Does accountability deter individuals from serving as independent directors?

Evidence from a corporate governance reform in India*

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Abstract:

This study examines whether accountability deters individuals from serving as independent directors. We exploit a quasi-natural experiment in the form of a recent corporate governance reform in India, which introduced accountability for independent directors. We find that accountability deters individuals from serving on corporate boards, and find stronger deterrence among firms where the monetary incentive to serve as an independent director is weak and in firms that are subject to greater litigation and regulatory risk. Overall, our study documents that accountability deters individuals from serving on corporate boards.

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In the wake of corporate governance scandals in recent years, policy makers have called for increasing the independence of directors as well as their accountability to shareholders. Theoretically, increasing accountability should improve directors' incentive to monitor management and reduce agency problems and entrenchment. On the other hand, it can be argued that fear of legal liability could deter individuals from serving as directors (Romano, 1989; Sahlman, 1990), or make them risk averse and thereby reduce board effectiveness. Despite a rich literature on corporate directors, direct evidence of whether accountability deters individuals from serving on corporate boards is scant.

Prior literature on directors' accountability has focused on examining whether (independent) directors face litigation risk (Armour, Black, Cheffins, and Nolan, 2009; Black, Cheffins, and Klausner, 2006b; Brochet and Srinivasan, 2014) or whether directors are held accountable for wrong doing through shareholder voting in director elections (Cai, Garner, and Walking, 2009; Fischer, Gramlich, Miller, and White, 2009; Guercio, Seery, and Woidtke, 2008). While these studies show that directors are held accountable for corporate misfortunes either through lawsuits or in the labor market for directors, we know relatively little about whether accountability deters individuals' from serving as corporate directors.

In this study we exploit a quasi-natural experiment from India in the form of a recent corporate governance reform, which introduced accountability and increased the roles and responsibilities of independent directors. We hypothesize that the new stringent law will result in increased turnover of independent directors if accountability deters individuals from serving on corporate boards. If accountability deters individuals from occupying corporate directorships, we expect to find stronger deterrence among firms where the pecuniary or reputational incentives to serve as an independent director is weak and in firms that are subject to greater litigation and regulatory risk.

Compiling a balanced panel of 1,206 firms listed on the National Stock Exchange, which is the leading stock exchange in India, we find an economically and statistically significant increase in turnover rates for independent directors after the introduction of accountability: The turnover rate of independent directors increases from 9.7% to 13.8% around the reform. This increase in turnover rates is driven by resignations, i.e. directors leaving the board before the expiration of their term. We find no significant increase in turnover or resignation rates of inside directors, who were unaffected by the introduction of accountability of independent directors.

If accountability is undesirable for directors, firms might respond to the passage of the law by either offering directors liability insurance, increasing director remuneration, or both. While such firm policies will make it harder to detect an effect of accountability on director turnover, it also implies that the introduction of accountability will differentially impact directors depending on the coverage of director and officer liability insurance (DOI) and the director remuneration offered by the firm. DOI

typically does not cover criminal or regulatory liabilities, making the introduction of accountability particularly discouraging for individuals serving on boards that are exposed to litigation risk due to crime or regulatory compliance. Consistently, we find higher turnover rates in firms operating in corrupt industries and states, and in firms violating listing requirements regulated by the Securities and Exchange Board of India (SEBI). We also find higher turnover rates in firms that offer low director remuneration, which suggests that directors trade off the pecuniary benefit from directorships against the increased litigation risk due to accountability.

Although our results are consistent with the view that accountability deters individuals from serving as independent directors, the increase in turnover rates might be driven by other contemporaneous corporate governance reforms. We isolate the effect of accountability by restricting the sample to directors that are unaffected by these reforms. In particular, we show that our results are robust to the contemporaneous obligation of having at least one female director, as well as regulation of individuals' eligibility to serve as directors. None of these confounding regulatory initiatives can explain our results.

Our study contributes to the existing literature on corporate boards along several dimensions. To the best of our knowledge, this study is the first to document that accountability deters individuals from serving as independent directors. Prior literature on director accountability has focused on director accountability conditional on wrong doing. The main takeaway from this literature is that litigation risk and the risk of electoral challenges by shareholders are overstated. Directors are rarely subject of lawsuits by shareholders, and when they are, such cases often are dismissed (Black et al. 2006; Amour et al. 2009). Incidences of electoral challenges of directors are infrequent, indicating that shareholders rarely hold directors accountable by proposing alternative candidates for vacant directorship (Bebchuk, 2007). Although directors rarely are challenged on the voting ballot; other studies find that directors are replaced following lawsuits and SEC enforcement action (Romano, 1989; Farber, 2005; Ferris et al. 2007). Directors are also more likely to leave boards following dissent by shareholders withholding their vote in director elections (Aggarwal, Dahiya and Prabhala, 2015) Independent directors also lose positions on other corporate boards when companies whose boards they serve on experience financial irregularities (Gilson, 1990; Srinivasan, 2005; Fich and Shivdasani, 2007; Ertimur et al., 2012). In summary, prior literature has focused on understanding the ex-post consequences of director's and firm's actions, rather than the ex-ante effect of accountability on the desirability to serve as corporate director.

The closest studies to ours are Donelson and Yust (2014) and Chakrabarti and Subramanian (2016). Donelson and Yust (2014) studies the passage of a new corporate law in Nevada in 2001, which decreased officers and directors' personal liability. They find that after the passage of the law firm value

decreases, CEO pay-for-performance sensitivity decreases, while accounting restatements increases. While these results emphasize that officer and director liability is an important governance mechanism, Donelson and Yust (2014) cannot identify whether this effect is driven by officers, directors, or both. In contrast, the corporate governance reform in India that we consider, only affects independent directors. Chakrabarti and Subramanian (2016) studies the effect of an increase in perceived personal liability among independent directors in India following the Satyam scandal in 2009. They find that independent directors resign from corporate boards, resulting in a decreasing fraction and quality of independent directors on boards. In contrast, we study the effect of introducing accountability of independent directors through the corporate law. The passage of the law is helpful in clarifying the extent of the liability that independent directors face, and in providing cross sectional variation in liability driven by firm characteristics. To this end, our study complements the findings in Chakrabarti and Subramanian (2016) by providing cross-sectional evidence that directors respond to the introduction of accountability by resigning from boards if they are exposed to litigation and regulatory risk.

Our findings have important policy implications for the ongoing discussion on how to improve the effectiveness of corporate boards. Prior literature evaluates the role of independent directors as either monitors or advisors. Adams and Ferreira(2007) argue that increasing board independence may not necessarily benefit shareholder as CEO's may be less inclined to share information with the board. They highlight the importance of considering the board's advisory role when evaluating board effectiveness and composition. Harris and Raviv (2008) also show that insider-controlled boards are better for shareholder value in some cases. On the other hand, Raheja (2005) models the interaction between insiders and outsiders to address the question of the optimal board composition. The optimal board structure is determined by the trade-off between maximizing coordination costs among outsider and maximizing the ability of outsiders to reject inferior projects. Thus, from the shareholder's perspective accountability is a tradeoff between reducing agency problems through increased board monitoring, and on the other hand ensuring that the most capable individuals are employed on the board and that directors take the right amount of risk. While our study documents the existence of costs for shareholders associated with the introducing accountability, we have relatively little to say about the potential benefits from the reform. Prior literature on DOI in the United States document that decreased managerial liability is associated with lower firm value, higher incidence of accounting restatements (Chung and Wynn, 2008; Donelson and Yust, 2014; Gillian and Panasian, 2015) and increases the cost of debt (Bradley and Chen, 2011; Lin et al., 2013). While these findings suggest that the benefits of accountability outweigh the costs, it remains unclear whether these results extend to independent directors as DOI tends to cover both directors and managers. Our study is the first step towards understanding whether increased accountability of independent directors can improve the

effectiveness of corporate boards. Our findings suggest that accountability deters individuals from serving as independent directors on boards, which questions whether the potential benefit from introducing accountability to strengthen directors' incentive to monitor management and reduce agency problems will materialize.

The remainder of the paper is organized as follows: Section 1 provides an overview of the recent corporate governance reforms in India. Section 2 describes the data and provides summary statistics. In Section 3, we report our main empirical findings from turnover rates and resignation rates at the firm level, while Section 4 focuses at the director level. Several alterative interpretations of the results are presented in Section 5. In Section 6 we conclude.

1. Corporate governance reforms in India

Following the major corporate governance scandals in United States and Europe in the early 2000's there has been a renewed focus on corporate governance across the globe. The regulatory efforts in shaping governance that swept the world also resulted in changes in India, whereby the Ministry of Corporate Affairs and SEBI have taken initiatives to reform the corporate governance standards.

Figure 1 shows the timeline of corporate governance reforms in India. Starting in 1999, SEBI appointed the Birla Committee (under the leadership of Mr. Kumar Mangalam Birla) to promote and raise the standards of corporate governance. In 2000, SEBI introduced recommendations made by the committee through Clause 49 of the Listing Agreement. Clause 49 established a number of corporate governance requirements for listed companies that focused on the structure of boards and internal controls such as the composition of audit committee and disclosure to shareholders. These reforms were introduced in a phased manner and became effective for all firms on January 1, 2006.[1] Alongside these regulatory initiatives, the government also took steps to amend the corporate governance sections of the Companies Act of 1956. Bills proposing amendments to the Companies Act were introduced three times between 2000 and 2010 but failed to gain support in the Parliament.

In 2009 the Satyam scandal, which is the Indian equivalent of the Enron scandal in the United States, led to mass resignations of independent directors due to higher perceived risk of personal liability (Chakrabarti and Subramanian, 2016). Following the mass resignations the Ministry of Corporate Affairs issued a circular, which clarified that independent directors cannot be "*held liable for any act of omission or commission by the company or any officers of the company which constitute a breach or violation of any provision of the Companies Act, 1956*."[2] In addition, the Ministry's view that independent directors were not personally

[1] See Black-Khanna, 2007; and Dharmapala-Khanna, 2012 for studies of the valuation consequences of the introduction of Clause 49.

[2] See Circular no. 8/2011 No.2/13/2003/CL- V dated 25th March, 2011.

liable for actions of the board under Companies Act of 1956 was upheld in two Supreme Court cases.[3] The lack of clarity on liability of independent directors resulted in the proposal to introduce for the first time, a clause which hold independent directors accountable (i.e. liable) for any acts of omission or commission thereof, in the Company Bill of 2011. The final version of the bill was enacted by the assent of the President in August 2013.[4] All companies were given one year from April 1, 2014 to comply with the Act. Following the enactment of the Companies Act in 2013, SEBI felt the need to align the corporate governance provisions in Clause 49 with the new Companies Act. In April 2014, SEBI proposed significant changes to Clause 49 addressing issues related to liability of independent directors, board structure and composition, composition of audit committee and disclosure to shareholders. The revised Clause 49 of the listing agreement became effective from Oct 1, 2014.[5] In summary, the changes to the regulatory framework which introduces liability of independent directors are thus effective for the financial year 2014-15, and we therefore expect to observe an increase in turnover and resignation rates if accountability deters individuals from serving as corporate directors.

The institutional setting is also helpful in disentangling the effect of accountability on individuals' desire to serve on corporate boards. In United States it is common for firms to reduce directors' liability by offering them a DOI, which makes it harder to convincingly identify whether accountability deters individuals from serving on corporate boards. In India the D&O insurance market has historically been non-existent, thus making directors personally liable (Chakrabarti and Subramanian, 2016). One reason for the limited D&O insurance market is that Indian Companies Act, 1956 constrained firms from providing indemnities to directors for negligence, default, breach of duty, etc. In recent years, the D&O insurance market in India has been growing especially among larger firms (Varottil, 2014). The most popular D&O insurance policy in India is the so-called "*Excess Side A Cover*", which limits directors' personal liability. However, these policies typically do not cover fraud, willful misconduct, other forms of intentional criminal conduct and changes in regulation.

2. Data and summary statistics

To analyze whether the introduction of accountability deters individuals from serving as independent directors we obtain data on the board composition and director remuneration as well as

[3] See K.K. Ahuja v. VK Vora [(2005) SCC 89)] and S.M.S. Pharmaceuticals Ltd. v. Neeta Bhalla and Another [(2009 (3) CC (NI) 194].

[4] Section 149 of Companies Act, 2013 states that "Notwithstanding anything contained in this Act, (i) an independent director; (ii) a non-executive director not being promoter or key managerial personnel, shall be held liable, only in respect of such acts of omission or commission by a company which had occurred with his knowledge, attributable through Board processes, and with his consent or connivance or where he had not acted diligently."

[5] Appendix Table A1 details the major changes to Clause 49 in 2014.

accounting and financial performance for firms listed on the National Stock Exchange (NSE) in India in the period from 2010 to 2015.[6]

Data on board composition and director remuneration are from Indian Boards, a database maintained by Prime database group. This dataset is equivalent to BoardEx for the United States, and provides information on boards from 2006 onwards. The data contains information about director characteristics such as age, gender, nationality, educational qualifications, experience, independent/non-independent status, committee memberships, remuneration (for the 200 largest firms from 2010 onwards), date of appointment, cessation date and reason of cessations.

Accounting data and financial information are from Prowess, which is the Indian equivalent of CRSP/Compustat. Prowess is maintained by the Center for Monitoring Indian Economy (CMIE), and has been used in a number of prior studies on Indian firms, including Bertrand, Mehta and Mullainathan (2002), Gopalan, Nanda and Seru (2007; 2014), and Gopalan, Mukherjee, and Singh (2016). We use the latest version of Prowess, which is free from survivorship bias, as highlighted by Siegel and Choudhary (2012). The dataset contains information from the income statement and balance sheet, daily stock prices, as well as descriptive variables such as industry classification and year of incorporation.[7]

We merge the two datasets using NSE ticker symbols. Our final sample consists of a balanced panel of 1,206 firms listed at NSE from 2010 to 2015. This sample corresponds to 7,236 firm-year observations, and 67,285 director-year observations. In our analysis "year" refers to financial year as opposed to calendar year because the financial year in India runs from April 1 to March 31. Thus, we refer to the financial year starting on Apri1 l, 2014 and ending on March 31, 2015 as year 2014-15. All dates are adjusted to reflect financial year rather than the calendar year.

In terms of data completeness, our balanced panel of firms listed on NSE from 2010 to 2015 is subject to two caveats. The first caveat relates to the historical classification of directors into types in the Indian Boards database, which is incomplete in early years. As a result, around 60% of all directors are "unclassified" in the beginning of the sample period. For these directors we are unable to tell whether they are inside or independent directors.[8] In later years, the fraction of "unclassified" directors is just 2%. While there appears to be a jump in the number of independent directors from 2012 to 2013, this is an artifact of the data. Indian firms have since the amendments to Clause 49 in 2008 been required to have

[6] National Stock Exchange of India Limited (NSE) is the leading stock exchange of India. It is the world's 12th largest stock exchange with a market capitalization of more than US$1.65 trillion (as of January, 2015).

[7] Prowess also contains information on boards, committee memberships, independent/non-independent status, promoter/non-promoter status, executive/non-executive status and director remuneration. To ensure consistency we augment Indian boards' dataset with information on variables such as independent/non-independent status, promoter/non-promoter status, executive/non-executive status (where available) from Prowess. To merge the information on director characteristics, we perform a time intensive fuzzy matching to match director names in both datasets and then retrieve relevant information for each director within each company in a given financial year.

[8] It is important to stress that our data provider does not backfill the independent director classification once they increase their coverage as this would introduce a downward bias for the turnover rates of independent directors in early years.

50% (33%) independent directors if the Chairman of the board is (not) an insider. Although, the regulation of the fraction of independent directors has not changed over the sample period, the increased coverage of our database does question whether our results are driven by the data provider's coverage of independent directors. Therefore, in the appendix, we document that all our results are unaffected if we restrict the sample period between 2013 and 2015, where 98% of all directors are classified as either inside or independent. In the next version of the study, we hope to be able to classify all directors serving on boards from 2010 and onwards. The second caveat relates to the fact that our data on director remuneration only covers the 200 largest firms (by market capitalization). Our analysis of whether director remuneration might alleviate the deterring effect of accountability will therefore be restricted to an unbalanced panel of the 200 largest firms for which we can observe director remuneration.

Table 1 presents the descriptive statistics of firm and board characteristics. Panel A reports firm characteristics. The average firm in our sample has a market capitalization of INR 48 billion (USD 0.74 billion)[9], a market-to-book ratio of 1.18 and is 35 years old. In comparison, the average Standard & Poor's (S & P) 500 firm has an average market capitalization of US$ 31 billion and an average market-to-book ratio of assets equal to 2.1 over the same period. Thus, our sample of Indian firms is much smaller than an average listed firm in the S&P 500 index.

Panel B of Table 1 shows board characteristics. The average board consists of 9.3 directors of which 3.5 are classified as independent directors, while we are unable to classify 2.5 directors. In comparison, Yermack (1996) reports an average board size of 12.3 for Forbes 500 firms while Coles, Daniel, and Naveen (2008) report an average board size of 10.4 for firms covered by Execucomp database. Across time the number of independent directors has been increasing from 2.1 in 2009-10 to 4.9 in 2014-15. As mentioned above this increase can be attributed to better data coverage as the number of "unclassified" directors is falling from 4.6 to 1.0 around 2012. Finally, while only 0.6 of the directors are female over the sample period, the average number of female directors increases from 0.5 to 1.1 due to the amendments to Clause 49, which requires firms to have at least one female director by the end of the financial year 2014-15.[10] To facilitate the inclusion of female directors, the average firm increases their board size by 0.4 directors from 9.3 to 9.7 directors. Thus, increasing board size accounts for two-thirds of the increase in the number of female directors of 0.6. Interestingly, few of the new female directors are independent as most firms appoint female directors who are either employees or related by blood to the controlling shareholder. While these numbers suggest that the introduction of a female quota did change the composition of boards, it is unlikely to cause a significant increase in

[9] 1 US$ is equivalent to 65 INR.
[10] Clause 49(IIA) states that "The Board of Directors of the company shall have an optimum combination of executive and non-executive directors with at least one woman director."

resignation rates of independent directors. In Section 5, we formally show that our results are robust to excluding firms that did not have a female director before 2014.

Table 2 presents descriptive statistics for director characteristics and turnovers. Panel A reports director characteristics. The average director in our sample is 60.5 years, and independent directors are older (63.7 years) than inside directors (58.5 years). Independent director age varies substantially ranging from 26 to 100. Our sample is male-dominated with females occupying 6% of the board seats on average. As discussed above, the fraction of female directors is increasing from 4% to 11% over the sample period due to regulation requiring at least one female director by the end of the financial year 2014-15. An average director has served on the board for 9.3 years with inside directors serving longer (10.3 years) than independent directors (7.6 years). In addition, there is dispersion in the educational levels of directors.[11] More than half of the directors hold a post-graduate degree (61%), followed by 31% holding at least a Bachelor's degree. A modest fraction has no university degree (2%), while few directors also hold a PhD degree (7%). Independent directors tend to have a higher educational level than inside directors, and these differences are statistically significant at conventional levels.

Panel B of Table 2 reports turnover characteristics. The total number of director turnovers in our sample period is 7,242 of which 4,462 are classified as inside directors and 2,780 are classified as independent directors. The most common reason for director turnover is resignation, followed by retirements and expiration of term.[12] Overall, 54% of the directors resign, 20% retire, 10% leave due to term expiration, and 5% of the turnovers are caused by death. Finally, we observe a slightly different pattern for resignations when we compare independent directors to inside directors. Around 60% of the independent directors resign in comparison to 50% for inside directors.

3. Director accountability and turnover at the firm level

The starting point of our analysis is to document a significant increase in the turnover rates of independent directors after the introduction of accountability for independent directors. Figure 2 shows the average turnover and resignation rates for inside and independent directors across our sample period. Panel A shows that turnover rates for independent directors have increased from 6.4% to 13.8% from 2009 to 2015. Interestingly, most of the increase occurred after the introduction of accountability where the turnover rate increased from 9.7% in 2013-14 to 13.8% in 2014-15. This development contrasts the turnover rates for inside directors that have been relatively constant over the sample period. With the exception of 2009-10, turnover rates for inside directors have varied between 8.2% and 9.8%. Moreover, Appendix Figure A2 shows that the increase in turnover rates for independent directors occurs between

[11] We are unable to observe and classify education for about 8% of our sample.
[12] The classification of turnover is based on information gathered from a combination of filings with NSE and annual reports.

April and September of 2014, which is the 6 months immediately after the introduction of accountability on April 1, 2014.

Panel B of Figure 2 shows that the increase in turnover rates of independent directors in Panel A can be attributed to resignations. In the financial year 2013-14 6.7% of the independent directors resigned, compared to 10.2% in the financial year of 2014-15. Collectively, the evidence in Figure 2 suggests that accountability deters individuals from serving as independent directors.

To formally test whether the turnover rates after the introduction of accountability are higher than before the governance reform, we use a regression specification where the dependent variable is the fraction of independent directors who turn over. In keeping with prior literature, we control for firm characteristics (firm size, return on assets, and market to book value) and include firm fixed-effects in the specification. Table 3 reports the results. The inclusion of firm fixed effects ensures that our results are not driven by time-invariant firm characteristics that might correlate with director turnover.

Column 1 of Table 3 shows that the turnover rate is 5.1 percentage points higher after the introduction of accountability. This is effect is both economically and statistically significant given the baseline turnover rate of 7.8% before the reform. Consistently, Column 2 shows that most of this effect can be attributed to resignations. The resignation rate of independent directors is 4.5 percentage points higher after the reform. To examine possible pre-trends, Figure 3 shows the marginal effects of yearly indicators on turnover rates for independent directors. Although, the yearly indicators show that turnover rates are statistically higher in 2012-13, 2013-14, and 2014-15, we note that the post-reform year has a marginal effect of 7 percentage point, while the marginal effects of the two closest pre-reform year is around 4 percentage points. While this at first glance might indicate some pre-reform trend it should as show in Figure 1 be noted that the classification of director types is incomplete in the period from 2009 to 2012, and almost complete from 2013 and onwards. In addition, the lower panel of Figure 3 shows large marginal differences in resignation rates. The marginal effect of the post-perform year is 6 percentage points compared with less than 2 percentage points in the pre-reform years. Overall, these results confirm that the turnover rates are significantly larger in 2014-15 than in any other year.

To ascertain that the higher turnover and resignations rates in 2014-15 are not driven by regulation that affects the desirability of serving as director in general, Column 3 and 4 show results for inside directors. Column 3 shows that the turnover rate of inside directors is 0.4 percentage points higher after the reform, while Column 4 shows that this effect is driven by an increase in resignations. Both effects are statistically insignificant, which suggest that the desirability of serving as inside directors is unaffected by the reform. In Column 5 and 6 we directly test the difference in post-reform turnover rates and resignation rates between independent and inside directors. We include firm-year fixed effects to absorb time-variant firm characteristics that affect the desirability to serve as a director. We note that while

independent directors in general have lower turnover and resignation rates, the interaction terms between the post accountability indicator and the indicator for independent directors are positive and statistically significant. It follows that the governance reforms has a differential impact on independent directors, than inside directors. The inclusion of firm-year fixed-effects in Column 5 and 6 effectively controls for any time-variant effect of the desirability to serve as director at the firm-level. This bolsters our conjecture that the introduction of accountability for independent directors deters individuals from serving as independent directors.

The introduction of accountability will differentially impact directors depending on the level of litigation risk and the level of director remuneration offered by the firm. If accountability is undesirable for directors, firms might respond to the introduction of accountability by either offering director and officer liability insurance (DOI) and/or increase director remuneration to compensate directors for the exposure to the accountability (liability). While DOI might provide coverage that partially offset the effect of introducing accountability for independent directors, DOI does not typically cover criminal or regulatory fines.[13] Accountability is therefore expected to deter individuals serving on boards that are exposed to litigation risk due to crime or regulation. Similarly, director remuneration might not fully compensate directors if they are risk-averse and care about reputation. If firms are restricted in their ability to absorb the directors' personal costs of accountability for directors, we should expect to find higher turnover rates in firms that are exposed to litigation risk due to crime or regulatory compliance, that cannot be covered by DOIs, and in firms with limited ability to compensate their directors for the increased risk. In the following tables we will explore heterogeneous treatment effects along these dimensions.

In India independent directors' remuneration consists of two components: sitting fees and commission. Sitting fees are paid on a per board meeting basis and thus equivalent to meeting fees in the United States. Sitting fees have historically been capped at INR 10,000 (USD 150) per meeting for small firms, and INR 20,000 (USD 300) per meeting for larger firms. Following the amendments to Companies Act, 2013 which became effective in 2014 all firms are now allowed to pay INR 100,000 (USD 1,500) in sitting fees per meeting. Commissions on the other hand are tied to profits, and subject to a cap. Independent directors can as a group be paid commission per year up to 1% of the net profits over the previous financial year. Director remuneration in India has, unlike the United States, not included stock options or restricted shares. Between 2012 and 2014 only 14% of directors received

[13] Section 197(13) of Companies Act, 2013: "Where any insurance is taken by a company on behalf of its managing director, whole-time director, manager, Chief Executive Officer, Chief Financial Officer or Company Secretary for indemnifying any of them against any liability in respect of any negligence, default, misfeasance, breach of duty or breach of trust for which they may be guilty in relation to the company, the premium paid on such insurance shall not be treated as part of the remuneration payable to any such personnel: Provided that if such person is proved to be guilty, the premium paid on such insurance shall be treated as part of the remuneration."

compensation in the form of stock options and restricted shares. In 2014, the amendments to Clause 49 banned the use of stock options and restricted shares for independent directors. As a result of this amendment, commissions account for the majority of director remuneration for profitable firms, while sitting fees is the only available form of compensation for unprofitable firms.

Independent directors on average earned INR 1.25 million (USD 19,000) per year during our sample period. The average independent director earned INR 0.21 million (USD 3,200) in sitting fees, INR 1.01 million (USD 15,500) in commissions, and just INR 0.03 million (USD 500) in options and restricted stocks. Average remuneration increased from INR 0.86 million (USD 13,200) in 2009-10 to INR 1.68 million (USD 25,800) in 21014-15. Most of this increase can be attributed to commissions as the average sitting fees increased from INR 0.14 million to INR 0.39 million (USD 2,000 to USD 6,000), while commissions increased from INR 0.71 million to INR 1.37 million (USD 10,900 to USD 21,100). Increasing director remuneration should make it more attractive to serve as independent directors, although we note that this is at odds with the recent increase in turnover rates for independent directors.

To examine whether director remuneration can offset the deterring effect due to the introduction of accountability, we examine how director turnover is affected by director remuneration in Table 4. Due to data availability, we restrict the sample to the largest 200 firms (by market capitalization) for which we can observe director compensation at the director level.

To control for differences in director compensation driven by firm size, we scale compensation by market capitalization. We classify firms into firms with high and low director compensation by splitting at the median level, and use lagged compensation to avoid that firms respond to turnovers by changing their compensation policy. In Column 1 of Table 4 we classify firms with below median average total compensation of independent directors as having low compensation. Column 1 shows a lower turnover rate for boards with low director compensation. After the introduction of accountability the turnover rates increases significantly for firms with low director compensation. Interestingly, the increase in turnover rates documented in Table 3 is entirely driven by firms with low director compensation. After reform turnover rates among firms with low compensation is 12.3 percentage points higher than before the reform, whereas the effect is only 1.6 percentage points higher for firms with high compensation.

In Column 2 and 3 we examine whether this effect is driven by sitting fees, commissions, or both. Again, we find a lower baseline turnover rate among firms with low levels of director compensation. This holds for both sitting fees and commission. After the reform, however, we find a significant increase in turnover rates for firms with low sitting fees and low commission. Directors serving on boards in firms with low sitting fees are 6.6 percentage points more likely to turnover after the reform. For commissions we find even larger effects, which is unsurprising given that commissions account for a large fraction of director compensation. After the introduction of accountability turnover rates increase

by 16.1 percentage points among firms with low commission relative to market value. Finally, we also note that the increase in turnover rates is modest for firms that are paying high sitting fees or high commissions. For firms with high sitting fees the turnover rate is 4.5 percentage points higher after the reform, but the effect is statistically insignificant. For firms with high commissions fees the turnover rate only increase by 0.8 percentage points after the reform.

Column 4 to 6 examines the interaction between director compensation policies and resignation rates around the introduction of accountability. Although the results generally confirm that resignation rates increase after the reform in firms that offer low director remuneration, we note that the economic significance is weaker than when we analyze turnovers rates. The effect on resignation rates are 2.9 percentage points higher in firms with low director compensation. This effect is driven by firms with low commissions where the resignations rates increased by 4.4 percentage points on average. Collectively, the results in Table 4 documents that accountability deters directors serving on the board of firms that offer low director remunerations.

To further bolster the conjecture that the documented increase in turnover rates and resignation rates after the introduction of corporate governance reforms are related to director's concern about accountability, we examine whether the increases are driven by firms that are facing greater litigation and regulatory risk. To measure litigation and regulatory risk we look at firms in non-compliance with listing requirements, as well as firms operating in highly corrupt environments.

In Table 5 we measure litigation risk by past non-compliance with listing requirements regulated by SEBI. We create a measure of non-compliance for each firm based on historical compliance information maintained and published on NSE's website.[14] NSE publishes detailed information on companies that have not complied with critical clauses of the *Listing Agreement* including submission of annual reports (Clause 31), shareholder information (Clause 35), financial results (Clause 41), and the annual corporate governance report (Clause 41) to the stock exchange. Penalties for non-compliance range from fines levied on the company to suspension of trading, and in rare cases delisting from the stock exchange. Non-complying firms on average pay fines within 22 days and comply with the listing requirements within 60 days.

We measure non-compliance in the current year as well as non-compliance in any of the past 5 financial years. In Column 1 we focus on non-compliance in the current year, and examine whether directors have higher turnover rates among firms that are in non-compliance with the listing requirements. In general, non-compliance increase turnover rates by 1.5 percentage points. After the reform Column 1 shows an incremental effect of 2.6 percentage points, indicating that non-compliance has a stronger effect on turnover rates after the introduction of accountability. This effect is both statistically and

[14] https://www.nseindia.com/corporates/content/ComplianceArchive.htm

economically significant. In Column 2 we obtain results of similar magnitude when we use non-compliance in any of the five preceding financial years as proxy for litigation risk. After the reform directors are 3.3 percentage points more likely to leave the board if the firm has a past history of non-compliance.[15] Column 3 and 4 show results of similar magnitude when we analyze the effect of accountability on resignation rates of independent director for firm with a history of non-compliance. In summary, Table 5 provides evidence that bolsters our conjecture that accountability deters individuals from serving on corporate boards. After the introduction of accountability, we observe higher turnover and resignation rates among firms with a history of non-compliance with SEBI regulation, which increases the exposure to litigation risk due to regulatory action.

Litigation risk might also arise as a result of corporate crimes. As highlighted earlier litigation risk due to corporate crimes is typically not covered by DOI, and it might therefore deter individuals from serving as independent directors once they become accountable under law. To capture corporate crimes, we focus on firms operating in highly corrupt environments in India. To identify firms that are operating in corrupt environments we rely on a classification of corrupt industries in the report "*Bribery and corruption: Ground reality in India*" by EY (2013), as well as Indian States classified as highly corrupt by Transparency International (2008).[16] Table 6 examines whether directors are deterred to serve on board of firms operating in corrupt environments after the introduction of accountability.

In Column 1 of Table 6 we include an interaction term between the post accountability indicator and the indicator for highly corrupt industries, while the indicator for highly corrupt industries is being absorbed by firm fixed effects. Directors serving on the board of firms operating in highly corrupt industries are 2.2 percentage points more likely to leave after the reform relatively to firms in less corrupt industries. In Column 2 we include an interaction term between the post accountability indicator and an indicator equal to one for firms with headquarter in a highly corrupt state. The results show that directors in such firms are 1.3 percentage points more likely to leave after the introduction of accountability. In Column 3 we include both interaction terms, and find consistent results. Directors serving on board of firms that are headquartered in a highly corrupt state and operating in a highly corrupt industry have 3.5 percentage points higher turnover rates after the reform. Despite the statistically significant effect on turnover rates, Column 4 to 6 shown that resignation rates in firms operating in highly corrupt environments are comparable to firms operating in less corrupt

[15] Note that the general effect of non-compliance on turnover rates in Column 2 of Table 5 is absorbed by the firm fixed-effects.

[16] EY (2013) classify the degree of corruption across industries based on survey and interviews with corporate executives. We match industry names from this report with NIC two-digit classification as reported in PROWESS, and create an indicator for industries that are classified as corrupt. Transparency International (2008) classifies Indian states into 4 categories: *Alarmingly highly corrupt*, *very highly corrupt*, *highly corrupt*, and *moderately corrupt*. Our indicator for corrupt states equals one if the headquarter is located in a state where the level of corruption is classified as highly corrupt or above.

environments. The differential effects suggest that directors of firms in highly corrupt environments prefer to leave the board quietly without formally resigning.

4. Director accountability and turnover at the director level

In this section we examine the characteristics of individuals who are deterred to serve as an independent director after the introduction of accountability. We therefore focus on turnover and resignation rates at the director level rather than firm level. Our main specification is a linear probability model where the dependent variable is an indicator for turnover (or resignation), while controlling for firm or director fixed effects. Table 7 reports the results.

Specification 1 of Table 7 reports both the baseline effect of individual characteristics on the turnover probability as well as the interaction between individual characteristics and the post accountability indicator. The baseline coefficients are thus informative about the general characteristics of directors who are leaving boards, while the coefficients in the interaction columns are informative about whether it is a different type of directors that are deterred by accountability. We note that both director age and tenure affects turnover positively, while female directors have the same turnover probability as male directors. After the introduction of accountability female directors are more likely to stay on the board. This effect is probability an artifact of the regulatory requirement of having at least one female director on the boards, which coincides with the introduction of accountability.

More interestingly we find that busy directors are more likely to leave boards in general, but less likely after the reform. For civil servants and directors with a PhD we also note that the introduction of accountability changes their desire to serve on boards. Civil servants and directors with a PhD are more likely to stay on boards before the reform, but less likely after the reform. We conjecture that this captures reputational concerns after the introduction of accountability as academics and individuals serving the public sector are more likely to be concerned about their reputation. In specification 2 we use director rather than firm fixed-effects and find results of similar magnitude. In specification 3 we change the dependent variable to resignations and find results of similar magnitude to those in specification 1 and 2. The main exception is that directors with a PhD prefer to leave their board positions quietly, rather than handing in a formal resignation.

To further our understanding of how the economic incentives interact with the desirability to serve as an independent director, Table 8 report results from a regression of director remuneration rank within the board on turnover and resignation rates at the director level. The main advantages of this specification is that it allows us to control for firm fixed-effects, and document that directors who receives low remuneration relative to other directors on the same board are more likely to leave after the introduction of accountability. We rank director remuneration for total pay, sitting fees and commission

fees in Column 1 to 3, respectively. We note that remuneration rank (i.e. high remuneration relative to other independent directors) in general decreases the probability of turnover after the introduction of accountability. Thus, higher turnover rates documented so far are driven by directors who are paid less relative to other independent directors serving on the same board.

5. Alternative specifications

In this section we consider alternative specifications and samples to ascertain that the documented effect on turnover rates of independent directors are not driven by confounding reforms of the corporate governance code in India. As evident from Figure 1, the introduction of the Company Act 2013 coincides with the amendment of Clause 49 in 2014. Clause 49 is among other things also regulating the composition of boards, director remuneration, and who are eligible to serve as corporate directors. Any change to the governance rules surrounding independent director could potentially explain the spike in turnover rates, and therefore deserves scrutiny. Appendix Table 1 provides a detailed overview of the major changes to Clause 49's regulation of boards and directors.

As discussed in Section 1 SEBI issued amendments to Clause 49, which would be applicable to all listed companies with effect from October 1, 2014, to align with the new provisions of the Companies Act 2013. In most cases Clause 49 amendments followed the revisions to the Companies Act 2013. A few amendments to Clause 49, however, imposed much stricter requirements than the Companies Act. Thus, listed firms have to comply with requirements of Companies Act 2013 or revised Clause 49 whichever is stricter. Stricter amendments to Clause 49 imposed significant limitation on the number of directorships and the size of board subcommittees, in addition to limiting director term and tenure. In this section we will provide a series of robustness check to ensure that our results are not driven by revisions to Clause 49 that are unrelated to director accountability.

One alternative explanation for the higher turnover rates in 2015, could be the new Clause 49 requirement that boards should have at least one female director. Higher turnover rates could be driven by male independent directors leaving to make room for the incoming female director, rather than being deterred by accountability. To address this alternative explanation, we rely on the subsample of firms that already had a female director prior to the Clause 49 amendment. Around half of the 1,206 NSE firms had at least one female director prior to the reform in 2015. Column 1 in Table 9 shows the baseline results from Table 3 to facilitate comparison. Column 2 excludes firms without a female director, and show that the post-accountability turnover rates are unrelated to the introduction of female directors. For the subsample of firms with a female director prior to the reform, we find a 6.2 percentage point higher turnover rate among independent directors. This is consistent with Table 1 which shows that while the average number of female directors increased from 0.5 to 1.1 as a result of the

amendments to Clause 49, the average board increased it size by 0.4 directors. Thus, most firms in non-compliance with the female director requirement respond by increasing board size rather than replacing a male director with a female director.

Clause 49 also introduced restrictions on the number of directorship and the duration of tenure. Individuals cannot serve on the board of more than 7 companies, and the number of terms is limited to two five year periods followed by a three year cooling period.[17] Although the regulation on board tenure is grand-fathered for existing directors the amendments to Clause 49 might still cause busy directors and directors with long tenure to leave. To ascertain that the new amendments imposing restrictions on directorships and tenure are not driving the higher turnover rates, Column 3 and 4 analyze the turnover rates of directors that are unaffected by these changes.

Column 3 of Table 9 shows that turnover rates of directors with less than 7 directorship increase by 4.6 percentage points after the introduction of accountability. In Column 4 of Table 9 we reduce the sample to directors with two or less completed terms for which the Companies Act grand-fathers existing tenure. For this subsample of directors we also find higher turnover rates. Directors with low tenure are 5.8 percentage points more likely to leave the board after the introduction of accountability. We conclude that our results are not driven by confounding amendments to Clause 49 regarding director eligibility to serve on boards.

Clause 49 also banned the use of stock options and restricted stocks for independent directors. Although few independent directors in India, received stock options or restricted stock grants the regulation of compensation might still discourage individuals from serving on boards. In Column 5 of Table 9 we therefore restrict the sample to directors that did not received stock options or restricted stocks period to the amendment of Clause 49. Again, we find high turnover rates among independent directors that are unaffected by the amendments to Clause 49.

Another concern relates to banks and government owned companies who follow additional norms dictated by government and are undergoing other contemporaneous corporate governance reforms. In Column 6 we therefore exclude bank and government owned firms from the sample. Again, we find higher turnover rates among independent directors after the introduction of accountability.

The final alternative specification we consider relates to testing the turnover-performance sensitivity of independent directors. If independent directors are leaving boards because they are concerned about accountability, we should expect weaker turnover-performance sensitivity after the reform. If independent directors on the other hand are leaving as a consequence of deteriorating performance, the turnover-performance sensitivity should increase. Column 7 in Table 9 reports the

[17] Section 149(11) of Companies Act, 2013 states that "For the purposes of sub-sections (10) and (11), any tenure of an independent director on the date of commencement of this Act shall not be counted as a term under those sub-sections."

results. In general we find a negative but insignificant effect of return on assets on turnover. However, when we interact return on asset with the post accountability indicator, the interaction terms are positive and insignificant. Thus, the turnover-performance sensitivity seems to be weaker after reform, which is consistent with the accountability channel.

6. Concluding remarks

This study investigates whether accountability deters individuals from serving as independent directors. In theory, accountability should improve directors' incentive to monitor management and reduce agency problems and entrenchment. On the other hand, it has been argued that legal liability could deter individuals from serving from directors – in particular if they are risk-averse or care about their reputation.

To address whether accountability deters individuals from serving as independent directors we exploit a quasi-natural experiment in the form of a recent reform of the corporate law in India, which introduced accountability and increased the roles and responsibilities of independent directors. We find that turnover rates and resignation rates increase significantly after the reform. We find stronger deterrence among firms where the pecuniary or reputational incentives to serve as an independent director is weak and in firms that are subject to greater litigation and regulatory risk.

Our findings are relevant to policy makers and regulators of corporate governance, who have called for greater accountability in the wake of recent corporate governance scandals. If accountability deters individuals from serving on boards, the potential benefit from introducing accountability to strengthen directors' incentive to monitor management and reduce agency problems and entrenchment might not materialize. Fear of legal liability seem to deter individuals from serving as directors, and could potentially reduce board effectiveness.

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Table 1: Firm and board characteristics

We report descriptive statistics: mean and standard deviation for our balanced sample of NSE-listed firms from April 1, 2009 to March 31, 2015. Panel A reports the following firm characteristics: *Market capitalization* (INR billions), *market-to-book ratio* of assets, and *firm age* (measured in years). Both market capitalization and market-to-book ratio are winsorized at 1% tails. Panel B reports board characteristics: *Board size*, *number of insider & nominee directors*, *number of independent directors*, *number of unclassified directors*, and *number of female directors*.

	All	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. Firm characteristics							
Market cap. (INR billions)	47.9	44.7	46.9	43.3	42.6	48.5	61.4
	(156)	(148)	(154)	(145)	(146)	(160)	(180)
Firm age (years)	35.2	32.7	33.7	34.7	35.7	36.7	37.7
	(23.0)	(23.0)	(23.0)	(23.0)	(23.0)	(23.0)	(23.0)
Market-to-book ratio	1.18	1.30	1.20	1.07	0.99	1.10	1.41
	(1.26)	(1.20)	(1.17)	(1.12)	(1.10)	(1.25)	(1.60)
B. Board characteristics							
Board size	9.3	9.0	9.1	9.3	9.3	9.3	9.7
	(3.3)	(3.3)	(3.2)	(3.3)	(3.3)	(3.3)	(3.2)
Inside/Nominee directors	5.9	6.9	7.0	7.1	4.9	4.5	4.8
	(3.0)	(3.1)	(3.1)	(3.2)	(2.5)	(2.2)	(2.4)
Independent directors	3.4	2.1	2.2	2.3	4.4	4.8	4.9
	(2.3)	(1.7)	(1.7)	(1.8)	(2.0)	(2.0)	(1.9)
Unclassified directors	2.5	4.6	4.6	4.6	1.0	0.2	0.2
	(3.2)	(3.2)	(3.2)	(3.3)	(1.6)	(0.6)	(0.5)
Female directors	0.6	0.4	0.4	0.4	0.5	0.5	1.1
	(0.7)	(0.6)	(0.7)	(0.7)	(0.7)	(0.7)	(0.5)
Number of firms	7,236	1,206	1,206	1,206	1,206	1,206	1,206

Table 2: Director and director turnover characteristics

We report descriptive statistics: mean and standard deviation for our sample of directors of NSE-listed firms from April 1, 2009 to March 31, 2015. Panel A reports the following director characteristics: *Age* (measured in years), *gender* (indicator taking the value one if the director is female), *tenure* (measured in years), education indicators equal to one if the director holds *below undergraduate degree*, *graduate degree*, *postgraduate degree*, *PhD*, or whether education is *unkown*. Panel B reports turnover characteristics based on reason of cessation as extracted from annual reports. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

	All	Type of director		Difference	t-Stat.
		Independent (1)	Inside (2)	(2)-(1)	
Number of directors	67,285	25,046	42,239		
Panel A : Director characteristics					
Age (years)	60.5	63.7	58.5	-5.2	-52.4***
	(12.1)	(11.3)	(12.1)	(0.09)	
Gender (1=female)	0.06	0.06	0.05	0.01	2.3**
	(0.24)	(0.23)	(0.2)	(0.001)	
Tenure (years)	9.3	7.6	10.3	2.7	38.5***
	(9.0)	(7.0)	(9.8)	(0.07)	
Education					
Below undergraduate degree	0.02	0.01	0.03	0.01	13.2***
Graduate degree	0.31	0.26	0.34	0.08	21.0***
Postgraduate degree	0.61	0.64	0.59	-0.05	-13.9***
PhD	0.07	0.09	0.05	-0.04	-18.9***
Unknown	0.08	0.07	0.11	0.04	4.71***
Panel B : Turnover characteristics					
Number of turnovers	7,242	2,780	4,462		
Turnover reason (%)					
Resigned	0.54	0.60	0.50		
Retired	0.20	0.19	0.20		
Term expired	0.10	0.07	0.12		
Demise	0.05	0.07	0.04		
Others	0.01	0.01	0.01		
Reason unknown	0.08	0.04	0.09		
χ^2–statistic					157.9***

Table 3: Director accountability and turnover, 2010-15

This table presents the impact of introducing accountability on director turnover and resignation rates for the period starting from 2010 to 2015. The dependent variable in columns (1), (3) and (5) is defined as the ratio of number of independent (inside/all) director cessations within each firm to the total number of independent (inside/all) directors within each firm year. The dependent variable in columns (2), (4) and (6) is defined as the ratio of number of independent (inside/all) director resignations within each firm to the total number of independent (inside/all) directors within each firm year. *Post accountability* is an indicator equal to one for the financial year 2014-15 when Companies Act became effective. *Firm size* is the log of book value of assets. *Return on assets* is defined as the ratio of profit after tax to book value of assets. *Market-to-book value* is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Director type	**Independent**		**Inside**		**All**	
Dependent variable	**Turnover**	**Resignation**	**Turnover**	**Resignation**	**Turnover**	**Resignation**
	(1)	(2)	(3)	(4)	(5)	(6)
Post Accountability	5.082***	4.580***	0.431	0.413	-	-
	(0.545)	(0.424)	(0.453)	(0.330)		
Independent director	-	-	-	-	-1.433	-1.350
					(1.575)	(1.019)
Independent director x Post accountability	-	-	-	-	5.435**	4.440***
					(1.575)	(1.019)
Return on assets $_{t-1}$	-3.799	-2.618	-1.822	-2.374	-	-
	(2.949)	(3.180)	(4.392)	(4.276)		
Firm Size $_{t-1}$	3.084**	1.151	1.096	0.400	-	-
	(1.065)	(0.749)	(0.881)	(0.897)		
Market-to-book value $_{t-1}$	-0.259	-0.433**	0.499	0.171	-	-
	(0.318)	(0.162)	(0.264)	(0.238)		
Firm fixed effects	Yes	Yes	Yes	Yes	No	No
Firm-year fixed-effects	No	No	No	No	Yes	Yes
Adjusted-R^2	0.121	0.101	0.180	0.121	0.299	0.296
N	6,335	6,335	7,080	7,080	13,660	13,660

Table 4: Independent director compensation and turnover, 2010-15

This table reports the results of independent director compensation on director turnover rates for the period starting from 2010 to 2015. The dependent variable in columns (1), (2) and (3) is a dummy variable that takes the value of one if independent director has vacated office within the financial year. The dependent variable in columns (4), (5) and (6) is a dummy variable that takes the value of one if independent director has resigned within the financial year. *Post accountability* is an indicator equal to one for the financial year 2014-5 when Companies Act became effective. *Total Pay*$_{t-1}$ is the sum of sitting fees, commission fees and bonus for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. *Sitting fee* $_{t-1}$ (Commission fee $_{t-1}$) is the sitting fee (commission fee) for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. In columns (1) – (3), we split samples into Low(High) based on median pay values in the previous financial year while in columns (4) – (6), we rank each independent director within board based on the same pay variables. All the regressions control for firm size, return on assets and market-to-book ratio of assets. In addition, all regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**			**Resignation**		
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	1.649	4.500	0.865	4.613***	6.857***	4.269**
	(1.463)	(2.594)	(1.956)	(0.922)	(0.903)	(1.415)
Low (Total Pay % of Market cap $_{t-1}$)	-4.059	-	-	-0.601	-	-
	(3.522)			(2.200)		
Low (Total Pay % of Market cap $_{t-1}$) x Post accountability	12.346***	-	-	2.937*	-	-
	(2.275)			(1.238)		
Low (Sitting fees % of Market cap $_{t-1}$)	-	-4.291	-	-	0.077	-
		(2.396)			(1.841)	
Low (Sitting fees % of Market cap $_{t-1}$) x Post accountability	-	6.628***	-	-	-1.670	-
		(0.953)			(0.853)	
Low(Commission fee % of Market cap $_{t-1}$)	-	-	-4.658	-	-	-1.855
			(3.023)			(1.213)
Low (Commission fee % of Market cap $_{t-1}$) x Post accountability	-	-	16.152***	-	-	4.415**
			(0.925)			(1.214)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.158	0.149	0.164	0.101	0.099	0.103
N	925	925	925	925	925	925

Table 5: Director accountability and non-compliance, 2010-15

This table presents the impact of non-compliance on director turnover and resignations rates for the period starting from 2010 to 2015. The dependent variable in columns (1) and (2) is defined as the ratio of number of independent director cessations within each firm to the total number of independent directors within each firm year. The dependent variable in columns (3) and (4) is defined as the ratio of number of independent director resignations within each firm to the total number of independent directors within each firm year. *Post accountability* is an indicator equal to one for the financial year 2014-5 when Companies Act became effective. *Non-compliance* is an indicator equal to one if a firm was non-compliant with SEBI's listing agreement in a given financial year. *Non-compliance*$_{t-5,\ t}$ is an indicator equal to one if a firm was non-compliant with SEBI's listing agreement in any of the past 5 financial years. *Firm size* is the log of book value of assets. *Return on assets* is defined as the ratio of profit after tax to book value of assets. *Market-to-book value* is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**		**Resignation**	
	(1)	(2)	(3)	(4)
Post accountability	3.768***	3.807***	3.526***	3.480***
	(0.379)	(0.414)	(0.381)	(0.384)
Non-compliance $_{t}$	1.560**	-	1.196	-
	(0.451)		(0.609)	
Post accountability x Non-compliance $_{t}$	2.671***	-	2.168**	-
	(0.574)		(0.571)	
Non-compliance $_{t-5,t}$	-	-	-	-
Post accountability x Non-compliance $_{t-5,t}$	-	3.297***	-	2.844***
		(0.443)		(0.455)
Return on assets $_{t-1}$	-3.045	-3.604	-2.027	-2.449
	(2.825)	(2.993)	(3.048)	(3.213)
Firm Size $_{t-1}$	3.011**	3.223**	1.100	1.271
	(1.050)	(1.047)	(0.697)	(0.742)
Market-to-book value $_{t-1}$	-0.248	-0.235	-0.424**	-0.412**
	(0.301)	(0.311)	(0.144)	(0.155)
Firm fixed effects	Yes	Yes	Yes	Yes
Adjusted-R^2	0.132	0.122	0.111	0.103
N	6,335	6,335	6,335	6,335

Table 6: Director accountability and corruption, 2010-15

This table presents the impact of corrupt environment on director turnover and resignations rates for the period starting from 2010 to 2015. The dependent variable in columns (1) and (2) is defined as the ratio of number of independent director cessations within each firm to the total number of independent directors within each firm year. The dependent variable in columns (3) and (4) is defined as the ratio of number of independent director resignations within each firm to the total number of independent directors within each firm year. *Post accountability* is an indicator equal to one for the financial year 2014-15 when Companies Act became effective. *Corrupt industry* is an indicator equal to one if an industry was classified as corrupt in the report "Bribery and corruption: ground reality in India" by EY (2012). *Corrupt state* is an indicator equal to one if Transparency International (2008) classifies a state as one of alarmingly highly corrupt, very highly corrupt, or highly corrupt. *Firm size* is the log of book value of assets. *Return on assets* is defined as the ratio of profit after tax to book value of assets. *Market-to-book value* is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**			**Resignation**		
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	4.526***	4.523***	3.935***	4.688***	4.250***	4.356***
	(0.642)	(0.495)	(0.607)	(0.471)	(0.464)	(0.516)
Post accountability x Corrupt industry	2.234*	-	2.275*	-0.434	-	-0.411
	(1.093)		(1.092)	(0.642)		(0.643)
Post accountability x Corrupt state	-	1.318**	1.371**	-	0.779**	0.769**
		(0.404)	(0.406)		(0.254)	(0.257)
Return on assets $_{t-1}$	-3.894	-3.845	-3.943	-2.599	-2.645	-2.627
	(2.942)	(2.933)	(2.925)	(3.184)	(3.171)	(3.174)
Firm Size $_{t-1}$	3.023**	3.092**	3.030**	1.163	1.155	1.167
	(1.078)	(1.060)	(1.073)	(0.751)	(0.747)	(0.749)
Market-to-book value $_{t-1}$	-0.257	-0.259	-0.256	-0.434**	-0.433**	-0.433**
	(0.316)	(0.316)	(0.314)	(0.163)	(0.161)	(0.162)
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.121	0.121	0.121	0.101	0.101	0.101
N	6,335	6,335	6,335	6,335	6,335	6,335

Table 7: Director characteristics and turnover, 2010-15

This table reports results examining the impact of introducing accountability at director level by studying how director characteristics affect director turnover and resignation rates for the period starting from 2010 to 2015. The dependent variable in columns (1), and (2) is a dummy variable which equals 1 if an independent director vacates office within each firm year. The dependent variable in columns (3), and (4) is a dummy variable that takes the value of one if independent director has resigned from office within the financial year. We report the baseline coefficients as well as interactions between the variables and the post accountability indication, which is equal to one for the financial year 2014-15 when Companies Act became effective. All the regressions control for firm size, return on assets and market-to-book ratio of assets lagged by one year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent Variable	**Turnover**				**Resignation**			
	Baseline	**Interaction**	**Baseline**	**Interaction**	**Baseline**	**Interaction**	**Baseline**	**Interaction**
	(1)		(2)		(3)		(4)	
Director age (years)	0.001**	-0.000	0.045***	-0.000**	-0.000	-0.000	0.041***	-0.001***
	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)
Tenure (years)	0.002***	0.001***	-0.000	0.000	0.001***	0.001***	-0.001**	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Female director	-0.009	-0.053***	-	-0.028	0.006	-0.059***	-	-0.023**
	(0.008)	(0.008)		(0.016)	(0.005)	(0.003)		(0.005)
Busy director	0.028**	-0.020**	0.080**	-0.030***	0.009**	-0.002	0.043***	-0.013***
	(0.007)	(0.006)	(0.022)	(0.006)	(0.002)	(0.003)	(0.007)	(0.003)
Civil service (1=Yes)	-0.022	0.046**	-	0.055***	-0.006	0.033***	-	0.036***
	(0.013)	(0.012)		(0.004)	(0.007)	(0.005)		(0.002)
PhD (1=Yes)	-0.025**	0.030***	-	0.017*	-0.006	0.001	-	0.000
	(0.006)	(0.004)		(0.007)	(0.004)	(0.003)		(0.005)
Constant	-0.051	-	0.019*	-	0.091**		-2.481***	-
	(0.047)		(0.008)		(0.032)		(0.128)	
Controls	Yes		Yes		Yes		Yes	
Firm fixed effects	Yes		No		Yes		No	
Director fixed effects	No		Yes		No		Yes	
Time fixed effects	Yes		Yes		Yes		Yes	
N	15341		15341		15341		15341	
Adjusted-R^2	0.152		0.303		0.138		0.291	

Table 8: Independent director compensation and turnover, 2010-15

This table reports the results examining impact of independent director compensation on director turnover rates for the period starting from 2010 to 2015. The dependent variable in columns (1), (2) and (3) is a dummy variable which equals 1 if an independent director vacates office within each firm year. The dependent variable in columns (4), (5) and (6) is a dummy variable that takes the value of one if independent director has resigned from office within the financial year. *Post accountability* is an indicator equal to one for the financial year 2014-15 when Companies Act became effective. We rank each independent director within board based on compensation in the previous financial year. *Total Pay*$_{t-1}$ is the sum of sitting fees, commission fees and bonus for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. *Sitting fee* $_{t-1}$ (*Commission fee* $_{t-1}$) is the sitting fee (commission fee) for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. All the regressions control for firm size, return on assets and market-to-book ratio of assets. In addition, all regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**			**Resignation**		
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	0.049	0.151***	0.131***	0.069**	0.128***	0.109***
	(0.028)	(0.021)	(0.026)	(0.017)	(0.021)	(0.023)
Total pay $_{t-1}$ (Rank)	-0.015*	-	-	-0.008*	-	-
	(0.006)			(0.003)		
Total pay $_{t-1}$ (Rank) x Post accountability	-0.010	-	-	-0.012**	-	-
	(0.006)			(0.003)		
Sitting fee $_{t-1}$ (Rank)	-	0.009**	-	-	-0.001	-
		(0.003)			(0.005)	
Sitting fee $_{t-1}$ (Rank) x Post accountability	-	-0.020***	-	-	-0.015**	-
		(0.003)			(0.005)	
Commission fee $_{t-1}$ (Rank)	-	-	0.008	-	-	-0.001
			(0.006)			(0.005)
Commission fee $_{t-1}$ (Rank) x Post accountability	-	-	-0.015*	-	-	-0.009
			(0.005)			(0.005)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.109	0.117	0.115	0.093	0.101	0.098
N	3,979	3,546	3,546	3,979	3,546	3,546

Table 9: Robustness, 2010-15

This table reports the robustness for independent director turnover and resignation rates for the period starting from 2010 to 2015. The dependent variable in panel A is defined as the ratio of number of independent director cessations within each firm to the total number of independent directors within each firm year. The dependent variable in panel B is defined as the ratio of number of independent director resignations within each firm to the total number of independent directors within each firm year. Column (1) shows the baseline results using the full sample from Table 3. Column (2) consists of sample with compliance on female directors prior to financial year 2014. Column (3) excludes directors with appointments on more than 7 companies. Column (4) excludes directors who have served more than two terms of five years. Column (5) restricts the sample to firms with directors who do not receive stock option compensation. Column (6) excludes banks and government firms from the sample. Column (7) interacts performance and the post accountability indicator. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. Firm size is the log of book value of assets. ROA is defined as the ratio of profit after tax to book value of assets. Market-to-book value is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Panel A: Turnover

Sample	**Baseline**	**At least 1 women director**	**Less than 7 directorships**	**Less than 3 completed terms**	**No stock options**	**No bank & government**	**Performance**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post accountability	5.082***	6.222***	4.579***	5.847***	7.189***	3.559***	5.066***
	(0.545)	(0.624)	(0.536)	(0.628)	(0.914)	(0.640)	(0.559)
Post accountability x Return on assets $_{t-1}$	-	-	-	-	-	-	1.289
							(2.509)
Return on assets $_{t-1}$	-3.799	-11.202**	-3.475	-4.536	-2.250	-4.338	-4.041
	(2.949)	(3.380)	(3.113)	(3.722)	(4.054)	(3.364)	(3.387)
Firm Size $_{t-1}$	3.084**	2.331	3.040**	4.173***	0.337	2.246*	3.040**
	(1.065)	(1.196)	(1.051)	(0.935)	(1.870)	(1.003)	(1.051)
Market-to-book value $_{t-1}$	-0.259	-0.283	-0.213	-0.276	-1.693*	-0.488*	-0.262
	(0.318)	(0.354)	(0.296)	(0.384)	(0.826)	(0.233)	(0.323)
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.154	0.154	0.117	0.124	0.166	0.092	0.120
N	6,335	2,990	6,095	4,825	2,367	5,898	6,335

Panel B: Resignation

Sample	**At least 1 women director**	**At least 1 women director**	**Less than 7 directorships**	**Less than 3 completed terms**	**No stock options**	**No bank & government**	**Performance**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post accountability	4.580***	5.135***	4.134***	4.640***	6.558***	4.050***	4.546***
	(0.424)	(0.467)	(0.454)	(0.616)	(0.970)	(0.456)	(0.455)
Post accountability x Return on assets $_{t-1}$	-	-	-	-	-	-	2.824
							(2.322)
Return on assets $_{t-1}$	-2.618	-8.188**	-2.547	-4.808	-4.641	-3.138	-3.148
	(3.180)	(3.154)	(3.413)	(3.613)	(4.297)	(3.450)	(3.539)
Firm Size $_{t-1}$	1.151	0.111	1.079	2.619**	-1.530	0.620	1.055
	(0.749)	(0.667)	(0.774)	(0.851)	(1.948)	(0.710)	(0.694)
Market-to-book value $_{t-1}$	-0.433**	-0.529**	-0.414**	-0.429*	-0.679	-0.479**	-0.440**
	(0.162)	(0.184)	(0.156)	(0.202)	(0.534)	(0.174)	(0.165)
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.100	0.139	0.097	0.091	0.213	0.100	0.101
N	6,335	2,990	6,095	4,825	2,367	5,898	6,335

Figure 1: Timeline of Corporate Governance reforms in India

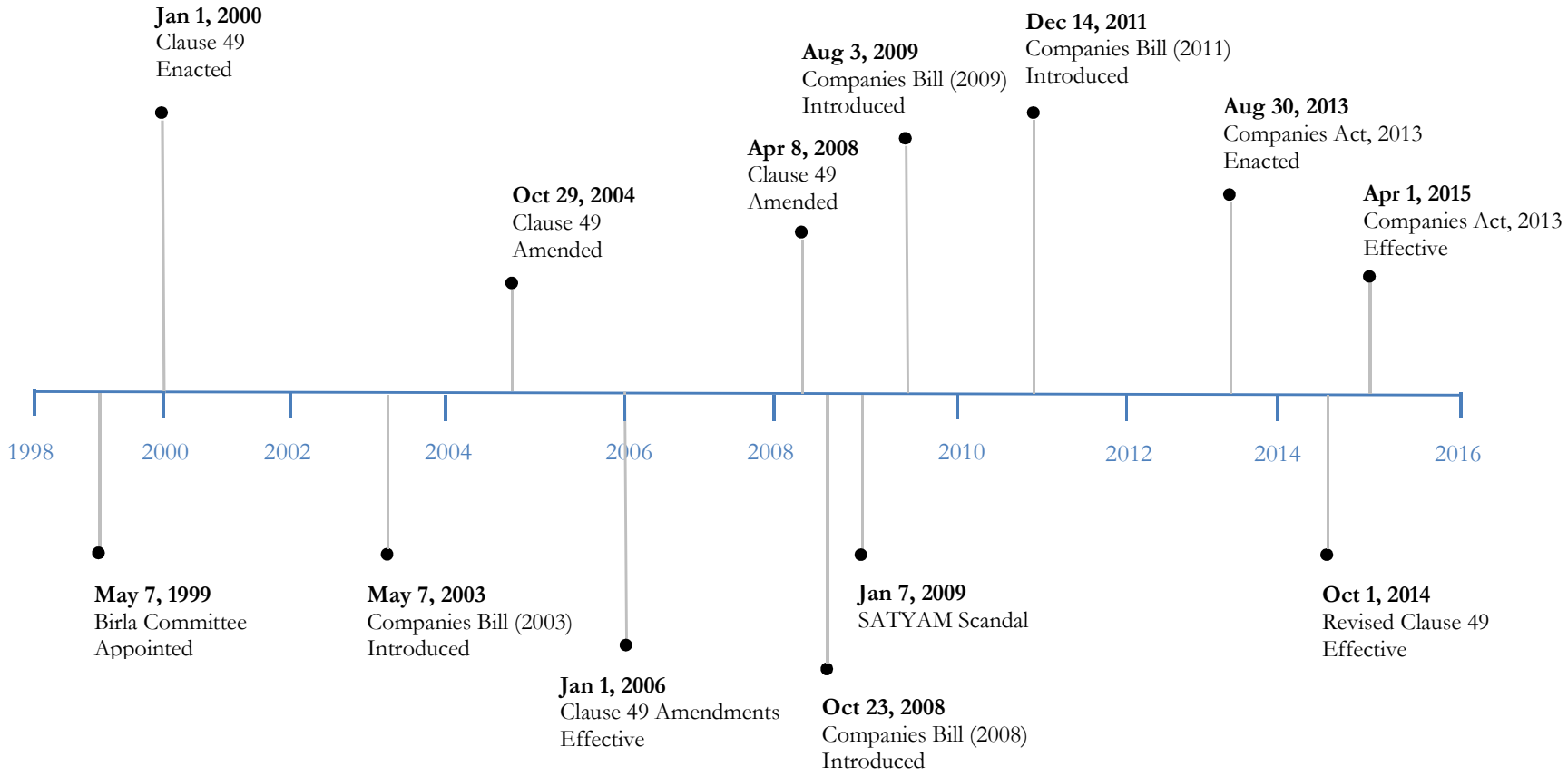
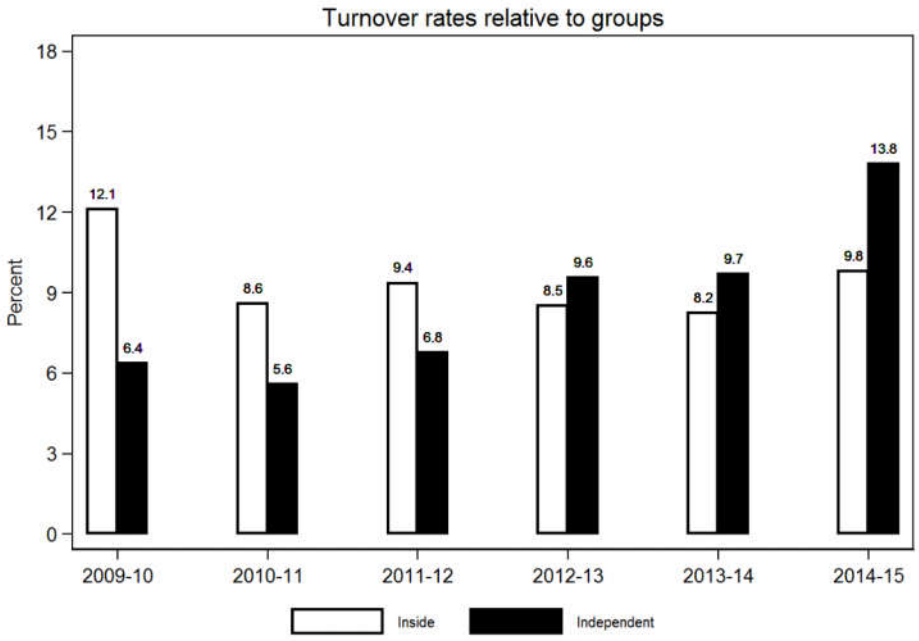


Figure 2: Average turnover and resignation rates for directors

The top figure plots the average turnover rates in percentage (y-axis) by financial year (x-axis) for inside and independent directors. The bottom figure plots the average resignation rates in percentage (y-axis) by financial year (x-axis) for inside and independent directors. The white hollow bars in the plot represent inside directors while black solid bars represent independent directors.



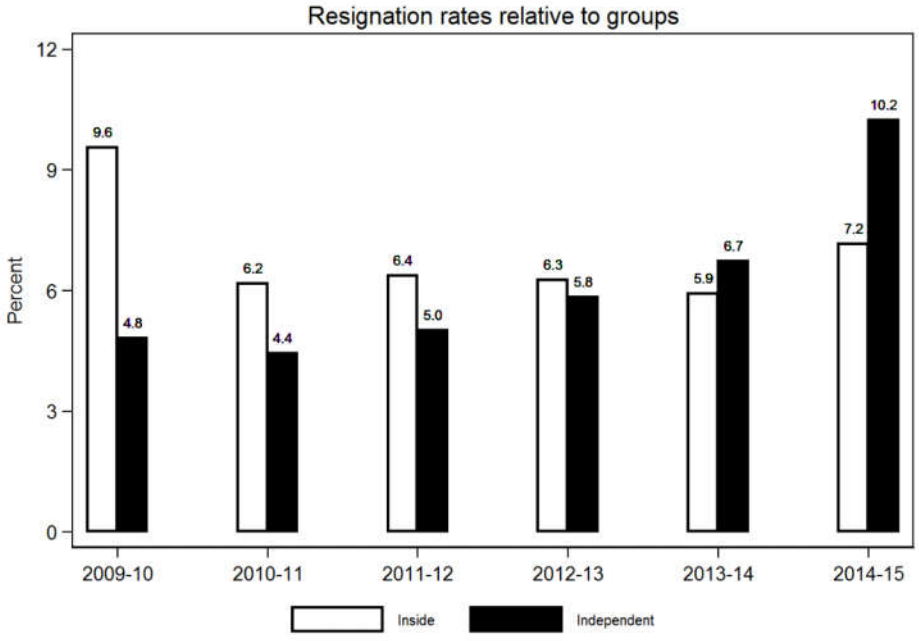
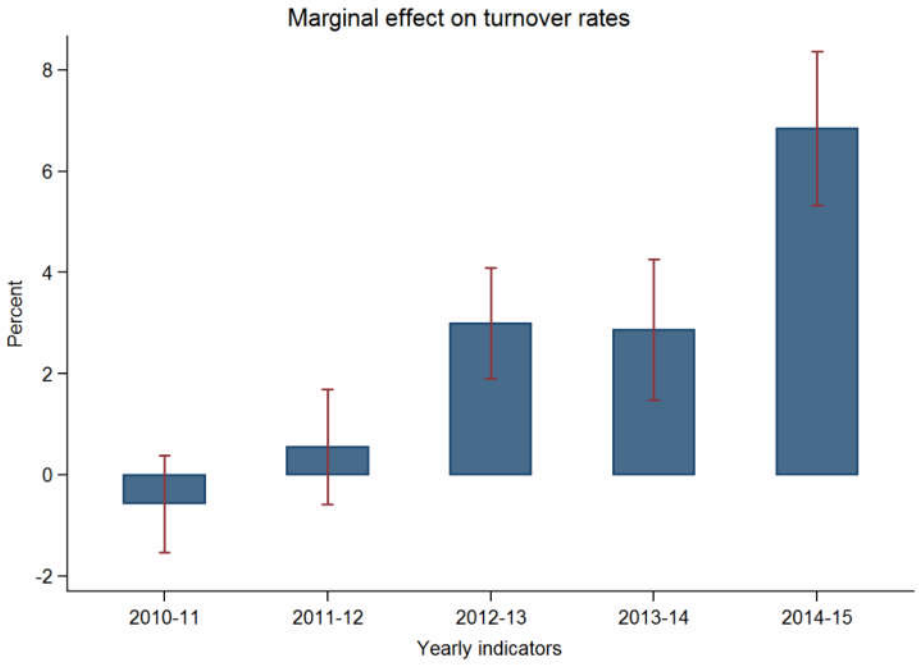
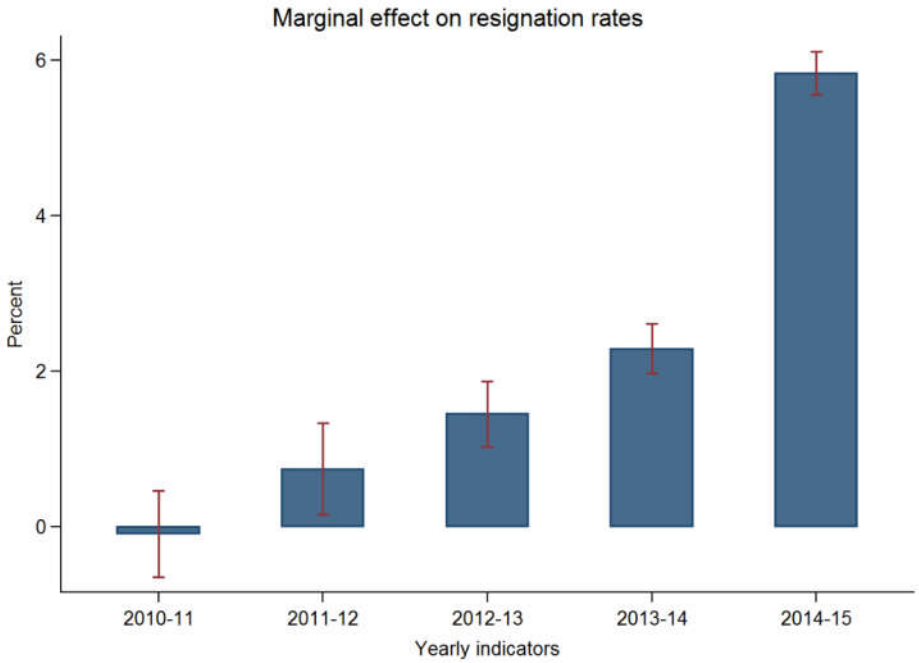


Figure 3: Marginal effects by year

The top figure shows the marginal changes in turnover rates by financial year with 95% confidence intervals displayed on top while the bottom figure shows the marginal changes in resignation rates by financial year with 95% confidence intervals displayed on top.



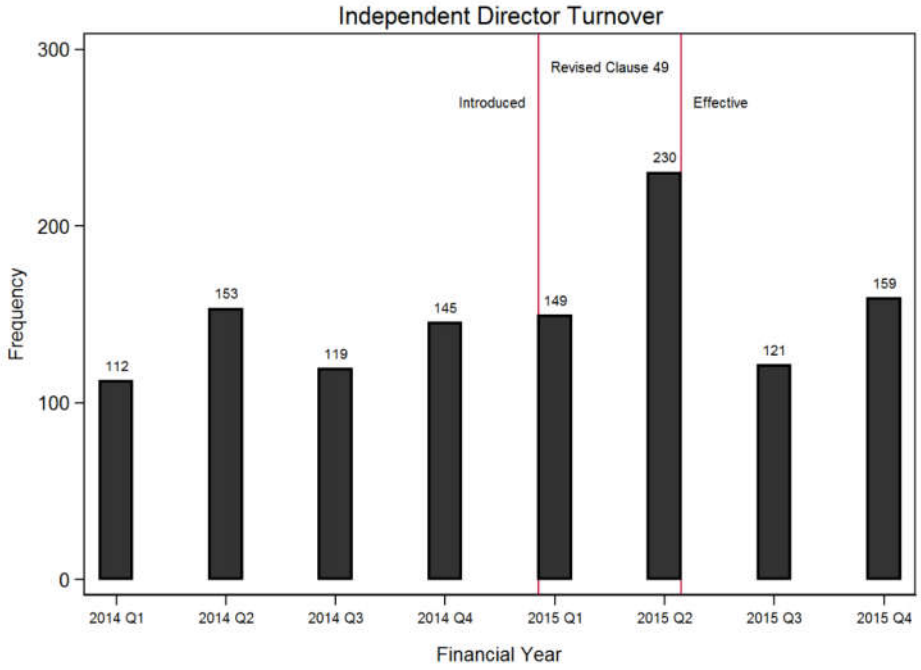


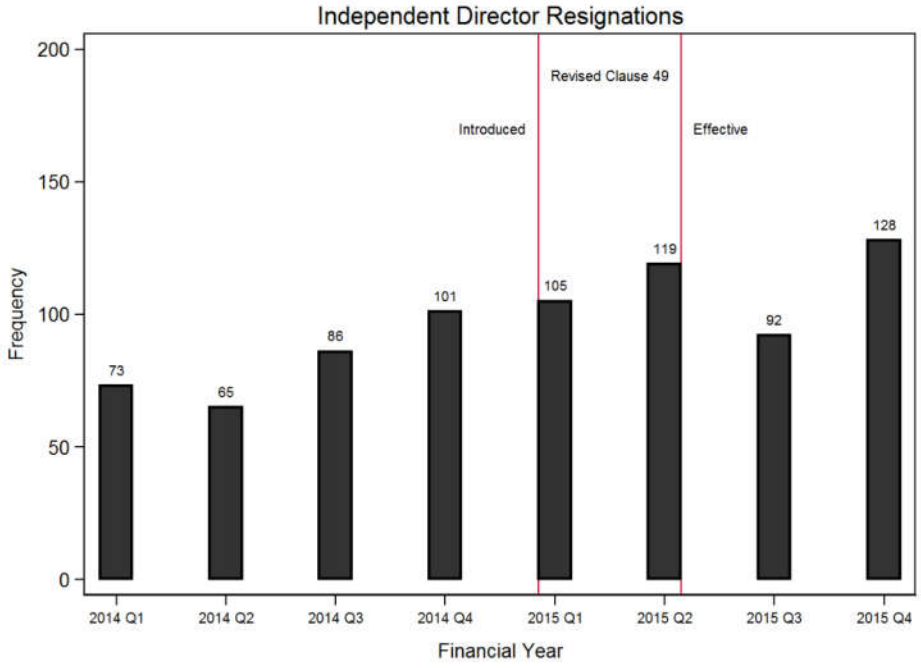
Appendix Table A1: Details of Clause 49

Particulars	Clause 49, 2006	Revised Clause 49, 2014
Board Composition	i. 50% (33%) independent directors if chairman is executive director or promoter (neither executive nor promoter)	ii. 50% (33%) independent directors if chairman is executive director or promoter (neither executive nor promoter) iii. At-least one woman director.
Directorships	i. No limitation on number directorships ii. No limitation on the number of terms	i. Individuals can serve as an independent director for max. 7 companies. The max. number is 3 for whole-time directors. ii. Term of an independent director limited to two terms of five years each. Individuals serving as independent director for 5 years or more in a company as on October 1st 2014, are eligible for one more term of up to 5 years only. iii. An Independent director is eligible for reappointment as an independent director only after a 3 year cooling-off period, after completion of two terms.
Committee requirements & limitations	i. A director can at maximum be a member (chairman) of 10 (5) committees. ii. Audit committee size limited to 3. Chairman and one other director should be independent.	i. A director can at maximum be a member (chairman) of 10 (5) committees. ii. Audit committee size limited to 3. Chairman and one other director should be independent.. iii. Nomination and remuneration committee sizes are at-least three members. Chairman and at-least half of the members should be independent directors.
Liability of independent directors	i. No explicit liability imposed	i. Held liable, only in respect of such acts of omission or commission by a company which had occurred with his knowledge, attributable through Board processes, and with his consent or connivance or where he had not acted diligently with respect of the *provisions contained in the Listing Agreement.*
Stock options	i. Maximum number of stock options granted to be specified through shareholder resolution.	i. Independent directors are not entitled to any stock option.
Performance evaluation of independent directors	i. Non-mandatory requirement	i. Mandatory requirement

Appendix Figure A2: Turnover and resignation frequencies in FY 2013-14 and FY 2014-15

The top figure plots the turnover frequencies (y-axis) by quarter (x-axis) for independent directors. The bottom figure plots the resignation frequencies (y-axis) by quarter (x-axis) for independent directors. The red lines depict the introduction date and effective date of implementation for Revised Clause 49.





Appendix Table B1: Director accountability and turnover

This table presents the impact of introducing accountability on director turnover and resignation rates for the period starting from 2013 to 2015. The dependent variable in columns (1), (3) and (5) is defined as the ratio of number of independent (inside/all) director cessations within each firm to the total number of independent (inside/all) directors within each firm year. The dependent variable in columns (2), (4) and (6) is defined as the ratio of number of independent (inside/all) director resignations within each firm to the total number of independent (inside/all) directors within each firm year. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. Firm size is the log of book value of assets. ROA is defined as the ratio of profit after tax to book value of assets. Market-to-book value is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Director type	**Independent**		**Inside**		**All**	
Dependent variable	**Turnover**	**Resignation**	**Turnover**	**Resignation**	**Turnover**	**Resignation**
	(1)	(2)	(3)	(4)	(5)	(6)
Post Accountability	4.418***	4.309***	0.844	0.699	-	-
	(0.063)	(0.418)	(0.495)	(0.394)		
Independent director	-	-	-	-	0.864	-0.083
					(0.690)	(1.016)
Independent director x Post accountability	-	-	-	-	3.138**	3.173*
					(0.690)	(1.016)
Return on assets $_{t-1}$	-5.232	-3.808	-4.745	-5.446	-	-
	(2.965)	(3.043)	(4.813)	(4.225)		
Firm Size $_{t-1}$	0.290	-0.965	2.485*	0.884	-	-
	(0.609)	(1.214)	(0.734)	(0.599)		
Market-to-book value $_{t-1}$	-1.114	-1.095*	0.808	0.487	-	-
	(0.577)	(0.309)	(0.604)	(0.451)		
Firm fixed effects	Yes	Yes	Yes	Yes	No	No
Firm-year fixed-effects	No	No	No	No	Yes	Yes
Adjusted-R^2	0.109	0.111	0.145	0.096	0.224	0.204
N	3,571	3,571	3,603	3,603	7,200	7,200

Appendix Table B2: Independent director compensation and turnover, 2013-15

This table reports the results of independent director compensation on director turnover rates for the period starting from 2013 to 2015. The dependent variable in column (1), (2) and (3) is a dummy variable that takes the value of one if independent director has vacated office within the financial year. The dependent variable in columns (4), (5) and (6) is a dummy variable that takes the value of one if independent director has resigned within the financial year. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. Total Pay_{t-1} is the sum of sitting fees, commission fees and bonus for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. Sitting fee_{t-1} (Commission fee_{t-1}) is the sitting fee (commission fee) for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. In columns (1) – (3), we split samples into Low(High) based on median pay values in the previous financial year while in columns (4) – (6), we rank each independent director within board based on the same pay variables. All the regressions control for firm size, return on assets and market-to-book ratio of assets. In addition, all regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**			**Resignation**		
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	4.385**	6.662	2.649**	6.793***	8.194**	5.625**
	(0.614)	(3.106)	(0.322)	(0.662)	(0.940)	(1.038)
Low (Total Pay % of Market cap $_{t-1}$)	-0.678	-	-	4.076	-	-
	(5.826)			(2.381)		
Low (Total Pay % of Market cap $_{t-1}$) x Post accountability	10.927	-	-	1.744	-	-
	(4.207)			(1.805)		
Low (Sitting fees % of Market cap $_{t-1}$)	-	-0.270	-	-	2.146	-
		(0.917)			(1.808)	
Low (Sitting fees % of Market cap $_{t-1}$) x Post accountability	-	6.744**	-	-	-1.640	-
		(1.325)			(0.828)	
Low(Commission fee % of Market cap $_{t-1}$)	-	-	-7.639**	-	-	-2.696***
			(0.784)			(0.179)
Low (Commission fee % of Market cap $_{t-1}$) x Post accountability	-	-	15.187**	-	-	3.801*
			(1.794)			(1.252)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.128	0.116	0.142	0.157	0.150	0.154
N	591	591	591	591	591	591

Appendix Table B3: Director accountability and Non-compliance, 2013-15

This table presents the impact of *ex-ante* non-compliance on director turnover and resignations rates for a restricted sample starting from 2013 to 2015. The dependent variable in columns (1) and (2) is defined as the ratio of number of independent director cessations within each firm to the total number of independent directors within each firm year. The dependent variable in columns (3) and (4) is defined as the ratio of number of independent director resignations within each firm to the total number of independent directors within each firm year. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. Non-compliance$_t$ is an indicator equal to one if a firm was non-compliant with SEBI's listing agreement in a given financial year. Non-compliance$_{t-5,\,t}$ is an indicator equal to one if a firm was non-compliant with SEBI's listing agreement in any of the past 5 financial years. Firm size is the log of book value of assets. ROA is defined as the ratio of profit after tax to book value of assets. Market-to-book value is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**		**Resignation**	
	(1)	**(2)**	**(3)**	**(4)**
Post accountability	3.441***	3.498***	3.542**	3.581**
	(0.059)	(0.060)	(0.459)	(0.429)
Non-compliance $_t$	2.170***	-	2.152***	-
	(0.167)		(0.209)	
Post accountability x Non-compliance $_t$	1.641	-	1.125	-
	(0.735)		(0.666)	
Non-compliance $_{t-5,t}$	-	-	-	-
Post accountability x Non-compliance $_{t-5,t}$	-	2.339***	-	1.853***
		(0.223)		(0.113)
Return on assets $_{t-1}$	-4.537	-5.200	-3.141	-3.783
	(2.614)	(2.956)	(2.779)	(3.079)
Firm Size $_{t-1}$	0.446	0.653	-0.898	-0.678
	(0.554)	(0.473)	(1.101)	(1.125)
Market-to-book value $_{t-1}$	-1.097	-1.062	-1.083*	-1.054*
	(0.606)	(0.620)	(0.355)	(0.339)
Firm fixed effects	Yes	Yes	Yes	Yes
Adjusted-R^2	0.125	0.110	0.130	0.112
N	3,571	3,571	3,571	3,571

Appendix Table B4: Director accountability and Corruption, 2013-15

This table presents the impact of corrupt environment on director turnover and resignations rates for restricted sample for the period 2013 to 2015. The dependent variable in columns (1) and (2) is defined as the ratio of number of independent director cessations within each firm to the total number of independent directors within each firm year. The dependent variable in columns (3) and (4) is defined as the ratio of number of independent director resignations within each firm to the total number of independent directors within each firm year. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. Corrupt Industry is an indicator equal to one if an industry was classified as corrupt in the report "Bribery and corruption: ground reality in India" by E&Y. Corrupt State is an indicator equal to one if Transparency International (2008) classifies a state as one of alarmingly highly corrupt, very highly corrupt, or highly corrupt. Firm size is the log of book value of assets. ROA is defined as the ratio of profit after tax to book value of assets. Market-to-book value is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**			**Resignation**		
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	3.823***	3.981***	3.355**	4.323**	3.968**	3.977**
	(0.275)	(0.251)	(0.543)	(0.509)	(0.567)	(0.665)
Post accountability x Corrupt industry	2.434	-	2.467	-0.057	-	-0.033
	(1.067)		(1.086)	(0.402)		(0.412)
Post accountability x Corrupt state	-	1.033	1.089	-	0.805	0.805
		(0.644)	(0.668)		(0.365)	(0.374)
Return on assets $_{t-1}$	-5.304	-5.265	-5.340	-3.807	-3.834	-3.833
	(2.897)	(2.944)	(2.873)	(3.045)	(3.022)	(3.024)
Firm Size $_{t-1}$	0.026	0.285	0.016	-0.959	-0.969	-0.965
	(0.764)	(0.619)	(0.777)	(1.240)	(1.220)	(1.249)
Market-to-book value $_{t-1}$	-1.108	-1.105	-1.099	-1.095*	-1.088*	-1.088*
	(0.570)	(0.584)	(0.577)	(0.308)	(0.314)	(0.313)
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.109	0.109	0.109	0.111	0.111	0.111
N	3,571	3,571	3,571	3,571	3,571	3,571

Appendix Table B5: Director characteristics and turnover, 2013-15

This table reports results examining the impact of introducing accountability at director level by studying how director characteristics affect director turnover and resignation rates for the period starting from 2013 to 2015. The dependent variable in columns (1), and (2) is a dummy variable which equals 1 if an independent director vacates office within each firm year. The dependent variable in columns (3), and (4) is a dummy variable that takes the value of one if independent director has resigns from office within the financial year. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. All the regressions control for firm size, return on assets and market-to-book ratio of assets lagged by one year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent Variable	**Turnover**				**Resignation**			
	Baseline	**Interaction**	**Baseline**	**Interaction**	**Baseline**	**Interaction**	**Baseline**	**Interaction**
	(1)		(2)		(3)		(4)	
Director Age(Years)	0.001*	-0.000	0.091**	-0.000**	-0.000	-0.000	0.080	-0.001**
	(0.000)	(0.000)	(0.017)	(0.000)	(0.000)	(0.000)	(0.009)	(0.000)
Tenure(years)	0.002**	0.001***	-0.000	0.000	0.001*	0.001***	-0.001	0.001*
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Female(1=Yes)	-0.011	-0.052**	-	-0.034	0.006	-0.060***	-	-0.021**
	(0.006)	(0.007)		(0.019)	(0.004)	(0.003)		(0.004)
Busy	0.034*	-0.024	0.129**	-0.038***	0.009	-0.001	0.058***	-0.016***
	(0.009)	(0.009)	(0.020)	(0.004)	(0.004)	(0.004)	(0.005)	(0.001)
Civil service(1=Yes)	-0.026	0.045	-	0.048***	-0.004	0.029**	-	0.034***
	(0.018)	(0.017)		(0.000)	(0.008)	(0.006)		(0.001)
PhD(1=Yes)	-0.029	0.033**	-	0.018	-0.009	0.003	-	0.001
	(0.011)	(0.007)		(0.012)	(0.007)	(0.006)		(0.007)
Constant	0.070	-	-5.898**	-	0.132	-	-5.051**	-
	(0.154)		(1.100)		(0.162)		(0.548)	
Controls	Yes		Yes		Yes		Yes	
Firm fixed effects	Yes		No		Yes		No	
Director fixed effects	No		Yes		No		Yes	
Time fixed effects	Yes		Yes		Yes		Yes	
N	11949		11949		11949		11949	
Adjusted-R^2	0.170		0.360		0.164		0.354	

Appendix Table B6: Independent director compensation and turnover, 2013-15

This table reports the results examining impact of independent director compensation on director turnover rates for the period starting from 2013 to 2015. The dependent variable in columns (1), (2) and (3) is a dummy variable which equals 1 if an independent director vacates office within each firm year. The dependent variable in columns (4), (5) and (6) is a dummy variable that takes the value of one if independent director has resigns from office within the financial year. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. We rank each independent director within board based on compensation in the previous financial year. Total Pay_{t-1} is the sum of sitting fees, commission fees and bonus for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. Sitting fee $_{t-1}$ (Commission fee $_{t-1}$) is the sitting fee (commission fee) for each independent director in the previous financial year as a fraction of market capitalization in the same financial year. All the regressions control for firm size, return on assets and market-to-book ratio of assets. In addition, all regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Turnover**			**Resignation**		
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	0.038*	0.150**	0.116**	0.065*	0.123**	0.095**
	(0.010)	(0.021)	(0.019)	(0.015)	(0.018)	(0.016)
Total pay $_{t-1}$ (Rank)	-0.023**	-	-	-0.012**	-	-
	(0.003)			(0.003)		
Total pay $_{t-1}$ (Rank) x Post accountability	-0.004	-	-	-0.010*	-	-
	(0.003)			(0.003)		
Sitting fee $_{t-1}$ (Rank)	-	0.006**	-	-	-0.004	-
		(0.001)			(0.005)	
Sitting fee $_{t-1}$ (Rank) x Post accountability	-	-0.018**	-	-	-0.013	-
		(0.002)			(0.005)	
Commission fee $_{t-1}$ (Rank)	-	-	-0.001	-	-	-0.007
			(0.002)			(0.004)
Commission fee $_{t-1}$ (Rank) x Post accountability	-	-	-0.008*	-	-	-0.005
			(0.002)			(0.004)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.138	0.127	0.125	0.122	0.114	0.111
N	3,137	2,815	2,815	3,137	2,815	2,815

Appendix Table B7: Robustness, 2013-15

This table reports the robustness for independent director turnover and resignation rates for the period starting from 2013 to 2015. The dependent variable in panel A is defined as the ratio of number of independent director cessations within each firm to the total number of independent directors within each firm year. The dependent variable in panel B is defined as the ratio of number of independent director resignations within each firm to the total number of independent directors within each firm year. Column (1) consists of sample with compliance on female directors prior to financial year 2014. Column (2) excludes directors with appointments on more than 7 companies. Column (3) excludes banks and government firms from the sample. Column (4) excludes directors who have served more than two terms of five years. Column (5) restricts the sample to firms with directors who do not receive stock option compensation. Post accountability is an indicator equal to one for the financial year 2015 when Companies Act became effective. Firm size is the log of book value of assets. ROA is defined as the ratio of profit after tax to book value of assets. Market-to-book value is the market-to-book ratio of assets, which is defined as market value of equity plus book value of debt over book value of assets. All regressions include firm fixed effects using standard errors clustered at the level of financial year. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Panel A: Turnover

Sample	**Atleast 1 women director**	**Less than 7 directorships**	**No bank & government**	**Less than 3 completed terms**	**No stock options**	**Performance**
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	5.401***	3.940***	2.933**	4.992***	7.834*	4.380***
	(0.444)	(0.109)	(0.411)	(0.177)	(2.127)	(0.099)
Post accountability x Return on assets $_{t-1}$	-	-	-	-	-	7.431**
						(1.088)
Return on assets $_{t-1}$	- 11.348***	-4.934	-5.152	-4.350	7.330	-7.158*
	(1.025)	(3.131)	(4.902)	(2.180)	(7.739)	(1.745)
Firm Size $_{t-1}$	-0.648	0.631	-1.314	2.664	-13.347**	-0.652
	(2.002)	(0.758)	(1.568)	(1.077)	(2.707)	(1.111)
Market-to-book value $_{t-1}$	-1.368	-1.068	-0.997	-1.439	-2.215*	-1.250
	(0.610)	(0.553)	(0.356)	(0.831)	(0.641)	(0.517)
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.120	0.104	0.054	0.111	0.159	0.109
N	1,672	3,452	3,308	2,671	1,384	3,571

Panel B: Resignation

Sample	Atleast 1 women director	Less than 7 directorships	No bank & government	Less than 3 completed terms	No stock options	Performance
	(1)	(2)	(3)	(4)	(5)	(6)
Post accountability	4.758***	3.866**	3.829**	3.995**	6.977*	4.264**
	(0.167)	(0.488)	(0.565)	(0.601)	(2.076)	(0.473)
Post accountability x Return on assets $_{t-1}$	-	-	-	-	-	9.015**
						(1.884)
Return on assets $_{t-1}$	-6.466***	-3.653	-4.509	-4.965	5.507	-6.144*
	(0.587)	(3.095)	(4.166)	(2.869)	(9.054)	(1.505)
Firm Size $_{t-1}$	-2.846	-0.855	-1.649	1.502	-9.318	-2.108
	(2.058)	(1.077)	(1.633)	(2.305)	(3.789)	(1.918)
Market-to-book value $_{t-1}$	-1.232	-1.100**	-1.198	-0.969	-0.931	-1.260**
	(0.586)	(0.254)	(0.427)	(0.443)	(0.605)	(0.279)
Firm fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.133	0.100	0.098	0.116	0.264	0.113
N	1,672	3,452	3,308	2,671	1,384	3,571