Does personal liability deter individuals from serving as independent directors?*

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Abstract :

This study examines whether personal liability for corporate malfeasance deters individuals from serving as independent directors. Exploiting the introduction of personal liability in India, we find that personal liability deters individuals from serving on corporate boards. We find stronger deterrence among firms with a) greater litigation and regulatory risk, b) higher monitoring costs, and c) weak monetary incentive to serve as an independent director. Expert directors are more likely to exit, resulting in 1.16% lower firm value. Overall, our study documents that personal liability deters individuals with high reputational costs and weak monetary incentives from serving as independent directors.

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In the wake of corporate governance scandals in recent years, policymakers have called for increasing the independence of directors as well as their accountability to shareholders. Theoretically, increasing accountability by imposing personal liability for corporate malfeasance should improve directors' incentive to monitor management and reduce agency problems and entrenchment (Coffee, 1986; Jensen, 1993). On the other hand, it can be argued that fear of personal 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 personal liability deters individuals from serving on corporate boards is scant.

Prior literature on directors' accountability has focused on examining whether (independent) directors face litigation risk (Black, Cheffins, and Klausner, 2006; Armour, Black, Cheffins, and Nolan, 2009; Brochet and Srinivasan, 2014), whether directors are held accountable for wrong doing through shareholder voting in director elections (Guercio, Seery, and Woidtke, 2008; Cai, Garner, and Walking, 2009; Fischer, Gramlich, Miller, and White, 2009) or whether they are more likely to resign after shareholder dissent (Aggarwal, Dahiya, and Prabhala, 2018). 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 personal liability 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 personal liability for independent directors. We hypothesize that the new stringent law will result in increased turnover of independent directors if personal liability deters individuals from serving on corporate boards. Because personal liability increases the cost of serving as independent director, we expect to find stronger deterrence among firms that are subject to litigation and regulatory risk, high monitoring costs, and weak pecuniary incentives to serve as an independent director.

Compiling a panel of 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 personal liability. In terms of magnitude, the annual

turnover rate of independent directors increases from 10.2% to 13.9% around the reform. The increase in turnover 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 are unaffected by the reform.

If accountability is undesirable for directors, firms might respond to the passage of the law by offering directors and officers liability insurance (hereafter DOI), increasing director remuneration, or both. The ability to shield independent directors from personal liability is however limited because: a) DOI typically does not cover criminal or regulatory liabilities and b) director remuneration in India is subject to regulatory caps. Consistently, we find higher turnover rates in firms that are subject to litigation and regulatory risk, high monitoring costs, and weak pecuniary incentives to serve as an independent director. We further document that individuals selectively leave boards offering low director remuneration, while controlling for director-invariant heterogeneity (e.g., ability and quality), using a director fixed effects approach. We also document that individuals after the reform are more likely to quit all their independent directorships and are less likely to accept subsequent appointments as independent directors. These findings suggest that personal liability increases the cost of serving as independent directors, and that directors tradeoff monetary incentives and reputational concerns with their desirability to serve on boards as independent directors (Yermack, 2004; Adams and Ferreira, 2008; Masulis and Mobbs, 2014).

A priori, it is unclear whether the reform, which increases the cost of serving as independent directors, will have a differential impact for high- and low-quality directors. On the one hand, the reform might induce high-quality directors to quit due to reputational concerns (Fama and Jensen, 1983). On the other hand, the reform might imply that directors now incur the cost of their poor oversight, leading low-quality directors to quit. We find support for both arguments. Specifically, we document that the reform leads to higher turnover for expert directors, as well as higher turnover for directors with attendance problems. Shareholders react negatively to the enactment of the law, and stock price reactions to director replacements result in a 1.16% lower firm value after the reform. These results are consistent with the view that the introduction of personal liability is costly.

Although our results are consistent with the view that personal liability deters individuals from serving as independent directors, the main caveat with our analysis is that our empirical specification solely attributes changes in turnover rates to the personal liability reform. The increase in turnover rates might alternatively be driven by contemporaneous corporate governance reforms (Varottil, 2014) or by an increased focus on corporate governance due to the emergence of proxy advisors in India (Subramanian, 2016). To ensure that we consider all contemporaneous corporate governance reforms that affect independent directors, we solicit a memorandum from a prominent legal firm. Contemporaneous reforms increase the workload of directors, restrict the eligibility of directors, and require at least one woman on the board. We document that these contemporaneous corporate governance reforms do not drive our results. Using data from a leading proxy advisory firm, we further show that even though proxy advisors begin to issue recommendations to vote against independent directors frequently, few of these lead to director turnover. We also document that shareholder dissent does not drive the turnover of independent directors. We conclude that none of the confounding regulatory initiatives or shareholder dissent 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 personal liability deters individuals from serving as independent directors. Prior literature on director accountability has focused on director accountability conditional on wrongdoing. The main takeaway from this literature is that litigation risk and the risk of electoral challenges by shareholders are overstated. Directors are rarely subject to lawsuits by shareholders, and when they are, such cases often are dismissed (Black, Cheffins, and Klausner, 2006; Black et al. 2006). 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, 2018). 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) or when they depart from value maximizing decisions (Coles and Hoi, 2003; Harford, 2003; and Jiang, Wan, and Zhao, 2014). 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 personal liability on the desirability to serve as a corporate director.

The closest studies to ours are Donelson and Yust (2014) and Chakrabarti and Subramanian (2016). Donelson and Yust (2014) study 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 increase. 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) study the effect of the Satyam accounting scandal in 2009 on director turnover. They find that independent directors resign from corporate boards and interpret this evidence as being consistent with an increase in the perceived personal liability of directors. In contrast, we study the effect of introducing personal liability of independent directors through corporate law. The passage of the law is helps clarify 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 provides cross-sectional evidence that independent directors respond to the introduction of personal liability by resigning from firms that have a) exposure to litigation and regulatory risk, b) high monitoring costs, and c) weak monetary incentives to serve as an independent director. We also find evidence that personal liability has stronger deterrence among expert directors, consistent with them being sensitive to reputational concerns.

A central thesis in this study is that the introduction of personal liability increases the accountability of independent directors to shareholders. Prior to the reform, the Companies Act of 1956 specified personal liability only for an "officer in default", a term which covers managing directors or persons with

responsibility for the day-to-day management of the company. As independent directors by definition are not responsible for daily operations, they could not be held personally liable prior to the reform. In contrast, the Companies Act of 2013, introduces personal liability of independent directors by specifying that "*An independent director 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.*"

In spirit, the reform imposes unlimited personal liability for fraud, supplemented with civil and criminal penalties. An important question is whether the judicial system upholds the letter and the spirit of the new regulation and imposes personal liability. Following the reform, decisions in landmark cases reveal that the judicial system in India has implemented a stringent definition of personal liability. Independent directors are held personally liable for the oversight of operations, resulting in freezing of personal assets of independent directors. Moreover, appeals arguing that independent directors have no role in day-to-day operations have been rejected, highlighting that the judicial system enforces personal liability for independent directors. Thus, the new regulation in India provides a setting that allows us to examine whether personal liability deters individuals from serving as independent directors.[1]

In the context of the U.S, all states except Delaware and Nevada hold independent directors liable in the case of corporate malfeasance.[2] The effect of personal liability in the United States is, in many cases, muted by the widespread use of DOI, which makes it hard to convincingly identify whether personal liability deters individuals from serving on corporate boards. In contrast, the Indian Companies Act of 2013 prohibits indemnification of an independent director for corporate malfeasance, which reduces the protective features of DOI. In addition, the market for DOI in India has historically been non-existent as most of the firms find it prohibitively expensive to obtain such policies (Varottil, 2010).[3] Together these

[1] Media coverage provide corroborating anecdotes confirming our finding, that independent directors being held liable personally affects their decision to stay on boards (See, e.g., Vijayaraghavan and Philip, 2017; Upadhyay, 2018; Kala, 2019).
[2] Specifically, Delaware limited a director's personal liability for breach of his or her fiduciary duties in 1986 (Balotti and Gentile, 1987). In 2001, Nevada followed suit by limiting the liability of independent directors if their behavior involved both a breach in the duty of loyalty and intentional misconduct, fraud, or a knowing violation of the law (Barzuza 2012).
[3] One reason for the limited market for DOI is that the Companies Act of 1956 constrained firms from providing indemnities to officers for negligence, default, breach of duty, etc. In recent years, the D&O insurance market in India has been growing,

features make the Indian experience particularly useful for answering the question of whether personal liability deters individuals from serving on corporate boards.

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. On the one hand, Adams and Ferreira (2007) argue that increasing board independence may not necessarily benefit shareholders 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. 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 minimizing coordination costs among outsiders and maximizing the ability of outsiders to reject inferior projects. Thus, from shareholders' perspective, accountability is a trade-off 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 those directors take the right amount of risk. Our study primarily documents the existence of costs for directors associated with the introduction of personal liability, leading to director replacements and lower firm value. At the same time, our results show that personal liability improves meeting attendance among incumbent directors. Collectively, these results highlight that the potential benefit from introducing personal liability to strengthen directors' incentives is counteracted by an increased cost of serving as a director.

Additionally, 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 higher cost of debt (Bradley and Chen, 2011; Lin et al., 2013). As these studies mainly focus on managerial liability, our study is the first step towards understanding whether the personal liability of independent directors can improve the effectiveness of corporate boards.

especially among larger firms (Varottil, 2014). The most popular DOI 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, and other forms of intentional misconduct.

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 on the impact of introducing personal liability on independent director turnover rates. Section 4 focuses on how litigation risk and monitoring costs affect turnover. Section 5 examines whether monetary incentives can offset the cost of personal liability, and in Section 6, we examine the effect of personal liability on board quality and monitoring. Section 7 focuses on shareholder wealth effects. Section 8 addresses concerns about contemporaneous corporate governance reforms and market developments as alternative explanations for our findings. Section 9 offers concluding remarks. An appendix provides many supporting details.

1. Corporate governance reforms in India

Following the major corporate governance scandals in the United States and Europe in the early 2000s, there has been a renewed focus on corporate governance around the world. The regulatory efforts in shaping governance that swept the world also resulted in changes in India, where the Ministry of Corporate Affairs and the market regulator Securities and Exchange Board of India (hereafter SEBI) have taken initiatives to reform the corporate governance standards.

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 the audit committee and disclosure to shareholders. These reforms were introduced in a phased manner and became effective for all firms on January 1, 2006.[4] 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

[4] Appendix Figure A1 shows the timeline of corporate governance reforms in India. See Black and Khanna (2007) and Dharmapala and Khanna (2012) for studies of the valuation consequences of the introduction of Clause 49.

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 a 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 could not 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*."[5] The Ministry's view that independent directors were not personally liable for corporate actions under the Companies Act of 1956 was upheld in two Supreme Court cases.[6] The lack of liability of independent directors resulted in the proposal to introduce personal liability in the Company Bill of 2011. The final version of the bill was enacted by the assent of the President of India in August 2013.[7] 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 announced significant changes to Clause 49, addressing issues related to liability of independent directors, board structure, and composition of subcommittees. The revised Clause 49 of the listing agreement became effective from Oct 1, 2014. In addition to providing the regulatory framework for the personal liability of independent directors, SEBI mandated at least one woman director, introduced restrictions on director eligibility and remuneration, and introduced mandatory annual performance reviews for independent directors.[8]

[5] See Circular no. 8/2011 No.2/13/2003/CL-V, dated 25th March 2011.
[6] 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].
[7] Section 149 of Companies Act of 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."
[8] Clause 49 was enacted in 2000, and amended in 2001, 2006, 2008, and 2014. Appendix Table A1 details the major changes to Clause 49 in 2014.

Alongside the regulatory initiatives focusing on improving board efficiency, the regulation introduced by SEBI in 2010 required mutual funds to be transparent about their policies regarding voting on the resolutions of shareholder meetings and as well as disclosing on their website how they exercised their votes (see Subramanian, 2016). This new regulation fueled the growth of the proxy advising industry in India, catering to the mutual funds' need for external advice on corporate governance issues. One potential implication of this market development is that it increased the likelihood of shareholder dissent, potentially affecting director elections and the desirability to serve as an independent director.

In summary, personal liability is introduced at an active time for corporate governance changes brought about by both regulatory requirements and market developments. In Section 8, we therefore address the concern that our findings capture everything happening in the arena of corporate governance during this period.

2. Data and summary statistics

To analyze whether the introduction of personal liability deters individuals from serving as independent directors, we obtain data on the board composition and director remuneration as well as accounting and financial performance for firms listed on the National Stock Exchange (hereafter NSE) in India for the period from 2010 to 2016.[9]

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 on director characteristics such as age, gender, nationality, educational qualifications, experience, independent/non-independent status, committee memberships, remuneration (for the 200 largest firms by market capitalization from 2010 onwards), date of appointment, cessation date and reason for cessations.

[9] National Stock Exchange of India Limited (NSE) is the leading stock exchange of India. It is the world's 11th largest stock exchange with a market capitalization of more than US$2.27 trillion (as of April 2018).

For each director, we extract information on educational qualifications and occupation based on their work profile. We then proceed to classify the expertise for each director in two ways. Under *Specialization*, we classify each director based on his educational qualification as well as his occupation. We create an indicator for directors who possess an *accounting, finance & law degree* or is a chartered accountant, CPA, CFA, JD, LLB, or LLM. *Business & MBA* is an indicator for general business degrees and MBAs. *Academics* is an indicator for professors. Under the *Highest degree,* for each director, we extract their highest educational qualification and classify them into *"Graduate or below",* "*Post-graduate*", and "*Doctorate*".

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); Siegel and Choudhary (2012); Chakrabarti and Subramanian (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.

Prowess also contains information on boards, number of board meetings held, number of board meetings attended by each director, and director remuneration. To ensure consistency, we augment Indian Boards' dataset with board information and other variables such as independent/non-independent status, and executive/non-executive status (where available) from Prowess.[10] We merge the two datasets using NSE ticker symbols.

Our final sample consists of a panel of firms listed on the NSE from 2010 to 2016. This sample corresponds to 5,862 firm-year observations and 27,775 director-year observations. In our analysis, "year" refers to the financial year as opposed to the calendar year because the financial year in India runs from April 1 to March 31. Thus, we refer to the financial year starting on April 1, 2014, and ending on March

[10] To merge the information across datasets, we perform a time-intensive fuzzy matching of director names in both datasets and then retrieve relevant information for each director in any given financial year.

31, 2015, as the year 2014-15. All dates are adjusted to reflect the financial year rather than the calendar year. In terms of data completeness, our panel of firms listed on NSE from 2010 to 2016 is subject to one caveat that our data on director remuneration only covers the 200 largest firms (by market capitalization).

Table 1 presents the descriptive statistics of firm and board characteristics.[11] Panel A reports firm characteristics. The average firm in our sample has a market capitalization of INR 63 billion (USD 0.95 billion)[12], a market-to-book ratio of 1.11, and is 36 years old. In comparison, the average Standard & Poor's (S & P) 1500 firm has a market capitalization of US$ 1.1 billion, and a market-to-book ratio of assets of 1.39 over the same period. Thus, our sample of Indian firms is similar to an average listed firm in the S&P 1500 index.

Panel B of Table 1 shows board characteristics. The average board consists of 9.6 directors, of which 4.7 are classified as independent directors, while we are unable to classify 0.5 directors. In comparison, Yermack (1996) reports an average board size of 12.3 for Forbes 500 firms, while Coles, Daniel, and Naveen (2014), Schmidt (2015), and Francis et al. (2016) report an average board size of around 9.5 for firms in the S&P 1500 index. Across time the number of independent directors is increasing from 4.4 in 2009-10 to 4.8 in 2015-16. Finally, while only 0.7 of the directors are female, the average number of female directors increases from 0.4 to 1.2 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. To facilitate the inclusion of female directors, the average firm increases its board size by 0.4 directors from 9.5 to 9.9 directors. Thus, increasing board size accounts for 60% of the increase in the number of female directors of 0.7. While these numbers suggest that the introduction of a female quota did change the composition of boards, we formally show in Section 9 that our results are robust to excluding firms that did not have a female director before 2014.

Panel C of Table 1 reports the number of independent directorships and the number of turnovers. Over the sample period, we have a total of 27,775 independent director-year observations. The number

[11] For reference, we report additional summary statistics in Appendix Tables B1 and B2.
[12] 1 US$ is equivalent to 68 INR (as of June 2018).

of independent directors in our sample increases from 3,266 in 2009-10 to 4,297 in 2015-16. The increase is caused by an increasing number of firms in our sample as well as an increasing number of independent directors on the average board. In terms of turnovers, we observe a total of 2,648 turnovers of independent directors in our sample period. We note that the incidence of turnovers is increasing around the reform, as illustrated in Figure 1, where we report the average fraction of independent directors that turnover at the firm level.[13]

Additionally, the most common reason for director turnover is resignation, followed by retirements and expiration of term.[14] Overall, 58% of the independent directors resign, 20% retired, 6% leave due to term expiration, and 6% of the turnovers are caused by death. Finally, we note that the resignation rate is driving the increase in turnovers after the reform. The fraction of director turnovers due to resignation increases from 55% in 2013-14 to 66% in 2014-15.

3. Personal liability and turnover of independent directors

The starting point of our analysis is to document a significant increase in the turnover rates of independent directors in the year of the introduction of personal liability. Figure 1 shows the average turnover and resignation rates for inside and independent directors across our sample period. The top panel shows that turnover rates for independent directors have increased from 6.1% to 13.9% from 2009-10 to 2014-15. Interestingly, most of the increase occurred in the year of the introduction of personal liability, where the turnover rate increased from 10.2% in 2013-14 to 13.9% in 2014-15. This is a short-term effect as turnover rate subsides to 8.6% in the subsequent year. This development contrasts the turnover rates for inside directors that have been relatively constant over the sample period, varying between 6.9% and 9.7%. Moreover, the turnover of independent directors occurs between April and

[13] Note that Table 1 reports number of directorships and turnover at the director level, whereas Figure 1 reports the average turnover ratio across firms.
[14] The classification of turnover is based on information gathered by our data provider, using a combination of filings with the NSE and from annual reports.

September of 2014, as shown in Figure 2, which is the 6 months immediately after the introduction of personal liability on April 1, 2014.[15]

The bottom panel of Figure 1 shows that the increase in turnover rates of independent directors can be attributed to resignations. In the financial year 2013-14, 6.9% of the independent directors resigned, compared to 10.4% in the financial year of 2014-15. Thus, the directors resigning prematurely before the end of their term drive the increase in the turnover rates.

To examine whether individuals leave all independent directorships and refrain from joining other boards in the following years, we follow directors over time. Figure 3 reports the fraction of individuals exiting from all the independent directorships. The pattern is director exits mirrors the documented turnover rates in Figure 1, suggesting that after the introduction of personal liability, individuals leave all independent directorships. In the bottom panel of Figure 3, we go one step further and plot the re-entry rates, i.e., appointment as an independent director in the next financial year for individuals that exit all independent directorships. Around the reform, we find that independent directors who exit subsequently are less likely to join another board as an independent director. We conclude that individuals are more likely to exit the labor market for independent directors after the reform.

To formally test whether the turnover rates are higher after the reform, we use an Ordinary Least Squares (hereafter OLS) regression specification where the dependent variable is the fraction of independent directors who turn over within each board.[16] Our main specification focuses on the effect of personal liability on turnover for post-reform years of 2014-15 and 2015-16.[17] In keeping with prior literature, we control for firm characteristics (firm size, market to book value, return on assets, stock return, stock price volatility, and ownership of controlling shareholder) and include firm fixed-effects in the

[15] The deadline for listed firms to comply with Clause 49 regulations was October 1, 2014.
[16] Given that the dependent variable is a fraction, we should ideally be using a fractional outcome regression model. However, we use an OLS model to avoid the incidental parameters problem associated with nonlinear fixed-effects estimation in a panel setting (Neyman and Scott, 1948).
[17] In unreported regressions, we find stronger results using the reform year of 2014-15, rather than the entire post-reform period.

specification. Table 2 reports the results. The inclusion of firm fixed effects ensures that time-invariant firm characteristics that might be correlated with director turnover are not driving our results.

Column 1 of Table 2 shows that the turnover rate is 3.0 percentage points higher after the introduction of personal liability.[18] This effect is both economically and statistically significant, given the baseline turnover rate of 7.8% before the reform.[19]

To ascertain that the higher turnover and resignation rates following the reform are not driven by regulation that affects the desirability of serving as a director in general, column 2 shows results for inside directors. Column 2 of Table 2 shows that the turnover rate of inside directors is 0.8 percentage points higher after the reform, and the effect is statistically insignificant, which suggests that the desirability of serving as inside directors is unaffected by the reform. In column 3 of Table 2, we directly test the difference in post-reform turnover rates between independent and inside directors. We include firm-year fixed effects to absorb time-varying firm characteristics that affect the desirability to serve as a director. We note that while independent directors, in general, have lower turnover rates, the interaction term between the *post liability* indicator and the indicator for independent directors is positive and statistically significant. It follows that the personal liability reform has a differential impact on independent directors relative to inside directors. The inclusion of firm-year fixed-effects in column 3 of Table 2 effectively controls for any time-varying effect of the desirability to serve as a director at the firm. Collectively, the evidence bolsters our conjecture that the introduction of personal liability for independent directors deters individuals from serving as independent directors.

[18] In Appendix Figure A2, we examine possible pre-trends by plotting marginal effects from a firm fixed effects regression of turnover rates for independent directors on yearly indicators. We conclude that the resignation of directors before the expiration of their term drives the increase in turnover rates. Additionally, in unreported results, we also examine turnover among directors below the retirement age of 70 years and find that the estimated coefficient remains virtually unchanged in both magnitude and statistical significance. This rules out concerns that directors beyond the stipulated retirement age do not drive our baseline results.

[19] Our results are unaffected both in terms of economic magnitude and statistical significance if we use board size as the denominator. We prefer to use the number of independent directors because it allows us to isolate the effect of the reform from the post-reform general desirability to serve on boards.

4. Litigation risk, monitoring costs and turnover

In this section, we provide evidence consistent with the argument that personal liability deters individuals from serving as independent directors on boards of firms with high litigation risk and high monitoring costs. If firms are restricted in their ability to absorb the directors' personal costs of legal liability for directors, we expect to find higher turnover rates in firms that are exposed to litigation risk due to crime or regulatory non-compliance, that cannot be covered by DOIs, and in informationally opaque firms where monitoring is more difficult. In the following tables, we will explore heterogeneous treatment effects along these dimensions using a linear regression model where the dependent variable is an indicator for turnover, and the level of observation is director-firm-year. We use a linear probability model to avoid the incidental parameters problem associated with nonlinear fixed-effects estimation in a panel setting (Neyman and Scott, 1948).

To measure litigation and regulatory risk, we focus on firms non-compliant with listing requirements, as well as firms operating in highly corrupt environments. We create a measure of non-compliance with the listing requirements regulated by SEBI in any of the five preceding financial years as a proxy for litigation risk.[20] From column 1 of Table 3, we note that after the reform, independent directors are 3.7 percentage points more likely to leave the board if the firm has a history of non-compliance.[21] This effect is both statistically significant and economically meaningful.

Litigation risk might also arise as a result of corporate crimes.[22] To capture corporate crimes, we focus on firms operating in highly corrupt industries in India, based on the classification in the report

[20] 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 49) to the stock exchange:
https://www.nseindia.com/corporates/content/ComplianceArchive.htm
Penalties for non-compliance range from fines levied on the company to suspension of trading, and in rare cases delisting from the stock exchange.

[21] Note that the firm fixed effects absorbs the general effect of non-compliance and corrupt industry on turnover rates in Table 3.

[22] In unreported tests, we use a measure of insurance premium paid on assets, goods, and key persons as reported by firms in their annual reports. We find that a constant fraction of firms consistently report insurance coverage throughout the sample period. The average premium amount paid by firms in any given year is 0.15% of the total assets. In the cross-section, firms that don't report insurance coverage have higher turnover rate after the reform but this effect is not economically or statistically strong enough to explain the increase in turnover rates.

"*Bribery and corruption: Ground reality in India*" by EY (2013). In column 2 of Table 3, we include an interaction term between the *post liability* indicator and the indicator for highly corrupt industries, while firm fixed effects absorbs the indicator for highly corrupt industries. Directors serving on the board of firms operating in highly corrupt industries are 3.4 percentage points more likely to leave after the reform relative to directors in less corrupt industries. In summary, Table 3 shows that personal liability deters individuals from serving as an independent director on boards of firms that are exposed to litigation risk.

Next, we test the conjecture that if personal liability increases the cost of serving as an independent director, it is essential for them to be able to monitor and detect potential irregularities within the firm. Thus, if personal liability deters directors, we expect them to be more likely to leave boards of opaque firms where monitoring is more difficult. Consistent with this argument, prior literature finds that directors are held accountable by shareholders for fraud and incur significant labor market penalties when they are perceived as weak monitors (Srinivasan, 2005; Black et al., 2006; Fich and Shivdasani, 2007; Brochet and Srinivasan, 2014).

To identify firms in which independent directors are less likely to be able to detect irregularities, we focus on informationally opaque firms, because independent directors in such firms have inferior information relative to insiders (Raheja, 2005; Harris and Raviv, 2006; Coles et al., 2008; Duchin, Matsusaka, and Ozbas, 2010; Nguyen and Nielsen, 2010). We use three proxies for monitoring costs due to information opacity: High research and development (*Industry R&D share*), high industry growth (*Industry sales growth*) at the two-digit National Industrial Classification (NIC) level, and a high ratio of intangible to total assets (*Asset intangibility*). Indicators for high monitoring costs takes the value one if R&D expenses, industry sales growth, and intangible assets are above the median, respectively. We also construct three indicators for high monitoring costs due to complexity in the scope of operation for firms with: multiple plants (*Multiple plants)*, operations across different geographic locations (*Multiple states)*, and multiple industries (*Multiple industries*). Table 4 report our results.

Across proxies of high monitoring costs, in Table 4, we note that independent directors are more likely to leave firms with high monitoring costs after the introduction of personal liability. This suggests

that when firm-specific information is costly, independent directors' lower monitoring capacity to detect irregularities deters them from serving on boards.

5. Personal liability and monetary incentives

Next, we examine whether director remuneration can offset the personal cost of legal liability. To do so, we investigate how director turnover is affected by director remuneration in Table 5. Due to data availability, we restrict the sample to the largest 200 firms (by market capitalization each year) for which we can observe compensation for all directors.

To qualify the discussion a few institutional details about director remuneration are required: In India, independent directors' remuneration mainly consists of two components: sitting fees and commission. Sitting fees are paid per board meeting 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, firms are allowed to pay up to 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 as a group can be paid commission fees up to 1% of the net profits per year. Historically, few remuneration packages in India, unlike the United States, included stock options or restricted shares. Only 14% of directors received compensation in the form of stock options and restricted shares between 2012 to 2014. 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, earn around INR 907,000 (USD 13,437) per year during our sample period.[23] The average independent director earned around INR 176,000 (USD 2,607) in sitting fees, INR 700,000 (USD 10,370) in commissions, and just INR 31,000 (USD 460) in bonus and stock options.

[23] To make director compensation comparable across time, all numbers are reported in the year 2010 Indian Rupees (INR). We report the sample distribution of independent director remuneration in panel C of Appendix Table B1 and independent director remuneration by financial year in Appendix Table C1.

Over the sample period, average total compensation has increased from INR 720,000 to INR 1,223,000 (USD 10,660 to USD 18,120). Most of the increase occurred from 2013-14 to 2015-16. Both sitting fees and commissions contributed to this increase. Average sitting fees increased from INR 147,000 to INR 310,000 (USD 2,177 to USD 4,592), while commissions increased from INR 558,000 to INR 901,000 (USD 8,266 to USD 13,350). Increasing director remuneration should make it more attractive to serve as independent directors, although we note that this is at odds with the documented increase in turnover rates for independent directors. As evident, most of the increase is concentrated in the years after the reform consistent with firms changing their compensation policy to attract and retain independent directors.

To capture monetary incentives, we classify firms into high and low director compensation by splitting at the median level and use lagged compensation to avoid the possibility that firms respond to turnovers by changing their compensation policy. Column 1 of Table 5 shows that firms with lower compensation have higher turnover and that this effect is larger and statistically significant after the reform. Interestingly, firms paying low director compensation drive the increase in turnover rates documented in Table 2 as the *post liability* indicator becomes insignificant. In column 2 of Table 5, we introduce firm fixed effects to control for time-invariant firm characteristics (e.g., corporate governance characteristics) that might explain variation in compensation and turnover rates. We note that the sign on low compensation changes after we introduce firm-fixed effects, implying that directors are more like to stay on boards when compensation changes from high to low. The interaction effect between low compensation and the post liability indicators, however, remains negative and statistically significant. After the reform, turnover rates among firms paying low compensation is 11.2 percentage points higher than before the reform, whereas the effect is negative and insignificant for firms with high compensation. We note that this effect is persistent: directors continue to leave the boards of firms that offer weak monetary incentives.

In column 3, we create a measure of director remuneration rank within the board and study its impact on turnover rates at the director level, while controlling for the firms' overall pay policy by including firm fixed effects. We note that remuneration rank (i.e., high remuneration relative to other independent

directors within the firm) in general decreases the probability of turnover after the introduction of personal liability.[24] Thus, directors paid less relative to other independent directors serving on the same board, are driving the higher turnover rates.

In columns 4 through 9, 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. The lower turnover rate 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 are 7.6 and 10.7 percentage points more likely to leave boards that offer low sitting fees and low commissions, respectively. We also note that the increase in turnover rates is modest for firms offering strong monetary incentives. Collectively, the results in Table 5 document that personal liability deters directors serving on the board of firms that offer weak monetary incentives.

Additionally, we use a director-fixed effects approach to control for time-invariant director characteristics (e.g., ability and skills) in Appendix Table C2. This approach utilizes within director variation in remuneration across firms, thus holding director quality constant. Consistent with our earlier findings, we find that independent directors selectively leave boards that offer low director remuneration. Collectively, these results bolster the interpretation that weak monetary incentives and not director quality drive the observed increase in turnover rates.

Finally, it remains a possibility that firms respond to the introduction of personal liability by increasing director remuneration. In Appendix Table C3, we examine whether firms change the compensation for independent directors after the reform. From the first three columns, we note that total remuneration is increasing due to an increase in sitting fees. Sitting fees increase by 160,000 INR (2,370 USD) per year after the reform, equivalent to less than 10% of the total director pay. In columns 4 through

[24] In unreported tests, we find that the independent directors who serve as chairs or members of audit and remuneration committees obtain higher compensation in the form of sitting fees. Compensation differences in commission, on the other hand, seem to be unrelated to subcommittee assignments. In further tests, we find that directors who serve on the audit or remuneration committees have a higher probability of turnover, although the effect is statistically insignificant. The main caveat of this analysis is the lack of statistical power, as we only have subcommittee assignments for a small sample of firms.

6, we find a positive interaction between changes in sitting fees and director turnover after the reform. The positive interaction term indicates that firms respond to turnovers by increasing pay, rather than responding to the reform. Overall, these results indicate that firms respond to the introduction of personal liability by increasing director remuneration. More importantly, we note that the effect of personal liability on turnover increases when we add controls for changes in director compensation, indicating that the increase in turnover occurs among firms offering low monetary incentives.

6. Personal liability and director quality

The documented increase in turnover rates among independent directors brings up the question of whether the reform differentially affected high-quality directors. A priori, it is unclear whether the reform, which increases the costs of serving as independent directors, will have a differential impact for high- and low-quality directors. On the one hand, the reform might induce high-quality directors to quit due to reputational concerns (Fama and Jensen, 1983). On the other hand, the reform might imply that directors now incur the cost of their poor oversight, leading low-quality directors to quit. We therefore proceed by analyzing the effect of the introduction of personal liability on board quality using measures of director expertise and board attendance.

A. Director expertise

In this subsection, we examine the personal characteristics of independent directors who leave after the introduction of personal liability. We measure director expertise by classifying each director's *specialization* based on educational qualifications (e.g., accounting, law, and finance), as well as their *highest degree* (graduate or below, post-graduate, and doctorate*)*. Again, we use a linear probability model, while controlling for firm fixed effects. Table 6 reports the results.

Column 1 in Table 6 reports both the baseline effect of individual characteristics on the turnover probability as well as the interaction between director expertise and the post-reform indicator. The baseline coefficients are informative about the expertise of directors who are leaving boards, while the coefficients

in the interaction columns are informative about whether expert directors are more likely to leave after the introduction of personal liability. We note that pre-reform, expert directors have a lower turnover probability, but after the introduction of personal liability, they exhibit a higher turnover probability.

Interestingly we find that directors with accounting, finance, and law degrees, in general, are less likely to leave boards but more likely to leave the boards after the reform. There is a 1.5 percentage point increase in turnover probability, which is economically significant compared to the average effect of the reform. For academics, we also note that the introduction of accountability changes their desire to serve on boards. Academics are less likely to leave boards before the reform, but more likely after the reform. We conjecture that this captures reputational concerns after the introduction of personal liability as these individuals are more likely to be concerned about their reputation (Agrawal and Chadha, 2005; Fich and Shivdasani, 2007; Chakrabarti and Subramanian, 2016). The main exception is that directors with a business degree or an M.B.A degree prefer to stay on board rather than handing in a formal resignation.

Next, we explore heterogeneity in director turnover based on measures of educational attainment. Column 2 shows that directors with post-graduate degrees and independent directors with PhDs are less likely to stay on boards after the introduction of personal liability. The results are economically significant: Independent directors with a post-graduate degree are 3.0 percentage points more likely to leave the board. For independent directors with a Ph.D., the effect is stronger. The introduction of personal liability increases the likelihood of departure by 6.7 percentage points.

To understand whether the reform leads to lower director expertise on boards, we also examine the characteristics of individuals who join the boards after the reform. Appendix Table D1 presents the descriptive statistics of independent directors who join the boards during our sample period. Panel A reports the gender composition of director appointments. There is a significant increase in appointments after the reform, especially for female directors, which is hardly surprising given that the reform requires firms to have at least one female director on the board. To avoid spurious correlation, panels B to D of Appendix Table D1 focuses on male independent directors appointed to boards that already have one female director. Panel B shows that the average firm in our sample appointed slightly older directors with

less prior board experience. Panels C through D shows that in an average firm, half of the directors have an accounting, finance, or law degree, with more than 80% of directors having a post-graduate degree. Thus, in terms of director expertise, we document that boards appoint male directors with a similar level of expertise in comparison to the pre-reform period. In Appendix Table D2, we examine the effect of personal liability on the characteristics of directors who are appointed in our sample period. We find no changes in the characteristics of the appointed independent director after the introduction of personal liability.

From the analysis of turnovers and appointments, we conclude that the introduction of personal liability increased the turnover rates of expert independent directors, while there is no change in the appointment patterns.

B. Director monitoring

In this subsection, we examine the effect of the reform on an independent director's monitoring effort, measured by their attendance record. Prior literature suggests that the frequency of board meetings can increase firm value because directors are more likely to be effective monitors if they meet frequently (Lipton and Lorsch, 1992; Conger et al., 1998; Brick and Chidambaran, 2010). Directors' monitoring efforts can be proxied by their attendance behavior (Vafeas, 1999). We expect personal liability to deter individuals with attendance problems from serving as independent directors, because monitoring increases the possibility of detecting corporate fraud, thereby reducing litigation risk.

For reference, we report descriptive statistics on board meeting frequency and attendance in Appendix Table E. The average firm in our sample holds 6.2 board meetings in a year, and directors, on average, attend 75 percent of them. More than half of the independent directors are absent from at least one or more board meetings, while more than a third (17%) of all independent directors miss 25% (50%) or more meetings.

We examine the impact of absenteeism on director turnover and report results in Table 7. We classify absenteeism using indicators for being absent from 25% and 50% or more board meetings in the

previous financial year, respectively. In column 1 of Table 7, we use a firm fixed effects specification and include an interaction term between the *post liability* indicator and an indicator for absenteeism. Directors with attendance problems are, in general, more likely to leave after the reform. Directors absent from 25% or more board meetings in the previous financial year are 2.4 percentage points more likely to leave after the reform. In column 2, we include director fixed effects as well as identical interaction terms. The results show that directors with attendance problems are 5.8 percentage points more likely to leave after the introduction of personal liability. In columns 3 and 4, we find that directors absent from 50% or more board meetings have 5.0 (10.9) percentage points higher turnover rates after the reform. Overall, we find stronger incremental effects of the reform for directors with attendance problems.

Resignations of directors with attendance problems might improve board monitoring if the independent directors who stay on the board have better attendance records. Figure 4 shows the marginal effects from a firm fixed effects regression of yearly indicators on average board attendance rates for independent directors who stayed on the board for the whole year. We note that the post-reform year has a marginal effect of 6 percentage points, while the marginal effects of the two closest pre-reform years are around 2.5 percentage points. This suggests that the reform had a positive effect on the monitoring function of boards. This is also consistent with Adams and Ferreira (2008), who show that small increases in meeting fees increase director attendance in board meetings. Given the contemporaneous change in sitting fees documented in Appendix Table C1 and C2, directors who stay on boards may respond to these fees by increasing attendance. Therefore, we cannot rule out the possibility that directors increase their monitoring intensity as measured by board attendance due to changes in compensation.[25]

7. Shareholder wealth effects

The significant outflow of expert directors following the introduction of personal liability suggests that the reform might have been costly to shareholders. At the same time, the reform also induces

[25] We acknowledge that it remains a possibility that attendance rates increase because the Companies Act of 2013 explicitly states that independent directors should strive to attend all board meetings. That said, we do think that personal liability contributes to the improved attendance rates, because it increases the cost of absenteeism.

independent directors with attendance problems to leave boards, which suggests a positive shareholder effect. To understand the net effect on shareholder wealth, we therefore analyze how the stock market reacts to the enactment of the law. [26]

A. Stock price reactions to the enactment of the law

In Table 8, we examine stock price reactions for firms in our sample around the date of the enactment of the law on August 29, 2013. To measure the stock price reaction, we access daily returns from PROWESS for a 3-trading-day period around the enactment. We remove firms without trading volume in the estimation window. To calculate the abnormal return, we assume a single-factor model, where beta is estimated using the data from the pre-event window.

In column 1 of Table 8, we find that for the average firm, shareholders react negatively to the reform, with stock prices declining by 0.59 percent around the enactment date. This decline is statistically significant at the 1 percent level and reinforces the view that the introduction of personal liability is costly for shareholders.

In columns 2 to 9 of Table 8, we provide further evidence to suggest that the decline in the stock prices in column 1 is driven by the subsample of firms, where the cost of serving as independent directors due to the reform is likely to increase more. Specifically, we consider firm characteristics - related to director departures - from our prior analysis: litigation risk, monitoring costs, and monetary incentives. Across the columns, we find larger negative stock price reactions among firms where the reform increased the costs of serving as an independent director.

Even though these results are consistent with the view that the introduction of personal liability is costly for shareholders, we caveat our analysis. The main weakness of this approach is that all firms have the same event date, making the results prone to omitted variable bias. We, therefore, supplement the evidence with an analysis of stock price reactions to director cessations and director appointments. The

[26] The Companies Act of 2013 was notified in the Official Gazette on 30th August 2013.

main benefit of such an analysis is that the event dates are firm-specific, which mitigates the concerns about omitted variable bias and provides us with additional evidence about the effect of the reform on firm value.

B. Stock price reactions to director departures and appointments

As prior literature has established that turnover of independent directors is associated with negative stock price reaction (Rosenstein and Wyatt, 1990; Fahlenbrach, Low and Stultz, 2017), we compare the stock price reactions to director turnovers in the year of the reform (financial year 2014-15) to stock price reactions in the year before the reform (financial year 2012-13).

In Table 9, we examine the stock price reactions to independent director cessations, appointments, and the net change in firm value, measured as the difference in stock price reactions to resignations and appointments of replacement directors of the same firm. To measure the stock price reaction, we follow the same procedure as in the above analysis and analyze the cumulative abnormal return in a three-day event window around the date of director cessations and the date of the announcement of the replacement director.[27]

To compute the net change in firm value, we impose the condition that each firm announces a cessation and a subsequent appointment of an independent director. For panels B and C, we condition on characteristics of the outgoing director. In the "difference" column, we report whether the difference in mean cumulative abnormal returns is significantly different from each other.

Consistent with the prior literature, we find that announcements of independent director turnovers are associated with negative stock price reactions, both before and after the reform. Before the reform, stock prices decline on average by 0.05 percent, compared to a decline of 0.68 percent after the reform. We note that the negative stock price reaction after the reform is statistically significant at the one percent level. More interestingly, the difference in stock price reactions to departures of independent directors

[27] Throughout the analysis, event windows will refer to trading days around the announcement date, where day 0 is the announcement date or the first trading day after the announcement. The market index is proxied by the NIFTY 50 index, which is the National Stock Exchange of India's broad-based stock market index for the Indian equity market.

before and after the reform of -0.63 percent is statistically significant at the 5 percent level. The larger negative stock market reaction after the reform reinforces the view that the departure of independent directors after the introduction of accountability is costly for shareholders.

In panels B and C of Table 9, we provide further evidence to suggest that the difference in stock price reactions in panel A is driven by the outflow of expert directors after the reform. We condition on director specialization, and highest degree, and note that in both panels we find larger negative stock price reactions after the reform (relative to before) for expert director departures.

Table 9 also reports stock price reactions to appointments of replacement directors before and after the reform. For appointments, we restrict the sample to male independent directors. Stock price reactions to appointments of replacement directors are lower after the reform than before the reform, and the difference is statistically significant at the 5 percent level. Finally, we calculate the net change in firm value as the difference between the stock price reaction to the announcement of outgoing and replacement directors around the reform. Again, we note that the difference in stock price reactions before and after the reform is economically as well as statistically significant. The net change in firm value is 0.01 percent when a firm replaces one independent director with another before the reform, compared to -1.15 percent after the reform. The difference of -1.16 percent is statistically significant at the 10 percent level. In panels B and C of Table 9, we further report the net change in firm value conditional on the characteristics of the outgoing independent director. Consistent with the observation that the reform induces expert directors to leave the board, we find large net changes in firm value for firms that lose an expert director.

Overall, Table 9 provides evidence that the reform adversely affects firm value. Expert directors leave boards, and incoming director appointments are of lower quality, leading to lower firm value. An alternative interpretation of the results suggests that shareholders react negatively to turnover because they learn about the quality of monitoring from the turnover events, as suggested in Fahlenbrach, Low and Stultz (2017). The alternative interpretation reinforces the view that the introduction of personal liability increases the cost of serving as independent directors on firms with poor corporate governance. The negative stock price reactions to replacements further suggest that shareholders expect the replacement

directors to provide inadequate monitoring efforts and advice, calling into question the potential benefit from introducing personal liability for independent directors.

8. Effect of contemporaneous corporate governance reforms and market developments

Although our results are consistent with the view that personal liability deters individuals from serving as independent directors, the main caveat with our analysis is that our empirical specification solely attributes changes in turnover rates to the personal liability reform. The increase in turnover rates might alternatively be driven by contemporaneous corporate governance reforms (Varottil, 2014) or by an increased focus on corporate governance due to the emergence of proxy advisors in India (Subramanian, 2016). The concern arises because personal liability is introduced at an active time for corporate governance changes brought about by both regulatory requirements and market developments. In this section, we therefore address the concern that our findings capture everything happening in the arena of corporate governance during this time period.

A. Alternative interpretation: Increased workload

In this subsection, we consider an alternative interpretation of our findings because the reform clarified, redefined, and enlarged the ambit of directors' duties and liabilities (Varottil, 2014). Given this, directors are required to act diligently and devote time and attention to the affairs of the company. Interestingly, one of the unintended consequences of the Sarbanes-Oxley Act in the United States was an increase in the workload for independent directors as documented by Linck, Netter and Yang (2008). Thus, one alternative interpretation of the increase in turnover rate is that independent directors respond to increased workloads.

We consider two proxies for "workload," namely, number of directorships and the number of board meetings held in a financial year. We measure both proxies with a lag, as of previous financial year. If directors respond to increased workload, we expect to find a stronger effect for independent directors who hold many directorships or serve on boards that meet frequently. In contrast, if directors respond to

the introduction to personal liability, we would not expect to find a systematic relationship between turnover rates and workload. Table 10 presents results examining these competing hypotheses.

Panel A of Table 10 tabulates average turnover rates for independent directors by the number of directorships held in the previous financial year. We find that turnover rates increase in the year of the reform irrespective of the number of directorships held. Specifically, we find that the increase in turnover rates are higher among directors holding one board seat and seven or more board seats while the turnover rates for the intermediate range exhibit significant variation with no apparent pattern.[28] Thus, the lack of a monotonically increasing relationship between turnover rates and number of directorships held in panel A is inconsistent with independent directors leaving board due to increasing workload.

In panel B, we consider the number of board meetings as an alternative proxy for "workload". For the sake of brevity, we combine the bins for firms with fewer than five board meetings and more than eight board meetings. Our results mirror those established in panel A. Firm-level turnover rates of independent directors are quite similar across all categories except for firms that hold eight or more board meetings in a financial year. Again, the non-monotonic relationship suggests that directors are not responding to increasing workload. Thus, we conclude that increasing workload cannot explain the increase in turnover rates among independent directors.

B. Other contemporaneous corporate governance reforms

In this subsection, we consider the effect of contemporaneous changes to Clause 49, which specifies the corporate governance requirements for listed companies in India. As evident from Figure 1, the introduction of the Companies Act of 2013 coincides with the amendment of Clause 49 in 2014. Clause 49 among other things regulates the composition of boards, the eligibility to serve as corporate directors and director remuneration. Any change to the governance rules surrounding independent director could potentially explain the spike in turnover rates, and therefore deserves scrutiny. Appendix Table A1

[28] Note that the corporate governance reform explicitly bans directors from holding 7 or more board seats, implying that we should expect to see a higher turnover rate among directors holding seven or more seats. In the next subsection, we formally show that our results are not driven by forced turnovers among "busy" directors with 7 or more directorships.

provides a detailed overview of the major changes to Clause 49's regulation of boards and directors by comparing the 2008 version of Clause 49 with the revised version of Clause 49 in 2014.[29]

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 of 2013. In most cases, Clause 49 amendments followed the revisions to the Companies Act of 2013. A few amendments to Clause 49, however, imposed stricter requirements than the Companies Act. Thus, listed firms have to comply with requirements of Companies Act of 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.

One alternative explanation for the higher turnover rates in 2015 could be the introduction of the 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 personal liability. 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 NSE-listed firms had at least one female director prior to the reform in 2015. Column 1 in Table 11 shows the baseline results from Table 3 to facilitate comparison. Column 2 excludes firms without a female director and shows that the post-liability 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 3.2 percentage point higher turnover rate among independent directors.[30]

Clause 49 also introduced restrictions on the number of directorships and the duration of tenure. Individuals cannot serve on the board of more than 7 companies, and the number of terms is limited to

[29] To ensure that we capture all relevant corporate governance reforms affecting independent directors, we commissioned a memorandum from a prominent legal firm in India. The memorandum details that the relevant corporate governance rules are contained in Clause 49, and that Clause 49 has only been amended once (in 2014) during our sample period from 2009 to 2016.
[30] We perform additional robustness tests to rule out the possibility that female director turnovers drive the observed increase in post-reform director turnovers. First, we examine turnover and resignations rates by gender and confirm that male director turnovers drive the overall increase in turnovers documented in our baseline estimation. Second, we show that the firms responded to the regulation regarding female directors by increasing the number of females on boards. Third, we compare female director appointments across firms with and without female directors and show that firms with female directors before the reform are less likely to appoint more females after the reform. Overall, evidence from turnover and appointments confirm that the vast majority of director turnovers in the post-reform era are male director turnovers.

two five-year periods followed by a three-year cooling-off period.[31] 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, columns 3 and 4 analyze the turnover rates of directors that are unaffected by these changes.

Column 3 of Table 11 shows that turnover rates of directors with less than 7 directorships increase by 2.7 percentage points after the introduction of personal liability. In Column 4 of Table 11, we restrict 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 3.4 percentage points more likely to leave the board after the reform. 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 11, we therefore restrict the sample to directors that did not receive stock options or restricted stocks prior to the amendment of Clause 49. Again, we find high turnover rates among independent directors unaffected by the amendments to Clause 49.

Another concern relates to the fact that firms are undergoing other contemporaneous corporate governance reforms at the same time. Thus, excluding one item at a time and leaving other items unchanged may drive the findings documented so far. In column 6, we, therefore, impose the conditions in columns 2 through 5 at the same time. Again, we find higher turnover rates among independent directors after the introduction of personal liability.

[31] Section 149(11) of the Companies Act of 2013 states, "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."

The final reform we consider relates to the introduction of mandatory performance evaluations of independent directors. We test whether directors respond to performance evaluations by assessing the turnover-performance sensitivity of independent directors. If independent directors are leaving boards because they are concerned about legal liability, we should expect weaker or no change in turnover-performance sensitivity after the reform. If independent directors on the other hand are leaving because of the effect of performance evaluations, the turnover-performance sensitivity should increase. Column 7 in Table 11 reports the results. In general, we find a negative but insignificant effect of return on assets on turnover. Moreover, when we interact return on assets with the post accountability indicator, the interaction term is still negative and insignificant. Thus, there is no change in turnover-performance sensitivity after the reform, which is consistent with the liability channel.

In summary, contemporaneous corporate governance reforms in Clause 49 do not explain the increase in turnover of independent directors.

C. Market developments: Proxy advisor recommendations and shareholder dissent

Lastly, this subsection considers the role of proxy advisor recommendations and shareholder dissent as alternative explanations for our findings. Prior literature argues negative recommendation from proxy advisors lead to shareholder dissent and subsequently low support in director elections, leading to director resignations (Cai, Garner, and Walking, 2009; Ertimur, Ferri, and Oesch, 2018; and Aggarwal, Dahiya and Prabhala, 2018). We note that the increase in director turnover coincides with expansion in coverage of Indian firms by proxy advisors, in particular in the years around the corporate governance reform. Thus, one alternative interpretation of the increasing turnover rates is that independent directors respond to shareholder dissent in elections.

To examine whether the increase in director turnovers coincide with a surge in negative recommendations by proxy advisors and shareholder dissent in director elections, we use data from IiAS on director voting recommendations and voting outcomes during our sample period. Appendix Table F1 reports descriptive statistics on the coverage of IiAS and voting outcomes, while appendix Table F2

reports descriptive statistics on IiAS recommendations around independent director elections. Starting from the financial year 2014-15, IiAS extended its coverage to independent directors. In total, IiAS issued recommendations on 711 resolutions that relate to elections of independent directors, and in 42% (298 out of 711) of the elections, IiAS recommended shareholders to vote against the independent director. Interestingly, not a single of these recommendations resulted in a defeat of the independent director standing for election with an average of 96% of the cast votes in favor of the independent director.

Despite the limited impact of the IiAS recommendations, it is still plausible that directors decide to resign following the dissent from proxy advisors and/or shareholders. Out of the 298 directors that IiAS recommended voting against, 21 independent directors (equivalent to 7 percent) subsequently decided to resign. In comparison, Table 1 shows that 621 independent directors leave the board in the financial year 2014-15, corresponding to a turnover rate of 13.8 percent (see Figure 1).

More formally, Table 12 shows the impact of IiAS recommendations and election outcomes on the turnover frequency of independent directors. Panel A focuses on IiAS recommendations while panel B focuses on shareholder voting outcomes. In panel A of column 1, we report the main result that director turnover increases after the reform. As in Tables 3 to 5, the unit of observation is director-firm-year, and the dependent variable is an indicator for turnover. The *post liability* indicator shows that turnover rates are 3.4% higher after the introduction of personal liability for independent directors. In column 2, we include an indicator for IiAS coverage taking the value one if IiAS covers the firm and find no effect of IiAS coverage on turnover rates. In column 3, we include an indicator equal to one if IiAS recommends voting against the independent director. Again, we find no effect of IiAS voting recommendations on turnover rates. Lastly, in column 4, we test the joint effect of IiAS coverage, and IiAS recommendations, and again we find no effect on turnover rates.

Panel B of Table 12 shows the impact of shareholder voting outcomes on the turnover rate of independent directors. In column 1, we include the fraction of votes cast against the independent director and find an almost identical point estimate on the *post liability* indicator. To capture unobservables such as firm-level heterogeneity determining dissent, we follow Aggarwal, Dahiya, and Prabhala (2018) and include

the aggregate firm-level votes against and excess votes against. In column 2, adding average fraction of firm-level vote against an independent director as an additional explanatory variable does not affect turnover rates. In column 3, we include excess votes against, calculated by subtracting the average fraction of votes against all independent directors in a firm from each directors' votes against, and again we find no effect on turnover rates. Finally, in column 4, we test the joint effect of IiAS recommendation and shareholder voting, and again we find no effect on turnover rates.

In summary, across the specifications in Table 12, we consistently find that the coefficient on *post liability* remains stable in magnitude and statistically significant. This bolsters our interpretation that the increase in turnover of independent directors relate to the introduction of personal liability, rather than contemporaneous market developments in the arena of corporate governance. We therefore conclude that the documented increase in turnover of independent directors is unlikely to be driven by proxy advisor recommendations and shareholder dissent.

9. Concluding remarks

This study investigates whether personal liability deters individuals from serving as independent directors. In theory, personal liability should improve directors' incentive to monitor management and reduce agency problems and entrenchment. On the other hand, it is argued that personal liability deters individuals from serving as directors – in particular, if they care about their reputation.

To address whether personal liability 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 personal liability and increased the roles and responsibilities of independent directors. We find that turnover rates and resignation rates increase significantly after the reform. We find that personal liability deters individuals from serving on corporate boards and find stronger deterrence among firms that have a) greater litigation and regulatory risk, b) higher monitoring costs, and c) weak monetary incentive to serve as an independent director.

We document negative shareholder wealth effects of the reform; stock prices on the average declined by 59 basis points at the announcement of the reform. The reform leads to an increase in expert director turnover, resulting in a 1.16% lower firm value for the average firm. On the positive side, directors enhance their monitoring on corporate boards by changing their attendance behavior.

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

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Table 1: Firm, board and turnover characteristics

We report descriptive statistics: mean and standard deviation for our sample of NSE-listed firms from April 1, 2009 to March 31, 2016. Panel A reports the following firm characteristics: *Firm age* (measured in years), *Market capitalization* (INR billions), *Market-to-book value* of assets, *Ownership* of the controlling shareholder, S*tock return* (annualized return), *Stock return volatility* (annualized standard deviation of the firm's daily stock returns during the year). All variables in panel A 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*. Panel C reports the *number of directorships*, *number of turnovers*, turnover characteristics based on reason of cessation, and *number of firms* in each financial year.

	Financial year							
	All	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Panel A: Firm characteristics								
Firm age (years)	36.0 (22.6)	33.5 (23.0)	34.1 (22.7)	34.9 (22.6)	35.9 (22.6)	36.8 (22.5)	37.8 (22.5)	38.7 (22.3)
Market cap. (INR billions)	63.1 (194)	56.6 (175)	59.6 (184)	55.2 (177)	55.0 (180)	61.6 (195)	77.7 (221)	73.9 (216)
Market-to-book value	1.11 (1.10)	1.17 (0.96)	1.10 (0.99)	0.99 (0.96)	0.96 (0.98)	1.03 (1.07)	1.30 (1.35)	1.24 (1.23)
Ownership of the controlling shareholder (%)	52.7 (15.9)	52.4 (16.1)	52.7 (16.0)	52.7 (15.9)	52.7 (15.9)	52.7 (15.8)	52.8 (15.9)	52.9 (15.9)
Stock return (%)	3.0 (60.6)	78.1 (49.1)	-21.3 (52.3)	-28.4 (44.1)	-23.8 (48.8)	2.7 (47.3)	30.4 (57.4)	-8.1 (49.5)
Stock return volatility (%)	51.6 (23.9)	59.0 (21.8)	50.2 (29.0)	46.8 (20.1)	43.6 (21.3)	50.3 (21.0)	56.0 (25.0)	55.6 (24.3)
Panel B: Board characteristics								
Board size	9.6 (3.2)	9.5 (3.3)	9.5 (3.2)	9.5 (3.3)	9.5 (3.3)	9.5 (3.3)	9.9 (3.2)	9.5 (3.0)
Inside/Nominee directors	4.8 (2.4)	5.1 (2.6)	5.0 (2.6)	5.0 (2.7)	4.6 (2.3)	4.6 (2.2)	4.8 (2.3)	4.7 (2.3)
Independent directors	4.7 (2.0)	4.4 (2.1)	4.5 (2.0)	4.5 (2.1)	5.0 (2.0)	4.9 (2.0)	5.0 (1.9)	4.8 (1.7)
Unclassified directors	0.5 (1.4)	1.1 (2.0)	1.0 (2.0)	1.0 (1.9)	0.2 (0.8)	0.2 (0.5)	0.2 (0.5)	0.1 (0.4)
Female directors	0.7 (0.7)	0.4 (0.7)	0.4 (0.7)	0.5 (0.7)	0.5 (0.7)	0.6 (0.8)	1.1 (0.6)	1.2 (0.5)
Panel C: Turnover of independent directors								
Number of directorships	27,775	3,266	3,556	3,786	4,229	4,223	4,418	4,297
Number of turnovers	2,648	216	199	286	436	488	632	391
Turnover reason (%)								
Resigned	0.58	0.52	0.55	0.54	0.51	0.55	0.66	0.67
Retired	0.20	0.21	0.12	0.29	0.26	0.22	0.16	0.15
Term expired	0.06	0.10	0.08	0.07	0.07	0.08	0.05	0.01
Demise	0.06	0.08	0.08	0.06	0.09	0.10	0.05	0.10
Others	0.02	0.00	0.01	0.00	0.02	0.02	0.02	0.01
Reason unknown	0.06	0.09	0.16	0.04	0.05	0.03	0.06	0.06
Number of firms	5,862	741	799	836	849	864	877	896

Table 2: Director liability and turnover

This table presents the impact of introducing personal liability on director turnover rates for the period starting from 2010 to 2016. The dependent variable 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. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-2015. All the regressions include the following control variables: *Firm size* is the log of book value of assets. *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we also include the *ownership of the controlling shareholder* as a control variable. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. Specifications 1 and 2 include firm fixed effects and standard errors are clustered at the firm level while specification 3 includes firm-year fixed effects and standard errors are clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	Independent	**Inside**	**All**
	(1)	(2)	(3)
Post liability	3.038***	0.853	-
	(0.691)	(0.542)	
Independent director	-	-	-0.830*
			(0.442)
Independent director x Post liability	-	-	2.392***
			(0.810)
Firm size $_{t-1}$	2.686**	0.224	-
	(1.168)	(0.723)	
Market-to-book value $_{t-1}$	-0.042	0.422	-
	(0.680)	(0.578)	
Return on assets $_{t-1}$	-2.569	-0.717	-
	(3.503)	(3.069)	
Stock return $_{t-1}$	-1.276***	-0.518	-
	(0.356)	(0.341)	
Stock return volatility $_{t-1}$	-1.203	0.248	-
	(1.255)	(0.873)	
Ownership of the controlling shareholder $_{t-1}$	-0.094	-0.078	-
	(0.058)	(0.051)	
Firm fixed effects	Yes	Yes	No
Firm-year fixed effects	No	No	Yes
Adjusted R-squared	0.133	0.166	0.235
Observations	5,702	5,856	11,558

Table 3: Director liability, litigation risk, and turnover

This table reports the effect of litigation risk on independent director turnover for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is an indicator that takes the value of one if an independent director vacates the office within the financial year. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. *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. *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). All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board*. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Litigation risk	**Non-compliance**	**Corrupt industry**
	(1)	(2)
Post liability	0.021***	0.029***
	(0.006)	(0.006)
Non-compliance $_{t-5,\ t}$ x Post liability	0.037***	-
	(0.010)	
Corrupt industry x Post liability	-	0.034***
		(0.011)
Firm Size $_{t-1}$	0.028***	0.027***
	(0.007)	(0.007)
Market-to-book value $_{t-1}$	-0.007**	-0.007**
	(0.003)	(0.003)
Return on assets $_{t-1}$	-0.031	-0.039
	(0.030)	(0.031)
Stock return $_{t-1}$	-0.011***	-0.011***
	(0.003)	(0.003)
Stock return volatility $_{t-1}$	-0.014	-0.013
	(0.012)	(0.012)
Ownership of the controlling shareholder $_{t-1}$	-0.001***	-0.001***
	(0.000)	(0.000)
Fraction of independent directors on the board $_{t-1}$	0.024	0.021
	(0.023)	(0.023)
Firm fixed effects	Yes	Yes
Adjusted R-squared	0.043	0.042
Observations	27,775	27,775

Table 4: Director liability, monitoring costs and turnover

This table reports the effect of monitoring costs on independent director turnover for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is an indicator that takes the value of one if an independent director vacates the office within the financial year. Columns 1 through 3 report measures of monitoring costs based on information opacity while columns 4 through 6 report measures based on complexity of operations. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. *High industry R&D share* is an indicator equal to one if the firm's research and development (R&D) expenses are above the median compared to industry share of total research and development (R&D) expenses. *High industry sales growth* is an indicator equal to one if the two-digit NIC industry-level growth is above median. *High asset intangibility* is an indicator equal to one if the firm has above median ratio of intangible to total assets. *Multiple plants* is an indicator equal to one if the firm has above median number of operational plants within India. *Multiple states* is an indicator variable equal to one if the firm has operations in above median number of states. *Multiple industries* is an indicator variable equal to one if the firm has operations in above median number of industries measured at the two-digit NIC industry-level. All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board*. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Monitoring costs	**Information opacity**			**Complexity of operations**		
Variable definitions	Industry R&D share	Industry sales growth	Asset intangibility	Multiple plants	Multiple states	Multiple industries
	(1)	(2)	(3)	(4)	(5)	(6)
Post liability	0.027***	0.024***	0.019***	0.026***	0.028***	0.028***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
High monitoring cost	-0.018	-0.010**	-0.015**	-	-	-
	(0.013)	(0.005)	(0.007)			
Post liability x High monitoring cost	0.026***	0.031***	0.038***	0.026***	0.021**	0.020**
	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.042	0.042	0.043		0.042	0.042
Observations	27,775	27,775	27,775	27,775	27,775	27,775

Table 5: Compensation and turnover

This table reports the effect of compensation on independent director turnover for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is an indicator that takes the value of one if an independent director vacates the office within the financial year. In columns 1 through 3, we examine total pay where *Total remuneration*$_{t-1}$ is the sum of sitting fees, commission fees, stock options and bonus for each independent director in the previous financial year. In columns 4 through 6 (7 through 9), we examine: *Sitting fee* $_{t-1}$ (*Commission* $_{t-1}$) which is the total annual sitting fee (commission) for each director. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. For each firm, we compute compensation as a fraction of market capitalization in the previous financial year. We then split the sample into *Low (High)* based on median value each year. *Compensation rank* $_{t-1}$ is the rank of each independent director within a board based on compensation in the previous financial year. Due to data availability, the sample is restricted to top 200 firms by market capitalization in each financial year. To ensure that we are able rank directors within the board, we only keep firms with more than two independent directors in the sample. All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board*. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Compensation variable	**Total remuneration**			**Sitting fees**			**Commission**		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post liability	0.013	0.003	0.096***	0.023*	0.009	0.096***	0.006	0.004	0.064**
	(0.012)	(0.014)	(0.023)	(0.014)	(0.015)	(0.023)	(0.011)	(0.014)	(0.029)
Low compensation $_{t-1}$	0.012	-0.054***	-	-0.002	-0.029	-	0.017	-0.039*	-
	(0.012)	(0.018)		(0.014)	(0.019)		(0.021)	(0.023)	
Low compensation $_{t-1}$ x Post liability	0.069***	0.112***	-	0.045*	0.076***	-	0.066**	0.107***	-
	(0.024)	(0.024)		(0.024)	(0.022)		(0.029)	(0.029)	
Compensation rank $_{t-1}$	-	-	-0.001	-	-	0.001	-	-	-0.002
			(0.003)			(0.003)			(0.005)
Compensation rank $_{t-1}$ x Post liability	-	-	-0.011**	-	-	-0.014***	-	-	-0.004
			(0.005)			(0.005)			(0.007)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Adjusted R-squared	0.034	0.086	0.115	0.030	0.083	0.115	0.034	0.084	0.113
Observations	6,506	6,506	5,566	6,506	6,506	5,566	6,506	6,506	5,566

Table 6: Director expertise and turnover

This table reports the effect of director expertise on independent director turnover for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is a dummy variable that equals 1 if an independent director vacates office within the financial year. We measure expertise for each director in two ways. Under *Specialization*, we classify each director based on their educational qualifications as well as occupation. We create an indicator for directors who possess an *accounting, finance, & law* degree or is a chartered accountant, CPA, CFA, JD, LLB, or LLM. *Business & MBA* is an indicator for general business degrees and MBAs. *Academics* is an indicator for professors. Under the *Highest degree,* for each director we extract their highest educational qualification and classify them into "Graduate or below", "*Post-graduate*", and "*Doctorate*". *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. All the regressions include the following control variables: *Firm size* is the log of book value of assets*, Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board.* All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Director expertise	**Specialization**		**Highest degree**	
	Baseline	**Interaction**	**Baseline**	**Interaction**
	(1)		(2)	
Post liability	0.029***	-	0.014*	-
	(0.007)		(0.008)	
Accounting, finance, & law	-0.019***	0.015*	-	-
	(0.005)	(0.009)		
Business & MBA	-0.033***	0.002	-	-
	(0.006)	(0.010)		
Academics	-0.020***	0.028***	-	-
	(0.005)	(0.010)		
Post-graduate	-	-	-0.045***	0.030***
			(0.005)	(0.010)
Doctorate	-	-	-0.066***	0.067***
			(0.008)	(0.016)
Controls	Yes		Yes	
Firm fixed effects	Yes		Yes	
Adjusted R-squared	0.048		0.047	
Observations	25,490		26,152	

Table 7: Director absenteeism and turnover

This table reports the effect director absenteeism on independent director turnover for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is an indicator that takes the value of one if an independent director vacates the office within the financial year. We classify absenteeism in two ways. In columns (1) and (2), *Absent* $_{t-1}$ is defined as an indicator taking the value of one if an independent director is absent from 25% or more board meetings in the previous financial year. In columns (3) and (4) *Absent* $_{t-1}$ is defined as an indicator taking the value of one if an independent director is absent from 50% or more board meetings in the previous financial year. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board.* All controls are lagged by one year. In columns 1 and 3, we use a firm fixed effects specification while in columns 2 and 4, we use a director fixed effects specification. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions use standard errors clustered at firm-year level. Standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Absent $_{t-1}$ definition	**Absent from 25% or more board meetings**		**Absent from 50% or more board meetings**	
	(1)	(2)	(3)	(4)
Post liability	0.043***	0.103***	0.043***	0.107***
	(0.007)	(0.007)	(0.007)	(0.006)
Absent $_{t-1}$	0.015**	-0.003	0.013	-0.014
	(0.006)	(0.007)	(0.009)	(0.010)
Absent $_{t-1}$ x Post liability	0.024**	0.058***	0.050***	0.109***
	(0.012)	(0.013)	(0.017)	(0.021)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Firm	Director	Firm	Director
Adjusted R-squared	0.067	0.175	0.067	0.176
Observations	18,514	18,514	18,514	18,514

Table 8: Stock price reactions to the enactment of the law

This table shows stock price reactions around the enactment of the Companies Act of 2013. Specifically, it reports the mean cumulative abnormal returns (CAR) using an event window from one day before to one day after the announcement of the enactment on August 30, 2013. In column 1, we report the average CAR for all firms while columns 2 and 3 report the average CAR for firms operating in corrupt industries and for firms that are non-compliant with SEBI's listing guidelines, respectively. Columns 4 to 6 report the average CAR for firms classified as being informationally opaque due to high *industry R&D share* (Column 4), high *industry sales growth* (Column 5), and high *asset intangibility* (Column 6). Columns 7 to 9 report the average CAR for firms classified as having complex operations due to operations in *multiple industries* (Column 7), *multiple states* (Column 8), and *multiple plants* (Column 9). Columns 10 to 12 reports the average CAR for firms with low monetary incentives to serve as independent director due to *low total remuneration* (Column 10), *low sitting fees* (Column 11), and *low commission* (Column 12). ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	Overall	**Litigation risk**		**Information opacity**			**Complexity of operations**			**Monetary incentives**		
	All firms	Corrupt industry	Non-compliance	Industry R&D share	Industry sales growth	Asset intangibility	Multiple industries	Multiple states	Multiple plants	Low total remuneration	Low sitting fees	Low commission
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CAR (-1, +1)	-0.591***	-1.323***	-0.796***	-0.055	-0.847***	-0.742***	-0.296	-0.441*	-0.167	-0.926***	-0.714**	-0.652**
	(0.172)	(0.364)	(0.294)	(0.285)	(0.241)	(0.224)	(0.235)	(0.230)	(0.223)	(0.295)	(0.278)	(0.260)
N	903	204	336	316	448	504	445	429	459	330	337	446

Table 9: Stock price reaction to independent director cessations and appointments

This table reports the stock price reaction to independent director cessations, appointments of replacement directors and net change in firm value. Panel A reports the mean cumulative abnormal returns for one day before the event to one day after while panels B and C report the mean cumulative abnormal returns over the same period by specialization and by the highest degree of the outgoing director, respectively. We report stock price reactions for director cessations during the financial years 2012-13 and 2014-15 and identify replacement directors as directors appointed immediately after the cessation. In columns 1 and 2, we examine stock reactions to all independent director cessations while in columns 3 and 4, we restrict the sample to male independent directors. In column 5 and 6 we condition on having stock price reactions for cessations and appointments for the same firm and report the average across firms. In panels B and C, we condition on characteristics of the outgoing independent director. In the column titled *Difference,* we report whether the difference in mean cumulative abnormal returns are significantly different from each other. To compute net change in firm value, we condition that the firm under consideration experience both a cessation and an appointment of an independent director during the particular financial year. We measure expertise for each director in two ways. Under *Specialization*, we classify each director based on his educational qualification as well as his occupation. We create an indicator for directors who possess an *accounting, finance & law degree* or is a chartered accountant, CPA, CFA, JD, LLB or LLM. *Business & MBA* is an indicator for general business degrees and MBAs. *Academics* is an indicator for professors. Under *Highest degree,* for each director we extract their highest educational qualification and classify them into *"Graduate or below",* "*Post-graduate*", and "*Doctorate*". ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	Independent director cessations			Independent director appointments			Net change in firm value		
	2012-13	2014-15	Difference	2012-13	2014-15	Difference	2012-13	2014-15	Difference
	(1)	(2)	(2) – (1)	(3)	(4)	(4) – (3)	(5)	(6)	(6) – (5)
A. CAR (-1, +1)	-0.05	-0.68***	-0.63**	-0.06	-0.65***	-0.59**	0.01	-1.15**	-1.16*
N	395	568		444	390		195	266	
B. By specialization of outgoing directors									
Accounting, finance & law	0.09	-0.71**	-0.81*	0.47	-1.19**	-1.66**	0.40	-1.29**	-1.69
Business & MBA	0.29	-0.64	-0.94*	-0.71	-0.85*	-0.14	0.41	-1.31	-1.72
Academics	0.38	-0.48	-0.86	-0.03	-0.71	-0.68	0.64	-0.43	-1.07
Others	-0.09	-0.63***	-0.53**	-0.23	-0.62**	-0.39	-0.17	-1.23**	-1.06
C. By highest degree of outgoing directors									
Graduate or below	1.47	0.56	-0.91	2.34	-0.29	-2.62	-	-	
Post-graduate	-0.09	-0.41*	-0.32	-0.12	-0.61*	-0.42	0.45	-1.21	-1.66
Doctorate	-0.32	-0.96*	-0.64	0.04	-0.37	-0.41	-1.68	-1.87	-0.19

Table 10: Workload and turnover

This table reports turnover rates among independent directors by financial year for the period from 2010 to 2016. Panel A tabulates average turnover rates among independent directors by number of directorships held in the previous financial year while panel B tabulates firm-level independent director turnover rates by number of board meetings held in the previous financial year. For the sake of brevity, we combine the bins for both workload measures at eight on the right tail of the distributions in both panels. Additionally, in panel B, we combine the bins for firms with fewer than five board meetings.

	Financial year					
	2010-11	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Panel A: Turnover rates of independent directors by number of directorships held						
1	0.06	0.09	0.11	0.13	0.17	0.10
2	0.05	0.07	0.09	0.11	0.14	0.10
3	0.05	0.05	0.10	0.12	0.14	0.07
4	0.06	0.04	0.09	0.12	0.15	0.08
5	0.03	0.05	0.09	0.08	0.14	0.09
6	0.03	0.03	0.05	0.15	0.10	0.10
7	0.07	0.07	0.12	0.06	0.25	0.10
8 or more	0.03	0.04	0.07	0.12	0.29	0.05
Panel B: Turnover rates of independent directors by number of board meetings held						
Less than 5	0.05	0.06	0.07	0.09	0.11	0.06
5	0.05	0.06	0.08	0.09	0.12	0.07
6	0.05	0.05	0.10	0.10	0.12	0.08
7	0.05	0.07	0.08	0.10	0.15	0.10
8 or more	0.07	0.08	0.13	0.13	0.27	0.09

Table 11: Other contemporaneous corporate governance reforms

This table reports results examining the effect of other contemporaneous corporate governance reforms on independent director turnover rates for the period from 2010 to 2016. The unit of analysis is a firm-year. The dependent variable is the ratio of number of independent director cessations 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 excludes firms without a female director 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 excludes firms where independent receive stock option compensation prior to the reform. Column 6 imposes all the restrictions in columns 2 to 5. Column 7 interacts performance and the liability indicator. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. 15. All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder*. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Sample	**Baseline**	**At least 1 women director**	**Less than 7 directorships**	**Less than 3 completed terms**	**No stock options**	**All at once (2) + (3) + (4) + (5)**	**Performance**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post liability	3.038***	3.278***	2.766***	3.486***	4.240***	5.382***	3.078***
	(0.691)	(1.185)	(0.693)	(0.834)	(0.985)	(1.591)	(0.702)
Return on assets $_{t-1}$ x Post liability	-	-	-	-	-	-	-1.938
							(5.554)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.133	0.175	0.134	0.153	0.143	0.148	0.133
Observations	5,702	2,777	5,500	4,332	3,094	1,284	5,702

Table 12: Market developments, liability and turnover, 2010-16

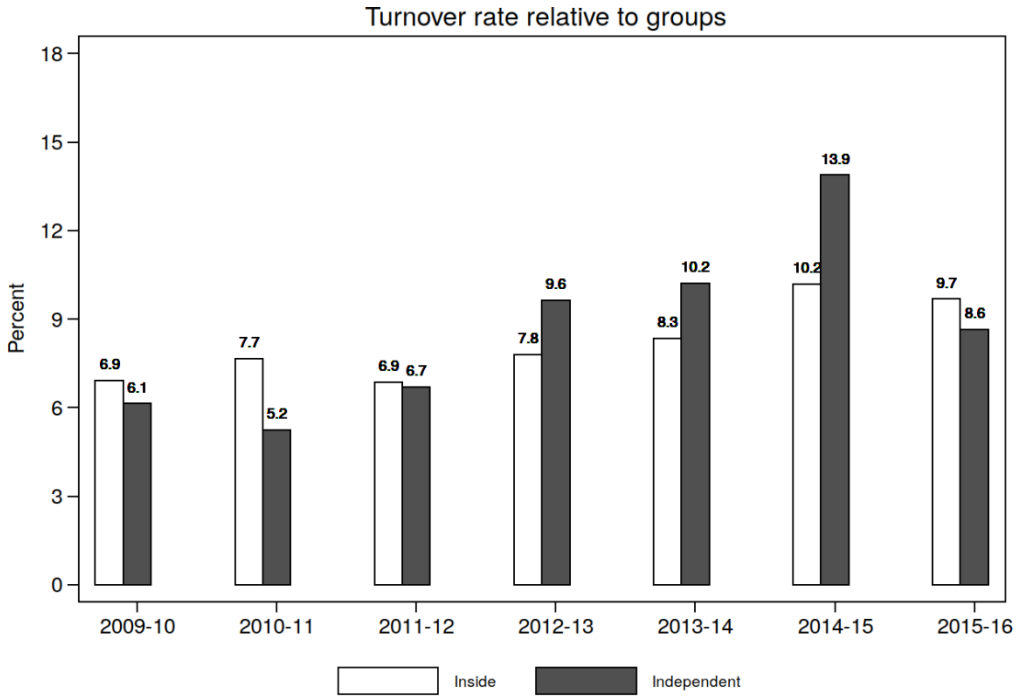
This table reports results examining the impact of market developments on the impact of personal liability on director turnover rates for the period starting from 2010 to 2016. The unit of analysis is director-firm-year. Panel A reports the results examining the effect of IiAS recommendations on turnover rates, while panel B reports the results examining the impact of shareholder voting on turnover rates. The dependent variable is an indicator that takes the value of one if an independent director vacates the office within the financial year. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-2015. *IiAS coverage* is an indicator for whether the firm was covered by IiAS, while *IiAS recommends against* is an indicator variable for whether IiAS recommends shareholders to vote against the re-election of an independent director. *Votes against* is the fraction of votes cast that are against an independent director. *Firm-level average votes against* is the average fraction of votes against for all independent directors in a firm. *Excess votes against* is calculated by subtracting the average fraction of votes against all independent directors in a firm from each directors' votes against. We include the following control variables: *Firm size* is the log of book value of assets. *Market-to-book* value is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. *Stock return* is the annualized return. *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board.* We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	Panel A: IiAS voting recommendations			
	(1)	(2)	(3)	(4)
Post liability	0.034***	0.033***	0.035***	0.034***
	(0.005)	(0.006)	(0.005)	(0.006)
IiAS coverage		0.003		0.005
		(0.008)		(0.009)
IiAS recommends against			-0.027	-0.029
			(0.018)	(0.019)
Control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Observations	27,775	27,775	27,775	27,775
Adjusted R-squared	0.042	0.042	0.042	0.042

	Panel B: Shareholder voting outcomes			
	(1)	(2)	(3)	(4)
Post liability	0.035***	0.035***	0.034***	0.035***
	(0.005)	(0.005)	(0.005)	(0.005)
Votes against (%)	-0.004**	-0.003		
	(0.002)	(0.003)		
Firm-level average votes against (%)		-0.001		-0.003
		(0.004)		(0.003)
Excess votes against (%)			-0.003	-0.002
			(0.003)	(0.003)
IiAS recommends against				-0.017
				(0.020)
Control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Observations	27,775	27,775	27,775	27,775
Adjusted R-squared	0.042	0.042	0.042	0.042

Figure 1: Turnover and resignation rates for directors

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



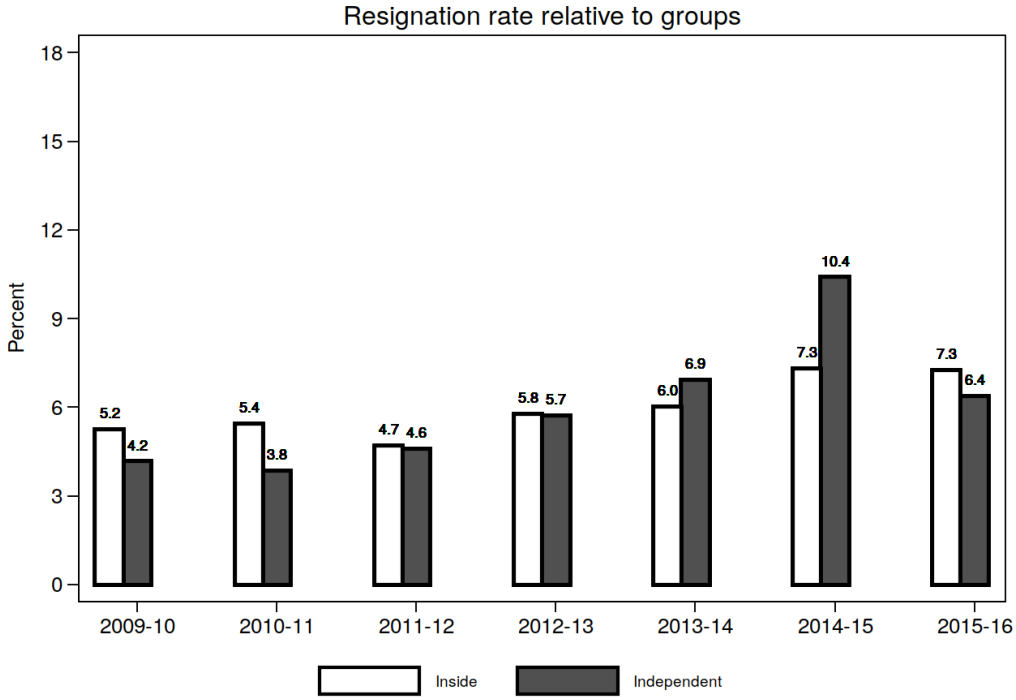
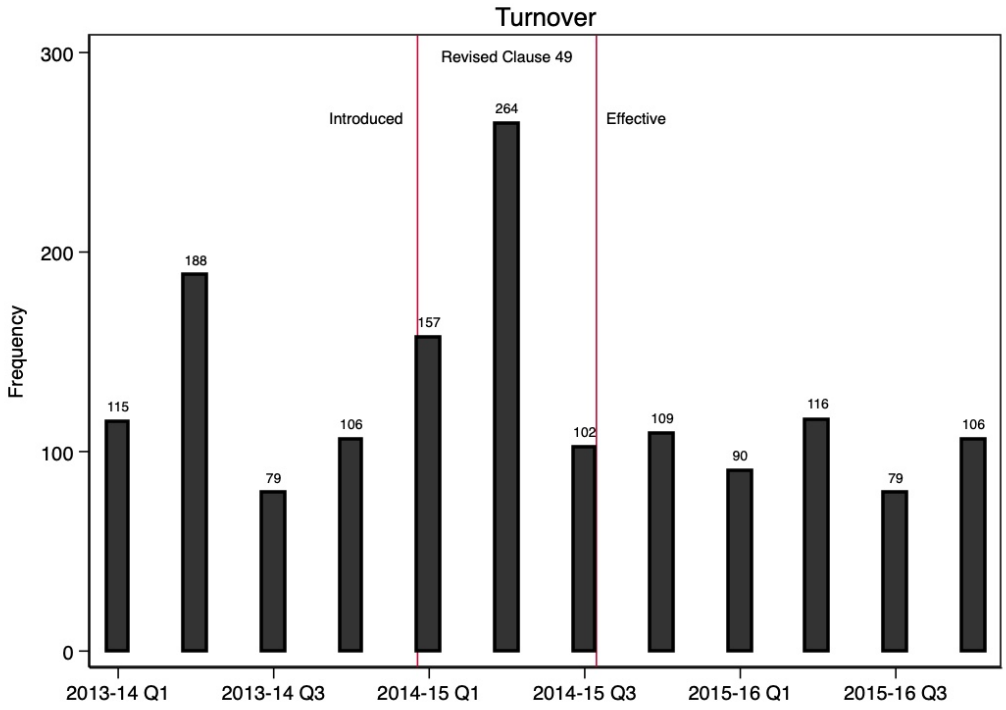


Figure 2: Turnover and resignation frequencies for independent directors by quarter

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



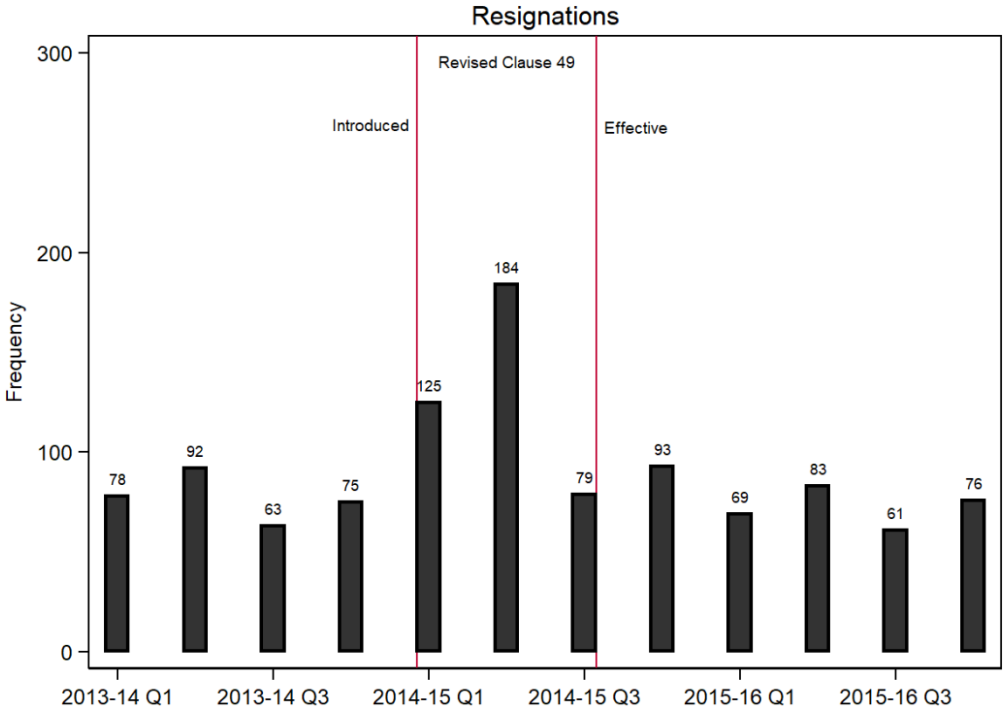
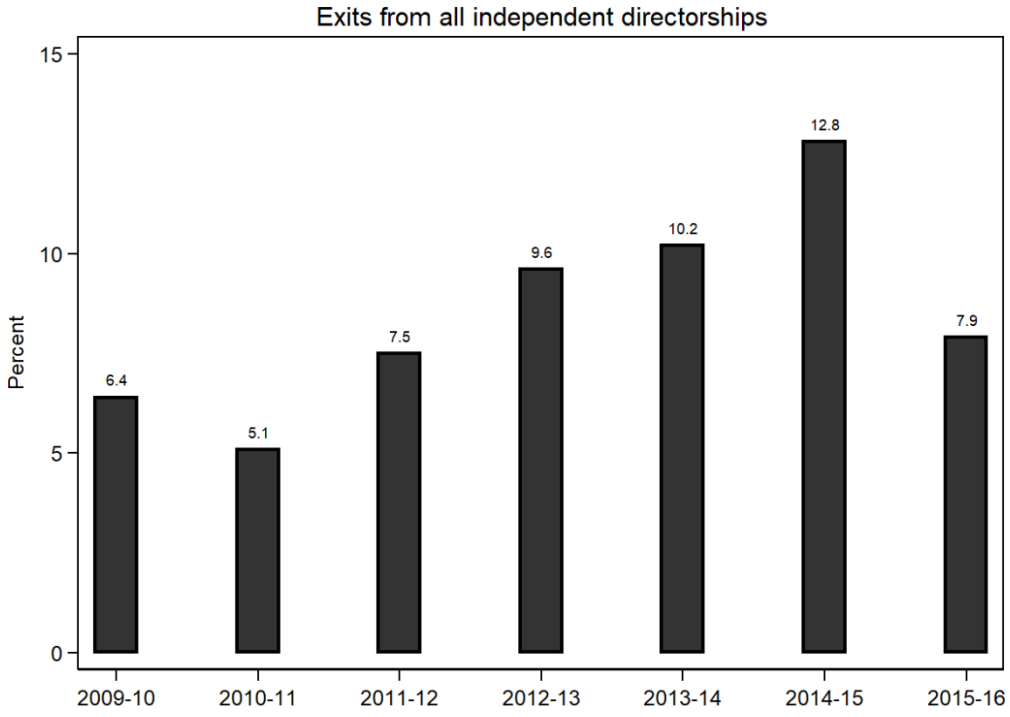


Figure 3: Exit rates and Re-entry rates of independent directors

The top figure plots the fraction of independent directors exit from all the independent director positions. The bottom figure plots the re-entry rates for directors that exit at least one independent directorship.



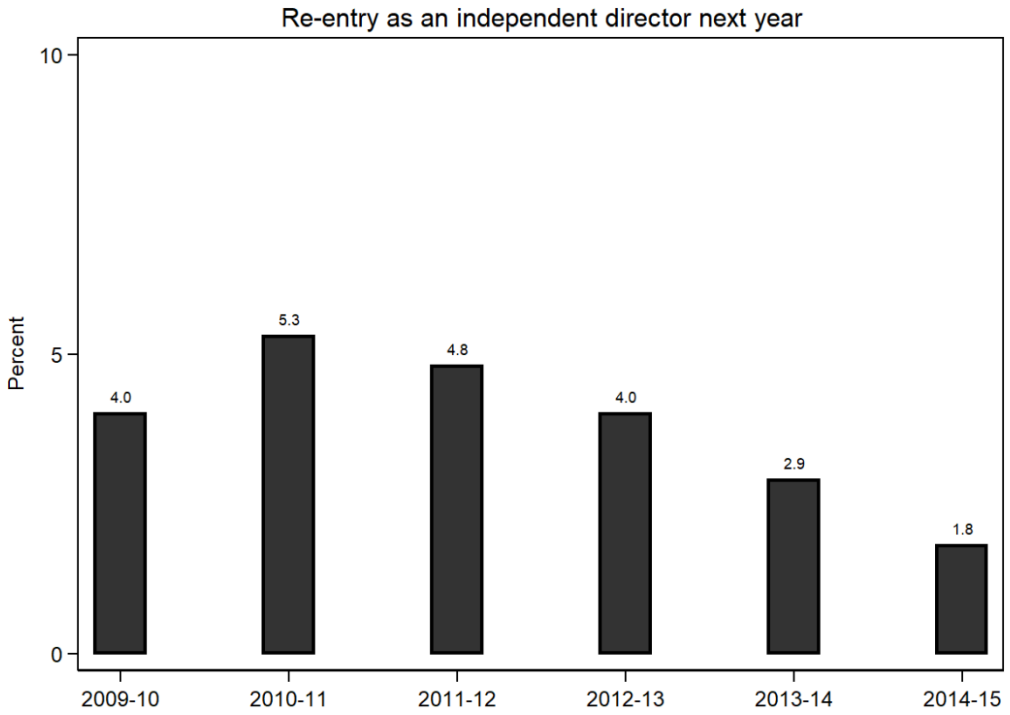
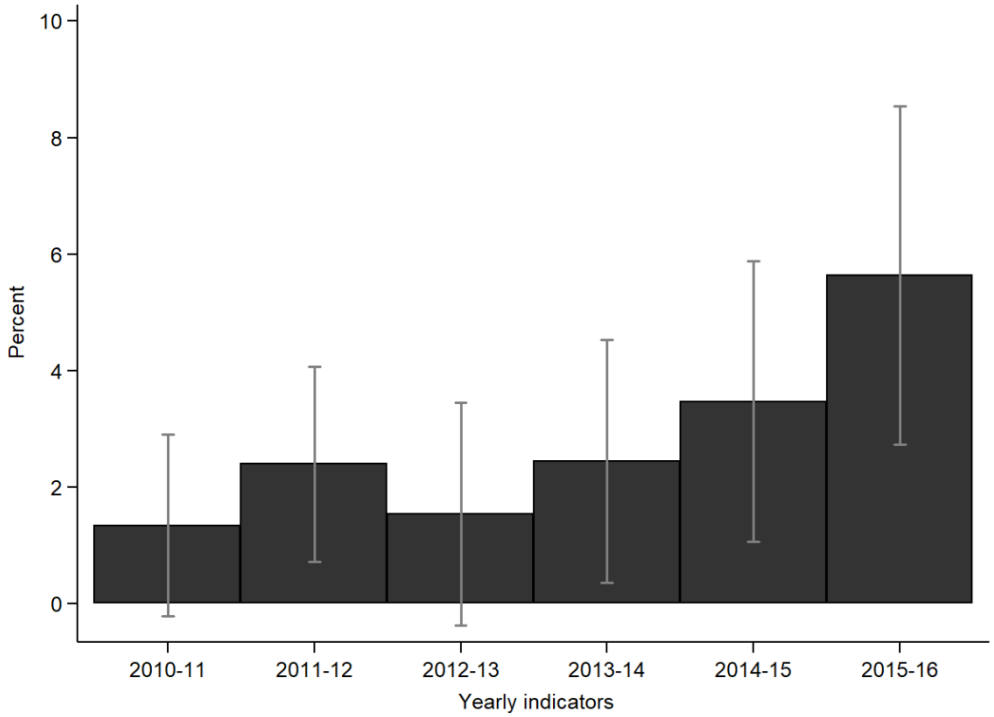


Figure 4: Marginal effect on board attendance rates

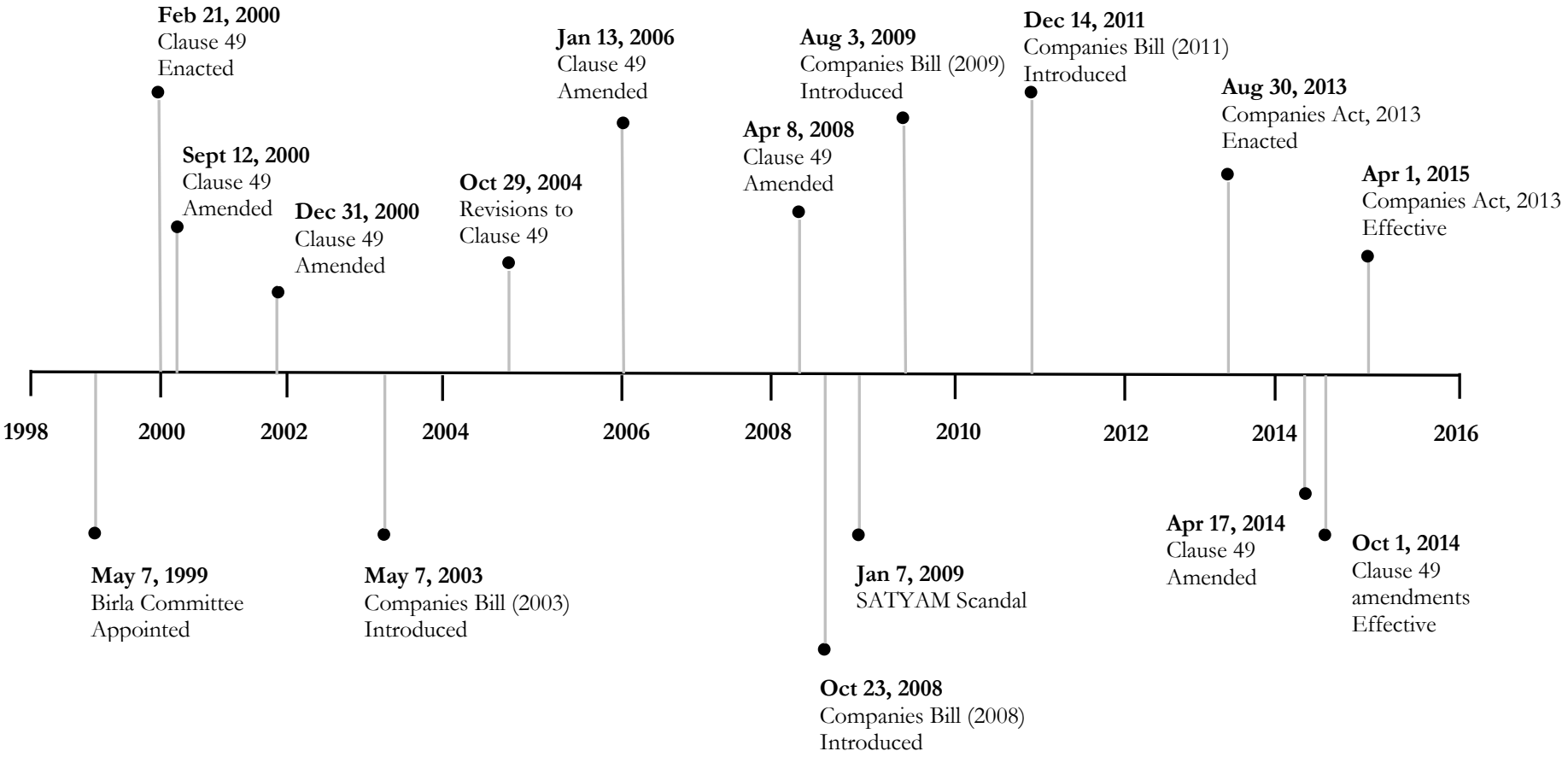
The figure shows the marginal changes in average board attendance rates of independent directors by financial year with 95% confidence intervals displayed on top. We calculate average board attendance rates as number of board meetings attended by an independent director divided by total number of meetings held during a financial year averaged at the firm year level. Marginal effects are coefficients from an ordinary least squares regression of firm-level independent director board attendance rates on yearly indicators in a specification that controls for firm-fixed effects.



Appendix

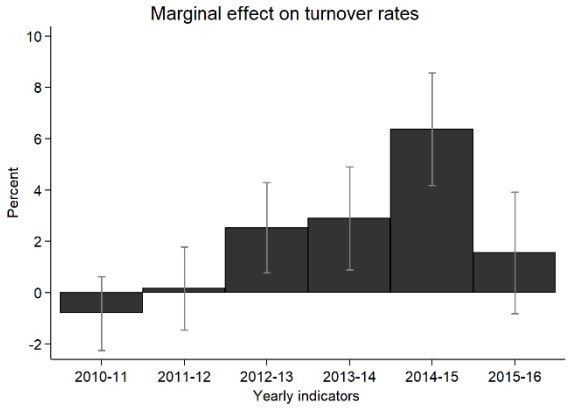
Does personal liability deter individuals from serving as independent directors?

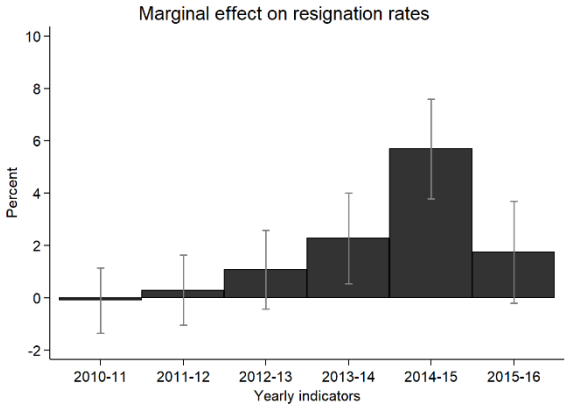
Appendix Figure A1: Timeline of corporate governance reforms in India

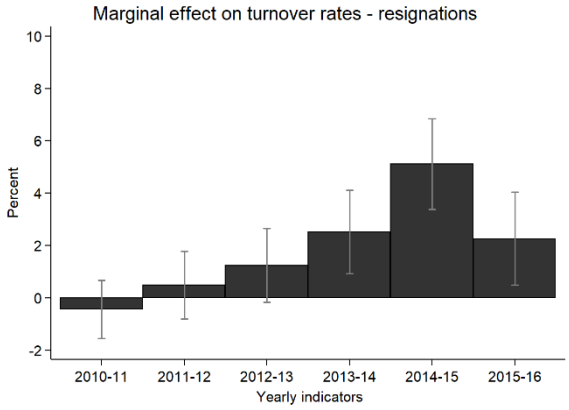


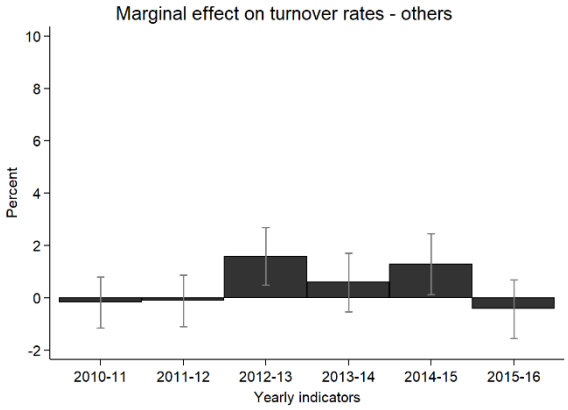
Appendix Figure A2: Marginal effects by year

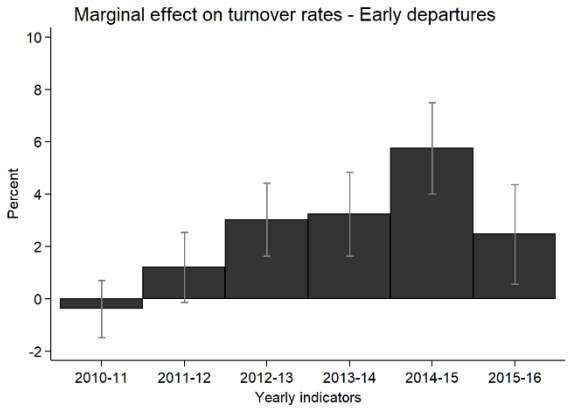
The figures in the top row show the marginal changes in turnover (resignation) rates by financial year with 95% confidence intervals displayed on top. The figures in the middle row display the marginal changes in turnover rates due to resignation (other reasons) by financial year with 95% confidence intervals displayed on top. Other reasons include demise, term expired, and retirement. The figures in the bottom row present the marginal changes in early (late) turnover rates by financial year with 95% confidence intervals displayed on top. We classify independent director leaving in the middle of their term (i.e. within 0 to 3 years) as early departures while independent directors leaving in the last year of their term are defined as late departures. Marginal effects are coefficients from an ordinary least squares regression of independent director turnover on yearly indicators in a specification that controls for firm-fixed effects.

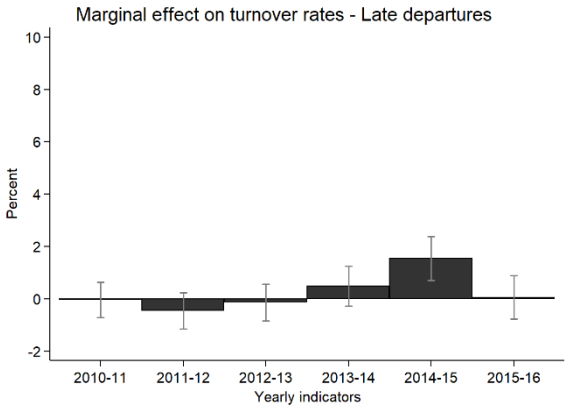












Appendix Table A1: Details of amendments to Clause 49

Particulars	Clause 49, 2008	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 Table B1: Firm, board and independent director remuneration characteristics

We report descriptive statistics for the sample of NSE-listed firms from April 1, 2009 to March 31, 2016. Panel A reports the following firm characteristics: *Market capitalization* (INR billions), *market-to-book value* of assets, and *firm age* (measured in years). Both market capitalization and market-to-book value 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*. Panel C reports the descriptive statistics of independent director remuneration for an unbalanced panel of the 200 largest firms (by market capitalization) from April 1, 2009 to March 31, 2016. The panel reports the following characteristics: *Total remuneration* (1,000 INR), *sitting fees* (1,000 INR), *commission* (1,000 INR) and *bonus and stock options* (1,000 INR). Director remuneration are in constant 2010 INR.

	Mean	**Std dev.**	**Min.**	**P25**	**P50**	**P75**	**Max.**
Panel A: Firm characteristics							
Market cap. (INR billions)	63.1	194.1	0.1	1.4	5.5	29.3	1378.1
Market-to-book value	1.1	1.1	0.1	0.6	0.8	1.1	6.8
Firm age (years)	36.2	23.4	3.0	20.0	28.0	48.0	153.0
Panel B: Board characteristics							
Board size	9.6	3.2	1.0	7.0	9.0	11.0	25.0
Inside/Nominee directors	4.8	2.4	0.0	3.0	4.0	6.0	23.0
Independent directors	4.7	2.0	0.0	3.0	5.0	6.0	16.0
Unclassified directors	0.5	1.4	0.0	0.0	0.0	1.0	23.0
Female directors	0.7	0.7	0.0	0.0	1.0	1.0	4.0
Panel C: Independent director remuneration							
Total remuneration (1,000 INR)	907	1,719	0	110	396	1,097	53,973
Sitting fees (1,000 INR)	176	207	0	52	121	226	3,115
Commission (1,000 INR)	700	1,417	0	0	13	919	39,918
Bonus and stock options (1,000 INR)	7	177	0	0	0	0	9,901

Appendix Table B2: Director and 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, 2016. Panel A reports the following director characteristics: *Age* (measured in years), *gender* (indicator taking the value one if the director is female), and *tenure* (measured in years). We measure expertise for each director in two ways. Under *Specialization*, we classify each director based on their educational qualifications as well as occupation. We create an indicator for directors who possess an *accounting, finance & law degree* or is a chartered accountant, CPA, CFA, JD, LLB, or LLM. *Business & MBA* is an indicator for general business degrees and MBAs. *Academics* is an indicator for professors. Under *Highest degree,* for each director we extract their highest educational qualification and classify them into *"Graduate or below",* "*Post-graduate*", and "*Doctorate*". Panel B reports the number of turnovers and 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	Inside		
		(1)	(2)	(2) - (1)	
Number of director-years	52,972	27,775	25,197		
Panel A: Director characteristics					
Age (years)	60.7	64.8	56.1	-8.7	-85.2***
	(12.0)	(11.1)	(11.3)	(0.09)	
Gender (1=female)	0.07	0.06	0.08	0.02	6.9***
	(0.26)	(0.24)	(0.3)	(0.001)	
Tenure (years)	9.6	8.0	11.5	3.5	44.9**
	(9.1)	(7.3)	(10.4)	(0.07)	
Specialization					
Accounting, finance & law	0.31	0.36	0.26	-0.10	-26.2***
Business & MBA	0.21	0.18	0.25	0.07	20.4***
Academics	0.14	0.18	0.10	-0.07	-25.6***
Unknown	0.15	0.15	0.10	-0.05	-17.1***
Highest degree attained					
Graduate or below	0.02	0.01	0.02	0.02	17.3***
Post-graduate	0.86	0.84	0.87	0.03	11.9***
Doctorate	0.07	0.10	0.04	-0.06	-24.2***
Unknown	0.05	0.05	0.05	-0.00	-1.4
Panel B: Turnover characteristics					
Number of turnovers	5,338	2,648	2,690		
Turnover reason (%)					
Resigned	0.54	0.58	0.49		
Retired	0.21	0.20	0.22		
Term expired	0.10	0.06	0.14		
Demise	0.05	0.08	0.04		
Others	0.02	0.02	0.02		
Reason unknown	0.08	0.06	0.09		
χ^2–statistic					199.8***

Appendix Table C1: Independent director remuneration by financial year

The table reports the descriptive statistics of independent director remuneration for an unbalanced panel of the 200 largest firms (by market capitalization) from April 1, 2009 to March 31, 2016. The panel reports the following characteristics: *Total remuneration* (1,000 INR), *sitting fees* (1,000 INR), *commission* (1,000 INR) and *bonus and stock options* (1,000 INR) for each financial year. All values are in constant 2010 INR.

	All	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Total remuneration (1,000 INR)	907	720	863	859	757	813	1,090	1,223
Sitting fees (1,000 INR)	176	147	146	132	119	120	254	310
Commission (1,000 INR)	700	558	646	646	621	685	815	901
Bonus and stock options (1,000 INR)	31	16	71	81	17	8	21	12

Appendix Table C2: Compensation and turnover

This table reports the effect of compensation on independent director turnover for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is an indicator that takes the value of one if an independent director vacates the office within the financial year. In columns 1 and 2, we examine total pay where *Total Remuneration*$_{t-1}$ is the sum of sitting fees, commission fees, stock options, and bonus for each independent director in the previous financial year. In columns 3 and 4 (5 and 6), we examine: *Sitting fees* $_{t-1}$ (*Commission* $_{t-1}$) which is the total annual sitting fee (commission) for each director as extracted from annual reports. *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. For each firm, we compute compensation as a fraction of market capitalization in the previous financial year. We then split the sample into *Low (High)* based on median value each year. *Compensation rank* is the rank of each independent director within a board based on compensation in the previous financial year. The sample is restricted to top 200 firms by market capitalization in each financial year. To ensure that we are able rank directors within the board, we only keep firms with more than two independent directors in the sample. All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board*. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include director fixed effects using standard errors clustered at the firm-year level. Standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Compensation variable	**Total remuneration**		**Sitting fees**		**Commission**	
	(1)	(2)	(3)	(4)	(5)	(6)
Post liability	0.089***	0.225***	0.109***	0.228***	0.094***	0.218***
	(0.014)	(0.026)	(0.015)	(0.026)	(0.013)	(0.032)
Low compensation $_{t-1}$	-0.037*		-0.014		0.071***	-
	(0.019)		(0.019)		(0.023)	
Low compensation $_{t-1}$ x Post liability	0.117***		0.065**		0.062**	-
	(0.026)		(0.025)		(0.031)	
Compensation rank $_{t-1}$	-	0.006		0.007*		0.002
		(0.004)		(0.004)		(0.005)
Compensation rank $_{t-1}$ x Post liability	-	-0.026***		-0.027***		-0.025***
		(0.006)		(0.006)		(0.008)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Director fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.164	0.197	0.159	0.197	0.170	0.195
Observations	6,506	5,566	6,506	5,566	6,506	5,566

Appendix Table C3: Changes in compensation and turnover

This table reports the results examining independent director turnover and changes in compensation for the period from 2010 to 2016. The unit of analysis is a director-firm-year. In columns 1 through 3, the dependent variable is the within-firm change in total remuneration (∠ *Compensation*) while in columns 4 through 6 it is an indicator that takes the value of one if independent director vacates the office within the financial year. Director remuneration are in constant 2010 INR. *Total remuneration* is the sum of sitting fees, commission fees and bonus for each independent director in a particular financial year. *Sitting fees* (*Commission*) is the annual sitting fee (commission) for each director as reported in annual reports. *Post liability* is an indicator equal to one for the financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. The sample is restricted to top 200 firms by market capitalization in each financial year. All the regressions include the following control variables: *Firm size* is the log of book value of assets, *Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. *Stock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board*. All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	**Δ Compensation**			**Turnover**		
Compensation variable	**Total remuneration**	**Sitting fees**	**Commission**	**Total remuneration**	**Sitting fees**	**Commission**
	(1)	(2)	(3)	(4)	(5)	(6)
Post liability	0.163**	0.119***	-0.011	0.070***	0.102***	0.060***
	(0.083)	(0.015)	(0.067)	(0.015)	(0.017)	(0.015)
Δ Compensation	-	-	-	-0.031**	-0.908***	-0.049***
				(0.015)	(0.233)	(0.014)
Post x Δ Compensation	-	-	-	-0.021	0.551**	-0.000
				(0.019)	(0.241)	(0.018)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.017	0.128	0.035	0.132	0.191	0.129
Observations	5,553	5,553	5,553	5,553	5,553	5,553

Appendix Table D1: Appointment characteristics

We report descriptive statistics for the sample of NSE-listed firms from April 1, 2009 to March 31, 2016. Panel A reports the gender characteristics of the newly appointed independent directors. Panel B reports the following director characteristics for male independent directors: *Age* (average age at the time of appointment), *Boards per director* (average number of directorships on other boards prior to appointment), *At least one directorship* (fraction with at least one directorship prior to appointment) and *Board tenure* (measured as total tenure across all other boards prior to appointment). Panel C reports director specialization. We measure expertise for each director in two ways. Under *Specialization*, we classify each director based on their educational qualifications as well occupation. We create an indicator for directors who possess an *accounting, finance & law* degree or is a chartered accountant, CPA, CFA, JD, LLB, or LLM. *Business & MBA* is an indicator for general business degrees and MBAs. *Academics* is an indicator for professors. Under the *Highest degree,* for each director we extract their highest educational qualification and classify them into *"Graduate or below",* "*Post-graduate*", and "*Doctorate*".

	Financial year							
	All	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
A. Independent directors								
Total (#)	3,826	579	459	485	479	502	871	451
Male (#)	3,097	556	435	451	447	431	449	328
Female (#)	729	23	24	34	32	71	422	123
Male independent directors								
B. Characteristics								
Age (years)	59.3	59.0	58.7	58.3	58.8	59.7	60.6	60.9
Boards per director (#)	0.55	0.93	0.59	0.57	0.55	0.36	0.34	0.30
At least one directorship (%)	25	40	28	26	25	17	19	17
Board tenure (years)	3.9	4.7	3.8	4.1	4.4	3.2	3.5	3.2
C. Specialization (%)								
Accounting, finance, & law	50	45	49	49	53	54	53	50
Academics	29	28	29	29	29	30	26	30
Business & MBA	24	19	19	27	28	24	27	27
D. Highest degree attained (%)								
Graduate or below	0	1	0	0	0	0	0	0
Post-graduate	85	83	83	81	87	87	85	89
Doctorate	15	16	17	19	13	13	15	11

Appendix Table D2: Director expertise and appointments

This table reports the results examining characteristics of appointments of independent director on boards for the period from 2010 to 2016. The unit of analysis is a director-firm-year. The dependent variable is a dummy variable which equals 1 if an expert independent director is appointed on the board in a financial year. We measure expertise for each director in two ways. Under *Specialization*, we classify each director based on their educational qualifications as well as his occupation. We create an indicator for directors who possess an *accounting, finance & law* degree or is a chartered accountant, CPA, CFA, JD, LLB, or LLM. *Business & MBA* is an indicator for general business degrees and MBAs. *Academics* is an indicator for professors. Under *Highest degree,* for each director we extract their highest educational qualification and classify them into *"Graduate or below",* "*Post-graduate*", and "*Doctorate*". *Post liability* is an indicator equal to one for financial years 2014-15 and 2015-16 as Companies Act became effective in the financial year 2014-15. All the regressions include the following control variables: *Firm size* is the log of book value of assets*, Market-to-book value* is the market-to-book ratio of assets, defined as market value of equity plus book value of debt over book value of assets. *Return on assets* is the ratio of profit after tax to book value of assets. S*tock return* is the annualized return and *Stock return volatility* is the annualized standard deviation of the firm's daily stock returns during the year. In addition, we control for the *ownership of the controlling shareholder* and *fraction of independent directors on the board.* All controls are lagged by one year. We use ordinary least squares (OLS) regression specification to estimate the coefficients. All regressions include firm fixed effects using standard errors clustered at the firm-year level. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Director expertise	**Specialization**			**Highest degree**		
	Accounting, finance & law	**Academics**	**Business & MBA**	**Graduate or below**	**Post-graduate**	**Doctorate**
	(1)	(2)	(3)	(4)	(5)	(6)
Post liability	0.032	0.035	-0.008	-0.000	0.003	-0.006
	(0.038)	(0.033)	(0.039)	(0.001)	(0.039)	(0.024)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.064	0.047	0.070	0.116	0.089	0.047
Observations	2,281	2,158	2,029	1,955	1,955	1,955

Appendix Table E: Board meeting characteristics

We report descriptive statistics for the sample of NSE-listed firms from April 1, 2009 to March 31, 2016. Panel A reports the mean of the following board meeting characteristics: *Board meetings held* (#), and *Board attendance* (%). Panel B reports absenteeism characteristics of independent directors as a percentage.

	Financial year							
	All	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Panel A: Board meeting characteristics								
Board meetings held (#)	6.2	6.7	6.4	6.2	5.9	5.9	6.2	6.0
Board attendance (%)								
All directors	76.8	76.8	78.1	77.8	77.5	77.0	73.8	76.4
Independent directors	75.5	74.7	76.3	76.3	75.4	75.7	72.5	77.1
Inside directors	78.3	79.1	80.0	79.4	80.0	78.3	75.2	75.6
Panel B: Absenteeism characteristics								
Fraction of independent directors (%)								
Absent from 1 or more meetings	59.9	62.7	60.8	58.8	60.7	58.3	62.5	55.0
Absent from 25% or more meetings	34.7	37.3	34.0	33.7	34.5	32.6	39.4	31.3
Absent from 50% or more meetings	16.7	17.2	15.2	16.0	16.2	17.0	20.3	15.3

Appendix Table F1: Shareholder dissent in independent director elections and turnover

The table reports descriptive statistics of IiAS recommendations and shareholder voting outcomes in independent director elections for the sample of firms from April 1, 2013 to March 31, 2016. Panel A reports the number of firms in our sample, the number of firms covered by IiAS, and the number of firms covered by IiAS that match to our sample of NSE-listed firms. Panel B presents the number of resolutions covered by IiAS for each director type. Panel C reports the shareholder voting outcomes on independent director elections. Panel D reports the cessation rates by shareholder votes in independent director elections.

	Financial year		
	2013-14	**2014-15**	**2015-16**
Panel A: Coverage			
Firms in our sample	741	799	836
Firms covered by IiAS	131	461	570
Firms in our sample covered by IiAS	104	327	376
Panel B: Number of resolutions on director elections by type			
Independent directors	0	711	305
Inside directors	390	594	648
Panel C: Shareholder votes in independent director elections			
Votes "for"	-	97.6%	99.2%
Votes "Against"	-	2.4%	0.8%
Panel D: Cessation rates by shareholder votes in independent director elections			
No dissent (Votes "against" = 0)	-	5.4%	2.4%
Dissent (Votes "against" >0)	-	4.0%	2.4%

Appendix Table F2: IiAS recommendations around independent director elections

The table reports descriptive statistics of IiAS recommendations around independent director elections for the sample of firms from April 1, 2013 to March 31, 2016. Panel A reports the voting recommendations made by IiAS on independent director elections. Panel B reports the independent director election pass percentage by IiAS recommendations. Panel C reports the vote percentage in favor of independent director election broken down by IiAS recommendations and Panel D reports the cessation rates by IiAS recommendations.

	Financial year		
	2013-14	**2014-15**	**2015-16**
Panel A: IiAS recommendation on independent director elections			
For	0	409	270
Against	0	298	35
Others (abstain, no, withdrawn)	0	4	0
Panel B: Independent director election pass percentage by IiAS recommendation			
For	-	100%	100%
Against	-	100%	100%
Others (abstain, no, withdrawn)	-	-	-
Panel C: Percentage of votes "for" in independent director election by IiAS recommendation			
For	-	99%	99%
Against	-	96%	93%
Panel D: Cessation rates by IiAS recommendation			
For	-	2.5%	2.7%
Against	-	7.0%	0.0%