**0.10**									
(11) BM	**-0.02**	-0.04	**0.07**	**0.03**	**0.03**	**-0.09**	**0.06**	**0.05**	**-0.12**	**-0.36**								
(12) SG	-0.04	**-0.01**	**0.05**	**-0.01**	**-0.02**	**0.01**	**0.01**	**-0.01**	**0.03**	**0.27**	**-0.17**							
(13) LEV	**0.03**	0.08	**-0.12**	-0.04	**-0.03**	-0.06	0.00	0.02	**0.38**	**-0.18**	**-0.09**	**-0.06**						
(14) SEG	**0.06**	**0.04**	**-0.11**	**-0.06**	**-0.06**	**-0.03**	-0.01	0.00	**0.33**	**-0.03**	**0.03**	**-0.07**	**0.23**					
(15) VOL	**-0.06**	**-0.03**	**0.10**	**0.02**	**0.03**	**-0.01**	0.02	0.01	**-0.17**	**0.02**	**0.04**	**0.00**	**-0.01**	**-0.08**				
(16) $DUALITY$	**-0.09**	**0.09**	**0.00**	**0.01**	**0.00**	0.03	**0.01**	0.02	**0.13**	-0.01	**-0.01**	0.00	0.11	**0.08**	**0.01**			
(17) $INST$	**0.18**	**0.09**	-0.31	-0.11	-0.10	**-0.02**	0.02	**-0.01**	**0.04**	0.12	-0.13	0.09	**-0.05**	**-0.09**	-0.01	**-0.08**		
(18) $EINDEX$	**0.20**	**0.04**	**-0.28**	**-0.05**	**-0.05**	**-0.06**	**-0.10**	-0.05	**0.04**	**-0.03**	**0.04**	**-0.08**	**0.07**	**0.06**	-0.06	**-0.01**	**0.17**	

Table 3
The Effect of Retired Directors on Discretionary Accruals

This table reports the coefficient estimates from estimating equations (1a) and (1b) over a sample time period of 1999-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). EM is measured either as $|DACC_{MFLOS}|$, $|DACC_{ALS}|$ or $|DACC_{ROA}|$. t-stats for variables with(without) predicted signs from one-tailed(two-tailed) hypothesis tests are reported below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	**Exp. Sign**	$\|DACC_{MFLOS}\|$		$\|DACC_{ALS}\|$		$\|DACC_{ROA}\|$	
$RID\%$	-	-0.014**	-0.011**	-0.014**	-0.011**	-0.010***	-0.009***
		(-2.19)	(-1.89)	(-2.11)	(-1.84)	(-2.92)	(-2.77)
$INSIDER\%$	+		0.012***		0.009**		0.003
			(2.39)		(1.85)		(1.04)
$ASSETS$	-	-0.001**	-0.001**	-0.001***	-0.001***	-0.002***	-0.002***
		(-1.89)	(-1.66)	(-2.46)	(-2.34)	(-5.66)	(-5.51)
ROA	-	-0.171***	-0.171***	-0.178***	-0.178***	-0.040***	-0.040***
		(-7.62)	(-7.61)	(-7.51)	(-7.5)	(-4.65)	(-4.65)
BM	-	-0.008***	-0.008***	-0.009***	-0.009***	-0.003***	-0.003***
		(-2.47)	(-2.47)	(-2.99)	(-2.98)	(-2.35)	(-2.36)
SG	+	0.014*	0.013*	0.011*	0.011*	0.008***	0.008***
		(1.44)	(1.41)	(1.34)	(1.31)	(2.79)	(2.79)
LEV		0.000	0.001	-0.002	-0.001	0.007**	0.007**
		(-0.03)	(0.14)	(-0.42)	(-0.29)	(2.18)	(2.22)
SEG		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
		(-6.25)	(-6.)	(-4.96)	(-4.84)	(-3.57)	(-3.55)
VOL	+	0.024***	0.023***	0.023***	0.023***	0.029***	0.029***
		(5.21)	(5.26)	(5.03)	(5.03)	(9.69)	(9.76)
$DUALITY$	+	0.001	0.002	0.001	0.001	0.001	0.001
		(1.12)	(1.19)	(0.96)	(1.01)	(0.64)	(0.66)
$INST$	-	-0.020***	-0.018***	-0.018***	-0.016***	-0.006***	-0.006**
		(-2.77)	(-2.62)	(-2.68)	(-2.5)	(-2.36)	(-2.27)
$EINDEX$	+	0.000	0.000	0.000	0.000	0.000	0.000
		(-0.26)	(0.01)	(-0.24)	(-0.02)	(-0.62)	(-0.51)
$Intercept$		0.074***	0.066***	0.081***	0.075***	0.061***	0.059***
		(10.32)	(9.64)	(13.58)	(11.90)	(11.22)	(10.22)
# of Obs.		10,650	10,650	10,649	10,649	11,870	11,870
Adj. R^2		21.92%	22.02%	20.95%	21.00%	10.83%	10.84%

Table 4
The Effect of Retired Directors on Real Earnings Management

This table reports the coefficient estimates from estimating equations (1a) and (1b) using OLS over a sample time period of 1999-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). *EM* is measured either as $|REAL_{EM}|$, $|AB_{CF}|$, $|AB_{DISCEXP}|$ or $|AB_{PROD}|$. P-values from one-tailed hypothesis tests are listed below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	**Exp. Sign**	$\|REAL_{EM}\|$		$\|AB_{CF}\|$		$\|AB_{DISCEXP}\|$		$\|AB_{PROD}\|$	
RID%	-	-0.062***	-0.053***	-0.012***	-0.012***	-0.032***	-0.028***	-0.027***	-0.021**
		(-3.00)	(-2.53)	(-2.83)	(-2.60)	(-3.13)	(-2.70)	(-2.71)	(-2.14)
INSIDER%	+		0.031*		0.000		0.013		0.019**
			(1.30)		(0.05)		(1.06)		(1.84)
ASSETS	-	-0.014***	-0.014***	-0.004***	-0.004***	-0.012***	-0.012***	-0.005***	-0.005***
		(-4.48)	(-4.26)	(-5.93)	(-5.84)	(-7.81)	(-7.50)	(-3.60)	(-3.35)
ROA	-	0.238	0.238	-0.003	-0.003	-0.007	-0.007	0.129	0.129
		(4.93)	(4.97)	(-0.16)	(-0.16)	(-0.34)	(-0.34)	(5.69)	(5.73)
BM	-	0.000	0.000	-0.008***	-0.008***	-0.011***	-0.011***	-0.004	-0.004
		(0.01)	(0.0)	(-4.33)	(-4.34)	(-2.65)	(-2.68)	(-1.03)	(-1.06)
SG	+	0.032***	0.031***	0.013***	0.013***	0.005	0.004	0.009**	0.008**
		(3.11)	(3.01)	(4.0)	(3.96)	(0.94)	(0.84)	(1.97)	(1.81)
LEV		0.097***	0.098***	0.012**	0.012**	0.041***	0.042***	0.045***	0.046***
		(4.51)	(4.60)	(2.19)	(2.17)	(3.70)	(3.78)	(4.58)	(4.72)
SEG		-0.002	-0.002	-0.002***	-0.002***	-0.001	-0.001	0.000	0.000
		(-0.80)	(-0.77)	(-3.99)	(-3.97)	(-0.93)	(-0.90)	(-0.24)	(-0.20)
VOL	+	0.102***	0.101***	0.031***	0.031***	0.038***	0.038***	0.049***	0.048***
		(3.67)	(3.66)	(6.66)	(6.75)	(2.65)	(2.62)	(3.99)	(4.00)
DUALITY	+	0.002	0.002	0.000	0.000	-0.003	-0.003	0.004*	0.004*
		(0.35)	(0.38)	(-0.35)	(-0.35)	(-0.89)	(-0.87)	(1.42)	(1.47)
INST	-	-0.034**	-0.029*	-0.011***	-0.011***	-0.012	-0.009	-0.014**	-0.011
		(-1.68)	(-1.38)	(-3.33)	(-3.29)	(-1.12)	(-0.87)	(-1.65)	(-1.21)
EINDEX	+	0.001	0.001	-0.001	-0.001	0.001	0.001	0.000	0.001
		(0.39)	(0.61)	(-2.03)	(-2.0)	(0.51)	(0.68)	(0.48)	(0.80)
Intercept		0.183***	0.162***	0.097***	0.097***	0.128***	0.119***	0.082***	0.069***
		(5.69)	(4.40)	(11.83)	(10.13)	(8.37)	(6.53)	(5.72)	(4.21)
# of Obs.		11,870	11,870	11,870	11,870	11,870	11,870	11,870	11,870
Adj. R^2		18.58%	18.61%	11.32%	11.31%	22.98%	23.00%	16.70%	16.77%

Table 5
The Effect of Retired Directors on Meeting/Beating Earnings Benchmarks

This table reports the coefficient estimates from estimating equations (1a) and (1b) using logistic regression over a sample time period of 1999-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). MB is an indicator variable equal to one if the firm's annual EPS just met or barely beat the median analysts EPS forecast, and zero otherwise. t-stats for variables with(without) predicted signs from one-tailed(two-tailed) hypothesis tests are reported below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	Exp. Sign	Main	Marginal	Main	Marginal
$RID\%$	−	-0.910***	-0.153***	-0.720***	-0.121***
		(-5.12)	(-6.16)	(-4.08)	(-4.62)
$INSIDER\%$	+			0.693***	0.117***
				(3.80)	(3.87)
$ASSETS$	+	0.086***	0.015***	0.096***	0.016***
		(3.10)	(4.44)	(3.50)	(4.88)
ROA	+	0.797**	0.134***	0.801**	0.135***
		(2.02)	(2.46)	(2.04)	(2.47)
BM	−	-0.574***	-0.097***	-0.575***	-0.097***
		(-5.66)	(-6.68)	(-5.78)	(-6.69)
SG	+	-0.165	-0.028	-0.193	-0.032
		(-0.80)	(-1.35)	(-0.95)	(-1.58)
LEV		-0.702***	-0.118***	-0.664***	-0.112***
		(-4.57)	(-5.02)	(-4.34)	(-4.74)
SEG		-0.021	-0.004	-0.019	-0.003
		(-1.09)	(-1.42)	(-1.01)	(-1.30)
VOL		-0.314	-0.053*	-0.360	-0.061*
		(-1.10)	(-1.65)	(-1.27)	(-1.89)
$DUALITY$	+	0.119**	0.020***	0.123**	0.021***
		(1.81)	(2.35)	(1.92)	(2.44)
$INST$		-0.275**	-0.046**	-0.150	-0.025
		(-1.78)	(-2.09)	(-0.89)	(-1.10)
$EINDEX$	+	-0.046	-0.008	-0.033	-0.006
		(-1.40)	(-2.46)	(-1.06)	(-1.76)
$Intercept$		-1.443***		-1.901***	
		(-3.54)		(-4.81)	
# of Obs.		11,133		11,133	
Adj. R^2		3.87%		4.00%	

Table 6
The Effect of Retired Directors on Earnings Restatements

This table reports the coefficient estimates from estimating equations (1a) and (1b) using logistic regression over a sample time period of 2000-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). $RESTATE$ is an indicator variable equal to one if the firm restated the current fiscal year's earnings, and zero otherwise. t-stats for variables with(without) predicted signs from one-tailed(two-tailed) hypothesis tests are reported below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	Exp. Sign	Main	Marginal	Main	Marginal
$RID\%$	−	-0.987***	-0.088***	-0.748***	-0.066***
		(-3.04)	(-4.98)	(-2.47)	(-3.57)
$INSIDER\%$	+			0.841**	0.075***
				(2.18)	(3.64)
$ASSETS$	−	-0.115***	-0.010***	-0.105***	-0.009***
		(-2.92)	(-4.22)	(-2.59)	(-3.82)
ROA	−	-2.026***	-0.181***	-2.027***	-0.180***
		(-4.54)	(-5.73)	(-4.78)	(-5.74)
BM	−	0.477	0.043	0.473	0.042
		(3.16)	(5.68)	(3.17)	(5.63)
SG	+	0.509***	0.045***	0.482***	0.043***
		(3.65)	(3.47)	(3.87)	(3.28)
LEV		0.312	0.028*	0.351	0.031*
		(1.25)	(1.71)	(1.36)	(1.92)
SEG		0.057*	0.005***	0.060*	0.005***
		(1.75)	(2.88)	(1.86)	(3.00)
VOL		0.123	0.011	0.092	0.008
		(0.35)	(0.52)	(0.29)	(0.38)
$DUALITY$	+	0.076	0.007	0.077	0.007
		(0.62)	(1.13)	(0.66)	(1.15)
$INST$		0.972***	0.087***	1.118***	0.099***
		(3.08)	(5.64)	(3.57)	(6.33)
$EINDEX$	+	-0.235	-0.021	-0.219	-0.019
		(-3.56)	(-9.46)	(-3.48)	(-8.65)
Intercept		-2.564***		-3.103***	
		(-5.12)		(-5.81)	
# of Obs.		11,017		11,017	
Adj. R^2		5.68%		5.85%	

Table 7
The Effect of Retired Directors on Internal Control Weaknesses

This table reports the coefficient estimates from estimating equations (1a) and (1b) using logistic regression over a sample time period of 2004-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). *ICMW* is an indicator variable equal to one if the firm's auditor identified a material weakness in internal controls, and zero otherwise. t-stats for variables with(without) predicted signs from one-tailed(two-tailed) hypothesis tests are reported below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	**Exp. Sign**	**Main**	**Marginal**	**Main**	**Marginal**
RID%	−	-2.010***	-0.057***	-1.713***	-0.050***
		(-3.95)	(-5.59)	(-3.41)	(-4.39)
INSIDER%	+			1.423**	0.041***
				(1.99)	(2.93)
ASSETS	−	-0.416***	-0.012***	-0.405***	-0.012***
		(-8.64)	(-8.15)	(-8.04)	(-7.47)
ROA	−	-2.901***	-0.086***	-2.957***	-0.086***
		(-3.71)	(-4.83)	(-3.64)	(-4.52)
BM	−	0.584	0.014	0.572	0.017
		(2.44)	(3.05)	(2.37)	(3.36)
SG	+	0.230	0.007	0.182	0.005
		(0.56)	(0.83)	(0.43)	(0.62)
LEV		1.330***	0.038***	1.420***	0.041***
		(2.79)	(3.97)	(2.96)	(4.00)
SEG	+	0.092**	0.003***	0.094**	0.003***
		(1.93)	(2.85)	(1.94)	(2.48)
VOL	+	(-0.06)	0.005	-0.041	-0.001
		(-0.11)	(0.39)	(-0.07)	(-0.09)
DUALITY	+	0.393***	0.009***	0.397***	0.011***
		(2.55)	(2.84)	(2.61)	(3.21)
INST		0.531	0.021**	0.680	0.020**
		(0.90)	(2.32)	(1.11)	(2.01)
EINDEX	+	-0.218	-0.006	-0.198	-0.006
		(-2.58)	(-4.61)	(-2.50)	(-4.04)
Intercept		-1.778***		-2.517***	
		(-2.97)		(-4.16)	
# of Obs.		7,530		7,530	
Adj. R^2		8.99%		9.31%	

Table 8
Tests for Endogeneity

This table reports the coefficient estimates from the change analysis regression approach around the retirement year of those independent directors who remain on the board after retiring as detailed in section 4.1.6. This table also reports the coefficient estimates from the change analysis regression approach around the passage of SOX described in section 4.1.6. P-values from one-tailed hypothesis tests are listed below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	**Exp. Sign**	**Change Analysis around Retirement Year**		**Change Analysis around SOX**	
		$\|DACC_{MFLOS}\|$	$\|REAL_{EM}\|$	$\|DACC_{MFLOS}\|$	$\|REAL_{EM}\|$
$\Delta RID\%$	-	-0.033**	-0.069*	-0.020**	-0.045*
		(-2.06)	(-1.44)	(-2.01)	(-1.48)
$\Delta INSIDER\%$	+	0.032**	-0.018	-0.007	0.004
		(1.72)	(-0.39)	(-0.57)	(0.12)
$\Delta ASSETS$	+	-0.002	-0.059***	-0.002	-0.053**
		(-0.22)	(-3.13)	(-0.23)	(-2.26)
ΔROA	+	-0.157***	0.092	-0.230***	0.048*
		(-3.43)	(0.95)	(-3.74)	(1.54)
ΔBM	-	-0.026***	-0.003	0.000	-0.011
		(-3.16)	(-0.10)	(0.02)	(-0.90)
ΔSG	+	-0.005	0.044**	0.016***	0.071***
		(-0.72)	(1.86)	(2.82)	(5.03)
ΔLEV	-	-0.009	0.046	0.028	0.055*
		(-0.39)	(0.72)	(0.90)	(1.38)
Intercept		-0.018***	0.002	0.002	0.010**
		(-7.0)	(0.27)	(0.69)	(2.15)
# of Obs.		806	717	2,363	2,346
Adj. R^2		4.98%	1.78%	9.23%	2.68%

Table 9
The Effect of Retired Directors with Leadership Positions

This table reports the coefficient estimates from estimating the model in equation (2a) using OLS over a sample time period of 1999-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). The dependent variable is one of the measures of earnings management employed throughout our analysis. t-stats for variables with(without) predicted signs from one-tailed(two-tailed) hypothesis tests are reported below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	**Exp. Sign**	$\|DACC_{MFLOS}\|$	$\|REAL_{EM}\|$	MB	$RESTATE$	$ICMW$
$RETIRED_{LEADER}$	-	-0.004**	-0.016***	-0.219***	-0.215***	-0.469***
		(-2.11)	(-2.57)	(-4.15)	(-2.60)	(-3.36)
$ASSETS$	-	-0.001**	-0.014***	0.086***	-0.115***	-0.417***
		(-1.85)	(-4.49)	(3.09)	(-2.91)	(-8.40)
ROA		-0.171***	0.236***	0.772*	-2.073***	-3.005***
		(-7.66)	(4.87)	(1.91)	(-4.87)	(-3.80)
BM	-	-0.008***	0.000	-0.577***	0.478***	0.586***
		(-2.48)	(0.0)	(-5.55)	(3.11)	(2.51)
SG	+	0.014*	0.033***	-0.149	0.520***	0.265
		(1.43)	(3.15)	(-0.72)	(3.98)	(0.64)
LEV		0.000	0.096***	-0.714***	0.302	1.283***
		(-0.07)	(4.53)	(-4.60)	(1.18)	(2.61)
SEG		-0.001***	-0.002	-0.021	0.058*	0.091*
		(-6.27)	(-0.78)	(-1.10)	(1.78)	(1.88)
VOL		0.024***	0.104***	-0.286	0.142	-0.042
		(5.20)	(3.70)	(-1.00)	(0.44)	(-0.08)
$DUALITY$	+	0.001	0.003	0.124**	0.084	0.398***
		(1.16)	(0.43)	(1.84)	(0.71)	(2.44)
$INST$		-0.021***	-0.038**	-0.332**	0.909***	0.456
		(-2.76)	(-1.95)	(-2.14)	(2.89)	(0.78)
$EINDEX$	+	0.000	0.001	-0.052*	-0.243***	-0.226***
		(-0.31)	(0.22)	(-1.59)	(-3.72)	(-2.69)
$Intercept$		2.831***	0.000***	-1.454***	-2.582***	-1.799***
		(11.22)	(13.22)	(-3.60)	(-5.39)	(-3.02)
# of Obs.		10,650	11,870	11,133	11,017	7,530
Adj. R^2		21.88%	18.47%	3.72%	5.50%	8.46%

Table 10
The Effect of Retired Directors Within the Audit Committee

This table reports the coefficient estimates from estimating the model in equation (2b) using OLS over a sample time period of 1999-2014. Standard errors are clustered at the firm and year level to adjust for the correlation in residuals both over time and across firms following Petersen (2009). The dependent variable is one of the measures of earnings management employed throughout our analysis. t-stats for variables with(without) predicted signs from one-tailed(two-tailed) hypothesis tests are reported below their respective coefficients, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level. All variables are defined in Appendix A.

Variable	**Exp. Sign**	$\|DACC_{MFLOS}\|$	$\|REAL_{EM}\|$	MB	$RESTATE$	$ICMW$
$RID_{AC}\%$	-	-0.005**	-0.024**	-0.391***	-0.591***	-0.871***
		(-1.65)	(-2.01)	(-3.61)	(-3.24)	(-4.47)
$INSIDER_{AC\%}$	+	0.008	0.020	0.515**	-0.176	0.672
		(1.19)	(1.03)	(2.24)	(-0.41)	(1.19)
$ASSETS$	-	-0.001**	-0.014***	0.085	-0.121***	-0.429***
		(-1.89)	(-4.59)	(3.07)	(-3.09)	(-8.14)
ROA		-0.170***	0.235***	0.776**	-2.054***	-2.911***
		(-7.59)	(4.90)	(1.97)	(-4.54)	(-4.03)
BM	-	-0.008***	0.000	-0.571***	0.467***	0.556**
		(-2.46)	(-0.06)	(-5.65)	(3.05)	(2.32)
SG	+	0.014*	0.033***	-0.163	0.520***	0.301
		(1.44)	(3.09)	(-0.79)	(3.73)	(0.79)
LEV		-0.001	0.095***	-0.732***	0.291	1.270***
		(-0.21)	(4.43)	(-4.77)	(1.17)	(2.61)
SEG		-0.001***	-0.002	-0.022	0.057*	0.093*
		(-6.10)	(-0.79)	(-1.12)	(1.72)	(1.76)
VOL		0.023***	0.102***	-0.341	0.119	-0.098
		(5.33)	(3.66)	(-1.16)	(0.35)	(-0.22)
$DUALITY$	+	0.001	0.002	0.117**	0.078	0.386***
		(1.11)	(0.39)	(1.74)	(0.64)	(2.64)
$INST$		-0.020***	-0.037*	-0.271*	0.911***	0.498
		(-2.75)	(-1.82)	(-1.70)	(2.89)	(0.96)
$EINDEX$	+	0.000	0.000	-0.049*	-0.243***	-0.226***
		(-0.32)	(0.19)	(-1.49)	(-3.63)	(-2.57)
Intercept		0.674***	0.182***	-1.513***	0.000***	-1.773***
		(10.94)	(5.70)	(-3.82)	(-4.85)	(-2.71)
# of Obs.		10,645	11,865	11,129	11,014	7,527
Adj. $R\hat{2}$		21.78%	18.48%	3.83%	5.64%	8.48%

Table 11
Why RIDs Are Better Monitors

This table summarizes the results of several tests designed to capture why RIDs are better monitors than NRIDs. Data at the director-firm-year level is collected from the ISS database (formerly Risk Metrics) over the period 1999-2014 and averaged for both RIDs and NRIDs. *Attend* $< 75\%$ is an indicator variable equal to one if the director attended less than 75% of the board meetings and zero otherwise. *OutsidePublicBoards* is the number of other public company boards that the director served on. *Interlocking* is an indicator variable equal to one if the director is involved in an interlocking directorship and zero otherwise. *Designated* is an indicator variable equal to one if the director is designated to the board pursuant to an agreement with the company and zero otherwise. *BusinessTransaction* is an indicator variable equal to one if the director was involved in a business transaction with the company and zero otherwise. *FinExp* is an indicator variable equal to one if the director is a financial expert and zero otherwise. *FormerEmployee* is an indicator variable equal to one if the director is a former employee of the company and zero otherwise. *Age* is the director's age. Two-tailed tests of the difference in means on the eight variables are summarized, and ***(**)(*) represent statistical significance at the 1%(5%)(10%) level.

Hypothetical Reason	**Variable**	**RIDs mean**	**NRIDs mean**	**Diff**
RIDs contribute more to the director job	*Attend* $< 75\%$	0.0071	0.0192	-0.0120***
	OutsidePublicBoards	0.9330	0.9870	-0.0540***
RIDs have fewer conflicts of interest	*Interlocking*	0.0001	0.0004	-0.0003***
	Designated	0.0017	0.0025	-0.0008***
	BusinessTransactions	0.0005	0.0009	0.0004***
RIDs have more expertise and experience	*FinExp*	0.1553	0.0750	0.0803***
	Age	65.6755	60.1020	5.5736***

Appendix A

Variable Definitions

This table gives the definition of all variables used in our study.

Variable	Definition
$RID\%$	The percentage of retired independent directors on the board.
$NRID\%$	The percentage of non-retired independent directors on the board.
$INSIDER\%$	The percentage of directors who are working in or have "material" links with the company as defined by the NYSE corporate listing manual.
$RETIRED_{LEADER}$	Indicator variable equal to one if the chair of the audit committee or compensation committee is independent and retired, and zero otherwise.
$RID_{AC\%}$	The proportion of audit committee board members who are retired and independent.
$INSIDER_{AC\%}$	The proportion of audit committee directors who are working in or have "material" links with the company as defined by the NYSE corporate listing manual.
$INSIDER_{AC\%}$	The proportion of audit committee directors who are working in or have "material" links with the company as defined by the NYSE corporate listing manual.
$\lvert DACC_{ROA}\rvert$	The absolute value of ROA-adjusted discretionary accruals. Following Kothari et al. (2005), we measure the ROA-adjusted discretionary accruals with a cross-sectional modified Jones (1991) model, controlling for return-on-assets (ROA): $$TACC_{jt} = \beta_0 + \beta_1 \left(\frac{1}{AVGAT_{jt}}\right) + \beta_2(\Delta SALE_{jt} - \Delta AR_{jt}) + \beta_3 PPE_{jt} + \beta_4 ROA_{jt} + \epsilon_{jt}$$ where $TACC$ is total accruals defined as income before extraordinary items (Compustat data item IBC) minus operating cash flows (OANCF) plus extraordinary items and discontinued operations (XIDOC), scaled by average total assets; AV GAT is average total assets; $\Delta SALE$ and ΔAR are the changes in sales (SALE) and accounts receivable (RECT), respectively, from the prior year to the current year scaled by average total assets; PPE is the gross property, plant, and equipment (PPEGT), scaled by the average total assets and ROA is income before extraordinary items (IBC) scaled by average total assets. We estimate the regression for each two-digit SIC code and year combination in which there are at least ten observations.

Appendix A continued

Variable	Definition
$\lvert DACC_{MFLOS}\rvert$	The absolute value of discretionary accruals, estimated using the cross-sectional McNichols (2002) and Francis et al. (2005) model: $$TACC_{jt} = \beta_0 + \beta_1 \left(\frac{1}{AVGAT_{jt}}\right) + \beta_2 CFO_{jt-1} + \beta_3 CFO_{jt} + \beta_4 CFO_{jt+1} + \beta_5 \Delta REV_{jt} + \beta_6 PPE_{jt} + \epsilon_{jt}$$ where $TACC$ is total accruals defined as income before extraordinary items (Compustat data item IBC) minus operating cash flows (OANCF) plus extraordinary items and discontinued operations (XIDOC), scaled by average total assets; $AVGAT$ is average total assets; CFO is operating cash flows (OANCF) minus extraordinary items and discontinued operations (XIDOC), scaled by average total assets; ΔREV is the change in sales (SALE), scaled by average total assets and PPE is the gross property, plant, and equipment (PPEGT), scaled by the average total assets. We estimate the regression for each two-digit SIC code and year combination in which there are at least eight observations.
$\lvert DACC_{ALS}\rvert$	The absolute value of discretionary accruals, estimated using the cross-sectional model of Allen et al. (2013) (ALS): $$TACC_{jt} = \beta_0 + \beta_1 \left(\frac{1}{AVGAT_{jt}}\right) + \beta_2 CFO_{jt-1} + \beta_3 CFO_{jt} + \beta_4 CFO_{jt+1} + \beta_5 SG_{jt} + \epsilon_{jt}$$ where $TACC$, $AVGAT$ and CFO are as defined previously and SG is the change in sales scaled by the sales in the previous year. We estimate the regression for each two-digit SIC code and year combination in which there are at least eight observations.
$\lvert REAL_{EM}\rvert$	The absolute value of total real earnings management. Following Cohen et al. (2008) and Cohen and Zarowin (2010) the variable is the sum of minus one times abnormal cash flows from operation (AB_{CF}), minus one times abnormal discretionary expenses ($AB_{DISCEXP}$), and plus one times abnormal production (AB_{PROD}).

Appendix A continued

Variable	Definition
$\|AB_{CF}\|$	The absolute value of abnormal cash flows from operations. Abnormal cash flows from operations is estimated using the following cross-sectional model from Cohen et al. (2008) and Cohen and Zarowin (2010): $$CFO_{jt} = \beta_0 + \beta_1 \left(\frac{1}{AVGAT_{jt}}\right) + \beta_2 SALE_{jt} + \beta_3 \Delta SALE_{jt} + \epsilon_{jt}$$ where CFO, $AVGAT$, $SALE$ and $\Delta SALE$ are as defined previously. We estimate the regression for each two-digit SIC code and year combination in which there are at least eight observations.
$\|AB_{DISCEXP}\|$	The absolute value of abnormal discretionary expenses. Abnormal discretionary expense is estimated using the following cross-sectional model from Cohen et al. (2008) and Cohen and Zarowin (2010): $$DISCEXP_{jt} = \beta_0 + \beta_1 \left(\frac{1}{AVGAT_{jt}}\right) + \beta_2 SALE_{jt-1} + \epsilon_{jt}$$ where DISCEXP is defined as the sum of advertising expense (XAD), R&D expense (XRD) and SG&A (XSGA) scaled by average total assets and $AVGAT$ and $SALE$ are as defined previously. We estimate the regression for each two-digit SIC code and year combination in which there are at least eight observations.
$\|AB_{PROD}\|$	The absolute value of abnormal production. Abnormal production is estimated using the following cross-sectional model from Cohen et al. (2008) and Cohen and Zarowin (2010): $$PROD_{jt} = \beta_0 + \beta_1 \left(\frac{1}{AVGAT_{jt}}\right) + \beta_2 SALE_{jt} + \beta_3 \Delta SALE_{jt} + \beta_4 \Delta SALE_{jt-1} + \epsilon_{jt}$$ where $PROD$ is cost of goods sold (COGS) plus the change in inventory (INVT) scaled by average total assets and $AVGAT$ and $SALE$ are as defined previously.
MB	An indicator variable equal to one if a firm's reported EPS met or barely beat the median consensus analyst forecast by zero or one cent, and zero otherwise. We follow Burgstahler and Dichev (1997) and Degeorge et al. (1999) in calculating this variable.
$RESTATE$	An indicator variable equal to one if a firm restated the current fiscal year's earnings, and zero otherwise. This variable was obtained from Audit Analytics.

Appendix A continued

Variable	Definition
$ICMW$	An indicator variable equal to one if a material weakness in internal control is reported by the firm's auditor under SOX 404, and zero otherwise. This variable was obtained from Audit Analytics.
$ASSETS$	Natural logarithm of total assets.
ROA	Return on assets. Equal to income before extraordinary items (IB) divided by average total assets.
BM	Book-to-market ratio. Equal to the book value of equity (CEQ) divided by the market value of equity. Market value of equity is calculated as the product of share price (PRCC) and the number of common shares outstanding (CSHO).
SG	Sales (SALE) growth %. Equal to the change in sales divided by the sales of the previous year.
LEV	Leverage. Equal to total liabilities divided by total assets.
SEG	The number of major business segments a firm is comprised of.
VOL	Volatility in sales. Equal to the standard deviation in sales (SALE) over the previous four years divided by average total assets.
$DUALITY$	An indicator variable equal to one if the CEO also serves as the chairman of the board of directors, and zero otherwise.
$INST$	The percentage of institutional share holdings.
$EINDEX$	An entrenchment index. Equal to the sum of six anti-takeover provisions: classified board, golden parachutes, poison pills, super majority for mergers, super majority for charter amendments and super majority for bylaw amendments. We follow Bebchuk et al. (2009) in calculating this variable.

Appendix B: Summary of Key Findings from Spencer Stuart Executive Consultants (2015)

Table B1
Board Summary Statistics: 5-year and 10-year trends

This table summarizes key board of director summary statistics for S&P 500 firms in 2005, 2010 and 2015. The data comes from Spencer Stuart Executive Consultants (2015).

	2015	2010	2005	5-year % change	10-year % change
Board Composition:					
Average board size	10.8	10.7	10.7	1%	1%
Independent directors	84%	84%	80%	0%	5%
Average age of independent directors	63.1	62.1	60.8	2%	4%
New Independent Directors:					
Total number	376	302	333	25%	13%
Women	31%	21%	20%	48%	55%
Active CEO/chair/president/COO	20%	26%	32%	-23%	-38%
Retired CEO/chair/president/COO	18%	17%	13%	6%	38%
Board Leadership Independence:					
CEO is also chairman	52%	60%	71%	-13%	-27%
Independent chairman	29%	19%	9%	53%	222%
Boards with lead or presiding directors	98%	96%	95%	2%	3%
Board Meetings:					
Average # of board meetings	8.1	8.6	8.0	-6%	1%
Median # of board meetings	7	8	7	-13%	0%
Retirement Age:					
Boards with mandatory age	73%	74%	78%	-1%	-6%
Boards with mandatory age 75+	34%	19%	8%	79%	325%
Boards with mandatory age 72+	94%	79%	57%	19%	65%
Director Compensation:					
Total average compensation	$277,237	$215,000	NA	29%	NA
Boards paying board meeting fee	21%	41%	62%	-49%	-66%
Average board meeting fee	$2,041	$2,186	$1,846	-7%	11%

Table B2
Committee Chairman Backgrounds

This table reports the percentage of chairmen with various backgrounds for the four main corporate board committees, for the S&P 500 as of 2015. The data comes from Spencer Stuart Executive Consultants (2015). Except where noted, all categories include active and retired executives.

	Audit Committee	**Compensation Committee**	**Nominating/ Governance Committee**
Retired CEO/chair/president/COO	27%	42%	31%
Active CEO/chair /president/COO	7%	17%	16%
Financial executive/CFO/treasurer	27%	1%	3%
Public accounting executive	13%	1%	1%
Investor/investment manager	6%	9%	11%
Other corporate executive	7%	15%	13%
Academic/nonprofit	4%	5%	10%
Consultant	3%	4%	4%
Banker/investment banker	5%	3%	4%
Lawyer	1%	1%	5%
Other	1%	2%	2%
Total # of chairmen listed in proxies	476	476	472

Figure B1
Independent Chairman & Lead Director Backgrounds

This figure displays the percentage of independent board chairman and lead directors with various backgrounds for the S&P 500 as of 2015. The data comes from Spencer Stuart Executive Consultants (2015).