Corporate Governance, Enforcement, and Firm Value: Evidence from India

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CORPORATE GOVERNANCE, ENFORCEMENT, AND FIRM VALUE: EVIDENCE FROM INDIA

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I. INTRODUCTION

The connection between corporate governance and stock market development has become a topic of intense debate within and across law, finance and economics. It has spurred an explosion of research into a number of topics including what types of legal systems are associated with stock market growth, what are the pre-conditions for stock market growth, what kinds of legal reforms are associated with such growth, and what are the conditions under which such legal reforms arise. Although the literature initially focused on the legal origins of a country's legal system (e.g., civil law or common law) and methods of protecting minority shareholders, the discussion has now turned to the importance of enforcement. Much of this literature studies the role of enforcement in more developed markets (e.g., US, UK, Europe and Japan), and there has been little analysis of the importance of enforcement in the context of emerging markets, which are usually characterized as suffering from weak and corrupt enforcement. Studying emerging markets may provide important insights into how stock market growth and law are inter-connected and what kinds of legal reforms may be most beneficial to enhancing the growth of stock markets in emerging markets.

This paper investigates the potential connection among corporate governance reforms, sanctions, enforcement, and firm value in a large emerging market, namely India. The analysis employs financial statement and other data from the Prowess database for a large sample of over 4000 Indian firms over 1998-2006. The source of exogenous variation is a sequence of reforms to India's corporate governance regime, beginning in 2000. In that year, Clause 49 (of the stock exchange listing agreement for publicly-traded corporations) was introduced, mandating greater board independence, enhancing disclosure requirements, and increasing the power of audit committees for affected firms. Importantly, however, not all Indian corporations were subject to Clause 49, and even among affected firms, not all were immediately subject to the new

provisions. A small number of very large firms were expected to comply by 2001, a larger number of medium-sized firms were expected to comply by 2002, and the remainder of the affected firms (which were mostly quite small in size) were expected to comply by 2003. In addition, firms that listed for the first time in 2000 (or later) were expected to comply from the time of listing. Firms that were outside all of these groups were not expected to comply with Clause 49. The unaffected firms were generally smaller than the affected firms. However, the legal criteria for being subject to Clause 49 were framed primarily in terms of firms' paid up share capital (at the time the shares were issued), which is only imperfectly correlated with size as measured, for instance, by the book value of assets. Thus, there was considerable overlap in terms of size between the smaller firms subject to Clause 49 and the larger firms among those that were not subject to the new rules.

As Clause 49 was framed as a change to the listing agreement, the initial penalty for violations was delisting. However, in 2004, India's securities laws were amended to introduce large financial penalties for directors of firms that were found to be in violation of Clause 49. The introduction of these severe sanctions was quite separate in time from the dates on which firms became subject to the new rules (2000-2003). This provides an unusual opportunity to not only test the effect of the substantive law, but also to test the effects of changes in sanctions and enforcement (independently of the effect of the substantive law).[1]

The paper's primary hypothesis concerns the impact of the 2004 sanctions on firm value (as measured by Tobin's *q*). The analysis uses a difference-in-difference approach, comparing a treatment group of firms that were subject to Clause 49 (and

[1] For expositional ease we sometimes refer to these interchangeably as changes in sanctions or enforcement. Strictly speaking, the changes were sanction increases, but the literature on enforcement and stock market development often treats sanction increases as changes in enforcement or a way to measure enforcement (Jackson and Roe, 2007; Coffee, 2007). Of course, changes in sanctions and enforcement both affect expected sanctions.

hence to the new sanction and enforcement regime from 2004 onwards) with a control group of firms that were not subject to Clause 49 (or to its sanction and enforcement regime). The regression specification controls for various relevant factors and for firm-specific time trends in *q*, so that the estimated effect represents the extent to which a Clause 49 firm's value deviates from its underlying trend following the introduction of the sanctions, relative to the corresponding deviation for unaffected firms. Using this approach, the paper finds a large and statistically significant positive effect (amounting to over 10% of firm value) of the Clause 49 reforms in combination with the 2004 sanctions. This result is robust to various checks, and in particular continues to hold when comparing only the smaller firms that were subject to Clause 49 and the larger firms among those that were not subject to Clause 49. The sharp discontinuity created by the applicability of the new rules above a specific level of paid up share capital also enables the use of a regression discontinuity approach, which leads to very similar results. Our results, taken together, present a strong case for a causal effect of the reforms on firm value, and also underscore the importance of enforcement.

Overall, the results suggest that, while firms had the option of voluntarily adopting governance provisions similar to those in Clause 49, they benefited from the ability to commit (e.g. to not expropriating minority shareholders) that was provided by the external public enforcement and sanctioning mechanism. The paper also explores the channels through which this increase in firm value may have occurred. Over the (relatively short) post-reform sample period, there is no robust evidence that the reforms led to improved accounting performance, a reduction in tunneling within business groups (as measured using the approach developed by Bertrand, Mehta, and Mullainathan (2002)), or an increase in foreign institutional investment. Rather, it appears that the increase in firm value capitalized expectations of longer-term benefits of the reforms.

Part II briefly reviews the related literature. Part III details the development of corporate governance reform in India while laying out the groundwork for our empirical tests. Part IV describes the data. Part V elaborates on the empirical specifications and hypotheses. Part VI reports the results and robustness checks. Part VII interprets the results and describes a number of extensions. Part VIII concludes.

II. LITERATURE REVIEW

This paper contributes to the literature on the important question of the relationship between law and stock market development.[2] In addition to bringing new evidence to bear on the central question of whether there is a causal relationship between better corporate governance and firm value, the paper focuses in particular on the role of enforcement and sanctions.

Previous literature on the impact of corporate governance on firm value has faced the problem that most governance reforms in the US have applied to all firms, making it difficult to isolate a credible control group.[3] Increasingly, attention has also been directed to the relationship between governance and firm value outside the US. In particular, this paper is most closely related to studies that exploit the Korean corporate governance reforms of the 1990's as a source of exogenous variation. Black, Jang & Kim (2006) construct a Korean corporate governance index (KCGI) for a cross-section of Korean firms. They examine the effect of the KCGI on firm value, instrumenting for the KCGI using an asset size variable that captures the threshold (at 2 trillion won) for the application of the reforms. They also use a regression discontinuity analysis around this

[2] The modern discussion of this question begins with the seminal work of La Porta, Lopez-de-Silanes, Shleifer & Vishny (1998) on the impact of legal origins. Much of the literature on stock market development undertakes cross-country analysis (e.g. Durnev and Kim, 2005; La Porta, Lopez-de-Silanes & Shleifer, 2006); however, single-country studies such as this paper also play an important role in shedding light on these issues, and can avoid some of the methodological challenges associated with cross-country analysis.

[3] However, the literature on the US has used various other sources of identification, including the adoption of anti-takeover provisions (Gompers, Ishii & Metrick, 2003; Bebchuk, Cohen & Ferrell, 2005), state antitakeover laws (Bertrand and Mullainathan, 2003), variation in disclosure requirements for smaller firms (Greenstone, Oyer and Vissing-Jorgensen, 2006), and foreign firms cross-listed in the US (Litvak, 2007).

threshold. Both approaches yield a positive effect. Black, Kim, Jang, and Park (2005) use a panel of Korean firms, and exploit within-firm variation over time in the KCGI to find a positive effect on firm value (also instrumenting with the asset size dummy). However, as the asset size instrument is not time-varying, their panel analysis does not allow for firm fixed effects.

This paper uses panel data, and allows not only for year and firm fixed effects, but also for firm-specific time trends. The latter is especially important because differential time trends in value for the larger firms affected by a reform, relative to the smaller unaffected firms, is an important concern in both the Korean and Indian reforms. We do not use a firm-level governance index like the KCGI,[4] but in some respects this may be an advantage as it eliminates potentially endogenous changes in firms' governance choices. Furthermore, while Black, Jang & Kim (2006) use a regression discontinuity analysis, the panel dataset here permits a first-differenced version of this approach that controls for unobserved heterogeneity (see the discussion in Part VI below).

The literature on Korea and other emerging markets also does not address the role of enforcement and sanctions. Recent scholarship has stressed that law enforcement may be beneficial for a variety of reasons,[5] encouraging smaller investors to invest in firms, thereby fostering stock market development. This paper provides empirical evidence on this issue, exploiting the timing of the Indian reforms (in particular, the feature that severe sanctions were introduced only after the substantive legal rules were already established).

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[4] Balasubramanian, Black & Khanna (2008) conduct a detailed survey of Indian firms, and find that better governed firms tend to have higher value.

[5] e.g. because it provides investors with assurances about the credibility of firm disclosures (Daines & Jones 2007), protects investors' property rights against expropriation, signals government attitudes about acceptable governance standards and what areas may bear the brunt of enforcement scrutiny (Milhaupt & Pistor, 2008), and provides investors with a sense that they can have their grievances addressed in some efficacious manner (Coffee, 2007; Bhattacharya & Daouk, 2002).

Finally, this paper also contributes more specifically to the empirical evaluation of the Indian governance reforms. Black & Khanna (2007) conduct an event study of the adoption of Clause 49. They rely on the phased implementation schedule, in which "large" firms were required to comply before "small" firms, and report positive returns for a treatment group of large firms relative to a control group of small firms, around the first important legislative announcement.

III. CORPORATE GOVERNANCE REFORM IN INDIA: THE RISE OF CLAUSE 49.

India, unlike a number of emerging markets, has had actively functioning stock markets since 1875 and a fairly detailed corpus of corporate and securities laws (Khanna, 2008). However, prior to the governance reforms described below, Indian corporate governance in practice was considered weak and quite dysfunctional. Inconsistent disclosure and largely ineffective boards of directors led to a failing system of governance in which insider diversion was not uncommon. Indeed, Indian firms looking for capital had to rely primarily on internal sources or on the capital provided by various arms of the government, rather than the stock market (for more details see Khanna (2008)).

This situation formed the background to the promulgation of Clause 49 of the stock exchange listing agreement in 2000 by the Securities & Exchange Board of India (SEBI – India's securities markets regulator).[6] The first tentative steps toward Clause 49 occurred in 1998 when the Confederation of Indian Industry (CII) – a large industry association – proposed a voluntary code of corporate governance for Indian firms. This was followed in quick measure by SEBI forming the Kumar Mangalam Birla Committee (KMBC) to suggest changes in the listing agreement of the stock exchanges to address corporate governance concerns. The KMBC's draft set of recommendations came out on

[6] Earlier reforms started almost with the creation of the Securities & Exchange Board of India (*SEBI*) in 1992; some of the key regulations were the SEBI Takeover Code 1997 (dealing with acquisitions of control primarily) and the SEBI Disclosure & Investor Protection Guidelines 1999 (addressing public issuances of securities).

October 1, 1999 and became effective as Clause 49 of the listing agreement with the Exchanges on February 21, 2000. Firms failing to meet the requirements of Clause 49 could be delisted. The details of Clause 49 are provided in Appendix 1, but a quick overview is provided below (see also Khanna (2008)).

Clause 49 had both requirements and recommendations. In the required camp were a number of reforms designed to enhance the independence of boards. This involved prescribing minimum percentages of independent directors (50% or 33% depending on whether the Chairman was an executive director) and providing a fairly stringent definition of "independence". In addition to this, Clause 49 mandated the number of meetings per year, expected boards to develop a code of conduct and imposed limits on the number of directorships a director could simultaneously hold.

Clause 49 also enhanced the power of the audit committee by requiring financial literacy, experience and independence of its members, and by expanding the scope of activities on which the audit committee had oversight. Executives were also expected to be more personally involved in corporate affairs as seen by the requirements for certification by the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) of financials and overall responsibility for internal controls. This was combined with considerably enhanced disclosure obligations (on many things including accounting treatment and related party transactions) and enhanced requirements for holding companies when overseeing their subsidiaries. These series of changes appear aimed at making Boards and Audit Committees more independent, powerful and focused monitors of management. Moreover, the enhanced disclosures would aid institutional and foreign investors in monitoring management as well.

Clause 49's provisions were not expected to be implemented immediately, rather, it provided a phased-in implementation schedule where certain firms (essentially large ones) were expected to comply earlier than mid sized firms which were expected to comply earlier than small sized firms. Specifically, firms that were

listed on the Bombay (Mumbai) Stock Exchange (BSE) under the listing flag "A" were expected to comply by March 31, 2001. These are generally the largest corporations in the Indian economy, and are referred to in the remainder of the paper as "Group 1" firms.

Firms that were outside this group, but had paid up share capital of at least Rs. 10 *crores* (roughly US$2,500,000)[7] or net worth of at least Rs. 25 *crores* (roughly US$6,250,000) at any time in the company's history, were expected to comply by March 31, 2002. Paid-up share capital is the number of shares outstanding, multiplied by the "face value" of the shares (i.e. the price at which the share certificates were originally issued). Net worth is a similar concept, but also incorporates the face value of preferred stock, and adjusts for the firm's retained earnings and various reserves.[8] The firms expected to comply in 2002 are referred to below as "Group 2" firms.

Finally, other firms with paid up share capital of at least Rs. 3 *crores* (roughly US$750,000) were expected to comply by March 31, 2003; these firms are referred to below as "Group 3" firms. Importantly, Clause 49 was not intended to apply to all publicly-traded and listed firms in India, with those firms with paid up share capital below Rs. 3 *crores* being completely exempt from its provisions.[9] This sequence of reforms is illustrated by the timeline in Figure 1.

These reforms established how governance was to change in India and their violation could lead to de-listing, but no other financial penalties. Although potentially significant, de-listing is less personally painful for executives than direct financial penalties and the threat of imprisonment. Thus, for our purposes, the next important

[7] In India a *crore* means 10 million Rupees; thus, for instance, 10 *crores* is identical to 100 million Rupees (roughly US$2,500,000) and 25 *crores* is 250 million Rupees (roughly US$6,250,000).

[8] The definitions of net worth and paid up capital come from Prowess. Note that the backward-looking nature of these criteria help to address the concern that firms may have endogenously chosen whether to be in the affected or unaffected group.

[9] In this respect, Clause 49 differs from the Sarbanes-Oxley reforms in the US. The unaffected firms play a crucial role in this paper's empirical strategy, as described below.

reforms were the adoption of direct financial penalties for violation of Clause 49's requirements. In 2004 the Securities Contracts (Regulation) Act 1956 was amended to include Section 23E that imposed significant financial penalties for violations of the listing agreement (up to Rs. 25 *crore* (roughly USD 6,250,000) for a violation).[10] Since 2005, there has not been much in the way of significant corporate governance changes to either the listing agreement or the statute.[11]

IV. DATA

The data for this study is obtained from Prowess, a database that is maintained by the Center for Monitoring the Indian Economy (CMIE). Prowess reports financial statement, share prices, and other relevant data for publicly-traded Indian corporations. Prowess data is typically available only for a limited window of years; this analysis uses data for the period 1998-2006. While the estimating samples are generally smaller due to missing values for some variables, the basic sample includes 28,672 observations at the firm-year level over this period, on 4335 firms. Prowess variables are reported as of December 31 of each year; thus, any legal changes occurring during a given calendar year are assumed to be reflected in that same year's financial data (e.g. the sanctions introduced in October, 2004 are assumed to affect Prowess variables reported for 2004).

The primary dependent variable of interest in this analysis is Tobin's q, used (as is standard in the corporate finance literature) as a proxy for firm value. For firm i in year t, Tobin's q is defined as:

[10] Inserted by Securities Laws (Amendment) Act, 2004, S.11 (which takes effect from Oct. 12, 2004).

[11] There were no enforcement actions under Section 23E or Clause 49 until September 2007 when SEBI initiated its first enforcement and investigation proceedings against firms for violations of Clause 49 (see Ashish Rukhaiyar, *Navratnas Join Listing Rule Violators*, THE ECONOMIC TIMES, 13 Sept., 2007; *SEBI Pulls up 20 Clause 49 Violators*, THE ECONOMIC TIMES, 12 Sept., 2007). These proceedings are still in progress. Of course, it is plausible that the threat of enforcement may affect behavior even if there are no actual enforcement actions.

$$q_{it} = \frac{(\text{Book value of debt})_{it} + (\text{Book value of preferred stock})_{it} + (\text{Market value of common stock})_{it}}{(\text{Book value of assets})_{it}} \quad (1)$$

The book value of debt is proxied by the Prowess variable "borrowings," and the book value of preferred stock by the Prowess variable "preference capital." The book, rather than market, value of preferred stock is used because preferred stock is very thinly traded, if at all. The market value of common stock uses data from Prowess on share prices and on the number of common shares outstanding. The share price is calculated as the 365-day average of the daily stock prices reported in Prowess.[12] The denominator uses the Prowess variable "total assets."

The formulation in Eq. (1) corresponds closely to standard definitions of q in the literature (e.g. Kaplan and Zingales, 1997; Gompers, Ishii, and Metrick, 2003; Desai and Dharmapala, 2008), with some caveats. First, deferred tax liability is omitted in Eq. (1); however, a definition of q incorporating deferred tax liability is used in robustness checks (and leads to similar results). Second, it is possible that some recently-issued debt is omitted by Prowess in its "borrowings" variable and reported instead as "current liabilities." To address this possibility, the basic analysis uses current liabilities as a control variable, and a definition of q incorporating current liabilities is used in robustness checks (again, this leads to similar results). The values of q (as defined in Eq. (1)) calculated from the Prowess data include some obvious outliers; for instance, the maximum observed value is 1009.2. Thus, in the basic analysis below, q is Winsorized from above at the 5% level. The results, however, are similar when q is Winsorized from above at the 1% level.

[12] The 365-day average is used because using the December 31 price (to correspond to the Prowess financial statement variables) may be subject to seasonal factors, or to high degree of randomness. The use of the 365-day average tends to bias against the paper's findings – e.g. the estimated response of q to a legal change in October of 2004 would understate the effect, as q is averaged over all of 2004, while investors could only respond to the change (if it was unanticipated) in or after October.

The central independent variable of interest captures the application of the Clause 49 rules and enforcement provisions. As was pointed out in the discussion above, the implementation of Clause 49 took place through a number of steps (illustrated in Figure 1). In 1999, the set of firms that would eventually be subject to Clause 49 was identified. However, compliance was not expected to be immediate. The largest firms (those listed under flag "A" at the BSE) were expected to comply in 2001 (Group 1). Another, much larger, group of medium-sized firms were expected to comply in 2002 (Group 2). The remaining Clause 49 firms (the smallest in size) were expected to comply in 2003 (Group 3).[13] While implementation was phased in for existing firms, all firms that listed for the first time in 2000 or subsequent years were expected to comply from the time of listing (regardless of their size). The date of listing is not reported in Prowess.[14] However, it is possible to identify those firms that enter the Prowess dataset in 2000 or a subsequent year; these firms can be presumed to be newly-listed, and so are classified as being subject to Clause 49 from the first year in which they enter the dataset.[15] The results are robust, however, to omitting these new firms, or to reclassifying them as not being subject to Clause 49.

Given the sequence described above, it is possible to construct a "reform" variable (denoted R_{it}) capturing the applicability of Clause 49 that is time-varying for a given firm, taking on the value 1 when firm i is subject to Clause 49 in year t, and zero otherwise. Thus, for instance, a Group 2 firm (expected to comply in 2002) would have $R_{it} = 0$ for 1998-2001 and $R_{it} = 1$ for 2002-2006. However, the enforcement provisions (involving severe financial penalties) were introduced in 2004 when all the firms that

[13] These various groups of firms are readily identified using the Prowess variables for "net worth" and "paid-up share capital." Prowess also reports the BSE listing flag.

[14] Prowess reports the "year of incorporation," but this does not necessarily correspond to the year in which the firm first became a publicly traded corporation. The firm may have been formed ("incorporated") in one year and the promoters may have decided to list it at a later point in time.

[15] This assumption is justified to the extent that Prowess is genuinely exhaustive in its scope. Admittedly, this introduces some possibility of misclassification; however, the results do not depend on how these new firms are treated in the analysis.

would ever be subject to Clause 49 were already supposed to be in compliance. Thus, while R_{it} is used in some supplementary analyses, the basic analysis uses a measure that is a simpler, non-time-varying indicator (denoted $CL49_i$) that takes on the value 1 if firm i was ever subject to Clause 49, and 0 otherwise. This variable is used to construct a proxy for the applicability of severe penalties for violation of Clause 49 (namely, the interaction between $CL49_i$ and an indicator for the years 2004-2006 – see Eq. (2) below).

An obvious concern with this paper's empirical design is the comparability of those firms that were subject to Clause 49 and those that were not. To address this issue, Figure 2 depicts the average size of Clause 49 firms and non-Clause 49 firms (those that were not subject to the reforms at any stage of the sample period).[16] While the legal criteria for the application of Clause 49 were defined in terms of paid-up share capital and net worth, Figure 2 uses a simpler and more intuitive summary characteristic of firms – total assets. The Clause 49 criteria are positively correlated with total assets, but only imperfectly so; thus, there is a considerable amount of overlap in asset size between smaller firms subject to Clause 49 and those not subject to it. As shown in Figure 2, Clause 49 firms are indeed considerably larger in terms of mean asset size. This is primarily attributable, however, to Group 1 and Group 2 firms, rather than to Group 3 firms (defined by Clause 49 as those with paid-up share capital exceeding Rs. 3 *crores* (roughly US$750,000)). If attention is restricted to the non-Clause 49 firms that fall just below the 3 *crore* cutoff (specifically, those with maximum paid-up share capital between 1.5 and 3 *crores*),[17] then these firms and the Group 3 firms have essentially identical mean asset size. The robustness checks below use this overlap in size to

[16] Note that Figure 2 uses all observations for which data on total assets exists, not just the estimating sample for the regression analysis.

[17] In Figure 2 (and the analysis below), the cutoff for defining "larger" non-Clause 49 firms is formulated to include all firms that had a maximum value of paid-up share capital (at any point in the sample period) exceeding Rs. 1.5 *crores* but below 3 *crores*, in order to define a set of firms that (like the Clause 49 or Group 3 categories) is fixed over time. Note, though, that there is relatively little change in paid-up share capital over time for a given firm.

construct more precise tests of the central hypothesis, focusing only on firms of similar size.

Figure 3 shows the average value of Tobin's q for Clause 49 firms and non-Clause 49 firms for each year of the sample period. Prior to the introduction of Section 23E in 2004, Clause 49 firms had somewhat lower q than did unaffected firms. Around the time of the introduction of stronger penalties, however, the Clause 49 firms experienced a substantial increase in q (relative to the control group of non-Clause 49 firms). While this increase appears to persist into the subsequent year (2005), it is not unreasonable to expect that the market may have adjusted somewhat slowly to the new regime, as new information appeared about the seriousness of the authorities. By 2006, the increase in q appears to level off. Thus, the general pattern in Figure 3 is broadly consistent with the paper's hypothesis; however, the underlying growth in q for both groups of firms over this period highlights the need to control for other relevant factors and, in particular, for firm-specific time trends.

Summary statistics for the basic estimating sample, which consists of 28,672 observations at the firm-year level over the period 1998-2006 on 4335 firms, are reported in Table 1. Note that this represents only about half the observations in Prowess for financial statement data, because of the more limited availability of the share price data used to construct q. Also, missing values for many of the control variables reduce the sample size further in many of the regressions. Note also that the regressions (as described below) are implemented in first differences, leading to the loss of the first year's observations even in the most basic specification.

V. EMPIRICAL SPECIFICATION

The central hypothesis of the paper concerns the interaction between corporate governance reforms and sanctions or enforcement provisions. As described above, different groups of firms became subject to the Clause 49 reforms over the period 2000-

2002. By 2003, all firms that were affected by the 2000 Clause 49 reforms were expected to be in compliance with its provisions. However, there was no enforcement of these rules, except through the threat of delisting. The aim of the basic analysis is to test the impact of the stronger enforcement provisions that took effect in 2004 (involving severe financial penalties). These penalties applied to all Clause 49 firms (but not of course to firms that were not expected to comply with Clause 49).

In testing the hypothesis that stronger enforcement of Clause 49 provisions led to an increase in firm value, the basic empirical specification is the following:

$$q_{it} = \beta(CL49_i * S23E_t) + \mathbf{X}_{it}\gamma + \mu_i + g_i t + \delta_t + \nu_{it} \quad (2)$$

where q_{it} is Tobin's q (defined as in Eq. (1) above) for firm i in year t. $CL49_i$ is an indicator variable for those firms that were subject to Clause 49 by 2003. Note that, strictly speaking, the applicability of Clause 49 is a time-varying variable, with the rules applying to different firms at different times. However, all of this variation occurred before 2003, and so plays no role in this particular test (this additional variation is used in some supplementary analyses – see below). $S23E_t$ is an indicator for years following 2003 (i.e. 2004-2006). The terms μ_i and δ_t are firm and year fixed effects, respectively, and ν_{it} is the error term.

$\mathbf{X}_{it}$ is a vector of control variables. In the basic specification, it includes the following. Changes in firm size over time are controlled for using sales. Revenue from exports is often viewed as a particularly powerful sign of successful performance by Indian firms, so total exports are included as a further control. A number of variables are included to correct for potential mismeasurement of q. Given the issue of whether the full book value of debt is captured by the "borrowings" variable in Prowess (see above), current liabilities are included as a control. Intangible assets may be poorly measured in the book value of assets (the denominator in Eq. (1)), so the two measures of research and development (R&D) expenditures provided in Prowess (R&D on the

capital account and R&D on the current account) are included, along with advertising expenses. Finally, to control for changes over time in the risk associated with a firm's stock, a measure of stock price volatility is also included.[18] A number of additional control variables are used in robustness checks, as described below.

The basic approach used in Eq. (2) is a differences-in-differences approach, where the hypothesis is that $\beta > 0$, with Clause 49 firms constituting the "treatment" group and unaffected firms the "control" group. An important class of alternative explanations for any increase in firm value among Clause 49 firms is that, being larger and presumably more successful, these firms may have experienced more rapid growth in value for reasons unrelated to the reforms. Thus, it is vital to include (in addition to firm fixed effects and year effects) the firm-specific time trends $g_i t$; here, g_i represents the firm-specific growth rate in q for firm i.[19] Hence, the estimated effect β represents the extent to which a Clause 49 firm's value deviates from its underlying trend following the reforms, relative to the corresponding deviation for unaffected firms.

The specification in Eq. (2) can be implemented using estimation in first differences (see Wooldridge, 2002, pp. 315-316). This involves estimating:

$$\Delta q_{it} = \beta \Delta (CL49_i * S23E_t) + \mathbf{\Delta X}_{it}\boldsymbol{\gamma} + g_i + \zeta_t + \eta_{it} \qquad (3)$$

where $\Delta q_{it} = q_{it} - q_{i,t-1}$, and other changes are defined analogously; ζ_t is the year effect and η_{it} the error term in the first-differenced model (representing the changes in δ_t and ν_{it} , respectively). Note that the firm effect μ_i in Eq. (2) drops out of Eq. (3). However, the

[18] The volatility measure uses monthly data on firms' stock prices. For firm i in year t, it represents the standard deviation of firm i's monthly price across the months of year t; this is annualized, and scaled by firm i's mean (annual) stock price in year t.

[19] The specification in Eq. (2) is sometimes described as a "random growth" or "random trend" model. It might be thought that in many contexts, q (being essentially a ratio of market to book valuation) would not exhibit a time trend, tending to converge towards one. However, in this dataset, there is a marked tendency for q to increase over time; for instance the mean (Winsorized) q in 1998 is about 0.7, while that in 2006 is about 1.2.

firm-specific trend g_i can be estimated by including a firm effect in the estimation of Eq. (3).

VI. RESULTS

VI.1) Basic Results and Robustness Checks

The results using the specification described above are reported in Table 2. In the first column, the specification is that in Eq. (3), excluding the firm-specific trend g_i (and hence essentially equivalent to a model with firm and year effects). Using the full dataset of over 4000 firms over the period 1998-2006, there is a positive and statistically significant association between the Section 23E sanctions and firm value (this and all subsequent results use robust (White, 1980) standard errors that are clustered at the firm level).[20] Adding firm-specific time trends (Column 2) does not substantively change this result. In Column 3, the basic set of controls is added. While this reduces the sample size considerably due to the unavailability of data on some of the controls,[21] the basic result is strengthened: stronger enforcement appears to lead to a positive effect on the value of affected firms (relative to unaffected firms), and this effect is statistically significant at the 1% level. The magnitude of this effect is also substantial: the estimated coefficient of 0.09278 implies an increase in q of over 0.09, which is over 10% of the mean value of q (0.87) in the dataset.[22]

Moreover, the effect appears to be specifically related to the penalties and enforcement provisions of Section 23E, as opposed to the wider environment associated with Clause 49. Adding the time-varying variable $R_{it,}$ which reflects the nominal applicability of Clause 49 provisions to firm i in year t, does not change the large and

[20] Clustering the standard errors also helps to address issues arising from serial correlation (Bertrand, Duflo and Mullainathan, 2004).

[21] For instance, the monthly stock price data used to compute the volatility measure is unavailable for 2006, so including this control eliminates that year from the estimating sample.

[22] The "average treatment effect on the treated" (ATT) is even larger, as the mean q for Clause 49 firms in 2003 is 0.79.

significant coefficient on the Section 23E variable. Furthermore, the coefficient on R_{it} is indistinguishable from zero, suggesting that the nominal duty to comply with Clause 49 (subject only to the threat of delisting) had little impact on firm value.[23] This highlights the importance for corporate governance of the enforcement (rather than merely the enactment) of rules.

This basic result is robust to a variety of checks. The set of firms in the basic sample includes government-owned firms (SOEs) and firms in which foreign corporations own controlling stakes (as the reforms in theory applied to them as well).[24] However, it might be the case that foreign-controlled firms follow home country governance rules, and so are unlikely to be affected by the reforms. SOEs may in practice be insulated from the reforms or from their enforcement,[25] and in any event may not solely be motivated by profit maximization (Goswami, 2003). However, as shown in Column 1 of Table 3, the results are robust to omitting foreign-controlled and government-controlled firms from the sample.

Table 2 only includes a basic set of controls, but the basic results are robust to the addition of a variety of other controls, such as additional measures of accounting performance. For instance, adding profits before depreciation, interest and taxes (PBDIT; a standard measure of accounting performance used for instance by Bertrand *et al*. (2002)) or a measure of accounting returns (PBDIT divided by the book value of

[23] Note, however, that Clause 49 firms seem to have experienced an increase in value (relative to non-Clause 49 firms) in 1999, when the Birla report specified which categories of firms would be subject to Clause 49. While this effect is only of borderline statistical significance, it is broadly consistent with the findings of the event study of Black and Khanna (2007). It should also be noted that it is not surprising that R_{it} does not have an effect, given that the initial impact of Clause 49 designation is likely to have been capitalized in 1999. Thereafter, the difference between e.g. Group 1 and Group 2 firms (which amounts to only one year's difference in the date by which the firm is expected to comply) is unlikely to be important.

[24] Foreign-controlled firms are identified as those reported as "Private (Foreign)" in the business group data, while government-owned firms are reported as either "Central Govt. - Commercial Enterprises" or "State Govt. - Commercial Enterprises."

[25] The recent enforcement proceedings in India suggest that SOEs will not be exempt from enforcement; see Rukhaiyar, note 20.

assets) does not affect the basic results. A concern with any regression modeling firm value is that *q* may be affected by forward-looking information about firms' future prospects that is observable to investors but not to the researcher. These unobservable factors can be proxied by future sales growth (computed as the change in sales from year *t* to year (*t* + 1), divided by sales in year *t*). Adding this variable to the specification leads to highly consistent results.[26]

It was noted earlier that Clause 49 applied to all newly-listed firms from the date of listing. However, these new firms cannot be identified with certainty in the Prowess data. In the basic analysis, all firms that enter the dataset after 1999 are classified as Clause 49 firms; however, this introduces the possibility of misclassification. Thus, Column 1 of Table 3 reports the results from a sample excluding these new firms. The estimated effect is almost identical to that in Table 2 (and in any event the number of firms involved is only 30, out of 2642 in the sample in Column 3 of Table 2). Moreover, the results are also robust to reclassifying these firms as part of the non-Clause 49 group.

VI.2) The Role of CalPERS

The identification of the Section 23E treatment effect relies on there being no other confounding events that occurred in 2004. One potential violation of this assumption arises from the role of foreign institutional investors. In April, 2004, the California state employees' pension fund (known as CalPERS) announced that India's stock market met its criteria for undertaking investment.[27] Reports suggest that CalPERS subsequently invested substantially in Indian firms. CalPERS is well-known (in the US setting) as an activist shareholder with a keen interest in corporate

[26] The results are also robust to using a variety of alternative formulations of the dependent variables, such as defining *q* to include current liabilities or deferred tax liabilities, Winsorizing *q* at 1% rather than 5%, and using the market-to-book ratio rather than *q*.

[27] *See* Omkar Goswami, "What CalPERS Should Mean to India Inc", THE FINANCIAL EXPRESS, April 27, 2004.

governance issues. Thus, it is possible that governance may have improved from 2004, not because of the interaction of Clause 49 and Section 23E, but rather because of activism (or the threat of activism) on the part of CalPERS and other foreign institutional investors.

Data on the holdings of Indian firms by CalPERS is not available. However, Prowess reports the ownership structure of the firms in its dataset, including the percentage of a firm's shares owned by foreign institutional investors. A "CalPERS effect" in 2004 could operate through an increase in the levels of foreign institutional ownership. Alternatively, CalPERS could have simply replaced other foreign investors, but may be a superior monitor of managerial performance. Both channels are captured by including the percentage of foreign institutional ownership, along with an interaction between the percentage of foreign institutional ownership and those years (2004-2006) in which CalPERS invested in the Indian stock market, in Column 3 of Table 3. Clearly, the estimated effect of Section 23E remains highly significant (and is of even larger magnitude). Combined with the evidence (discussed later in the paper) that foreign institutional ownership did not increase significantly for Clause 49 firms in or after 2004, this suggests that the increase in the value of Clause 49 firms is attributable to the reforms, rather than to the entry of CalPERS or other foreign institutions into the Indian market.

VI.3) Alternative Treatment and Control Groups

The central challenge associated with inferring the causal impact of the reforms is of course the ability to identify a valid comparison group for those firms subject to the reforms. The control group of unaffected firms in the analysis so far includes all non-Clause 49 firms. As shown in Figure 2, however, these firms are on average much smaller than the Clause 49 firms. For a variety of reasons, these smaller firms may not constitute good controls for the Clause 49 firms. One approach to addressing this

problem is to restrict attention to those non-Clause 49 firms that are relatively close to the cutoff for the applicability of Clause 49. Column 1 of Table 4 reports the results using a sample that excludes all firms with a maximum value of paid-up share capital below Rs. 1.5 *crores* (roughly US$375,000). The basic result remains significant, and the coefficient is even larger than in the basic specification.

As discussed above, there were three groups of firms subject to Clause 49: a small group of very large firms (with listing flag "A" on the BSE) that were expected to comply in 2001 (Group 1), a larger group of medium-sized firms that were expected to comply in 2002 (Group 2), and a large group of smaller firms that were expected to comply in 2003 (Group 3). Group 3 firms were defined as having a value of paid-up share capital exceeding Rs. 3 *crores*. As shown in Figure 2, Group 3 firms (while subject to Clause 49) are quite comparable in terms of asset size to those firms that were not subject to Clause 49, but which have a maximum value of paid-up share capital above Rs. 1.5 *crores*. Column 2 of Table 4 reports the results of a specification that excludes the Group 1 firms (i.e. 165 very large corporations). The comparison group remains the non-Clause 49 firms with a maximum value of paid-up share capital above Rs. 1.5 *crores*. Again, the results are highly robust. Finally, Column 3 of Table 4 also excludes the medium-sized firms (Group 2). This reduces the sample by a further 1000 firms (in addition to the 165 Group 1 firms that are already excluded), and leaves a remaining group of Clause 49 firms (Group 3) that is highly comparable in terms of asset size to the control group. Even in this setting, the basic result is robust, and indeed the coefficient is larger in magnitude than in Table 2.

Notwithstanding the robustness of the results in Table 4, there remains a potential concern about differences between Clause 49 and non-Clause 49 firms in terms of the criteria used in the law. Specifically, even among a set of firms with roughly similar asset sizes, does the fact that some of these firms have larger paid up share

capitalization confound the results? Recall that paid up share capitalization is essentially the product of the number of shares outstanding and the "face value" at which shares were originally issued. These were determined at the time of incorporation in the past or when the shares were originally issued (often decades before the sample period in this analysis). Thus, for this to confound the results, it would have to be the case that firms that had higher paid up share capitalization at the time of incorporation or when shares were issued would have therefore experienced an increase in q (unrelated to the Clause 49 reforms) in 2004, relative to firms that had lower original paid up share capitalization, but similar asset size as of 2004. Clearly, this seems highly unlikely, especially given the various controls for changes in firm characteristics in 2004 that are employed.[28]

VI.4) A Regression Discontinuity Approach

As described above, the difference-in-difference analysis shows a large and robust positive effect of the combination of Clause 49 and the strong penalties embodied in Section 23E on firm value. The sharp discontinuity created by the rules governing whether a firm is subject to Clause 49 enables the use of an alternative technique: a regression discontinuity approach. This focuses more specifically on the year in which the reform occurred and on the effect around the cutoffs for Clause 49. Thus, the regression discontinuity approach can address any remaining concerns about whether the effect primarily occurred in years after 2004, or whether it is driven by firms that are far from the cutoffs at which the reforms were applied.

[28] Moreover, it should be remembered that the analysis allows for firm-specific trends in q, and so even firms of very different sizes can serve as reasonable controls, as long as their trends in q are not affected by some other confounding factor that coincides with the reforms.

A basic regression discontinuity analysis would focus on the cross-section of firm values in 2004. A graphical illustration of this is shown in Figure 4.[29] However, as we have longitudinal data, it is possible to construct a stricter test of the hypothesis by estimating a first-differenced regression discontinuity (FD-RD) model (e.g. Lemieux and Milligan, 2008). The advantage of the first-differenced specification is that it effectively controls for unobservables that may affect a firm's average level of q. The specification is:

$$\Delta q_{i,2004} = \beta CL49_i + f(s_{i,2004}, w_i) + \mathbf{\Delta X}_{i,2004}\boldsymbol{\gamma} + Ind_i + \varepsilon_{i,2004} \quad (4)$$

Here, $\Delta q_{i,2004} = q_{i,2004} - q_{i,2003}$. $CL49_i$ is the indicator variable for Clause 49 firms defined above. In this context, it can be interpreted as the "treatment" associated with the introduction of Section 23E penalties for Clause 49 firms in 2004. Thus,

$$CL49_i = 1 \text{ if } s_{i,2004} \geq 3 \text{ or } w_i \geq 10 \quad (5)$$

and 0 otherwise; $s_{i,2004}$ is firm i's paid-up share capitalization in 2004, and w_i is the maximum observed value of firm i's net worth in years up to and including 2004 (both measured in Rs. *crores*). $\mathbf{X}_{i,2004}$ is a vector of controls, Ind_i is an indicator for firm i's industry,[30] and $\varepsilon_{i,2004}$ is the error term.

The central identifying assumption of the FD-RD approach is that $f(s_{i,2004}, w_i)$ is a smooth function of paid-up share capital and net worth. That is, $f(s_{i,2004}, w_i)$ controls for any continuous impact of $s_{i,2004}$ or w_i on the change in a firm's value in 2004, while β captures the discontinuous effect of the treatment (i.e. of becoming subject to Clause 49 and Section 23E at the thresholds specified in Eq. (5)).[31] In the reported results in Table

[29] Figure 4 shows q in 2004 for the set of firms with net worth in the 0-25 Rs. *crores* range that do not qualify for Clause 49 on the paid-up share capital criterion (i.e. for which $s_{i,2004} < 3$ in terms of Eq. (5) below). For these firms, net worth of 10 results in qualification for Clause 49; as expected, there is a substantial difference in q for firms above and below this threshold in Figure 4.

[30] Firms are classified into 181 industry groups, based on Prowess data on industries.

[31] There is some possibility of misclassification of newly listed firms, which may be subject to Clause 49 and Section 23E even if they do not satisfy the share capital or net worth thresholds. However, the results in Table 5 are robust to

5, $f(s_{i,2004}, w_i)$ is assumed to be linear in $s_{i,2004}$ and w_i; however, the results are similar when using a flexible polynomial functional form for $f(s_{i,2004}, w_i)$.[32]

Table 5 reports the results of the FD-RD analysis. In Column 1, the estimated treatment effect (corresponding to β in Eq. (4)) is approximately 0.05, which is somewhat smaller but nonetheless comparable in magnitude to the difference-in-difference estimate, and is statistically significant. This is especially notable because the FD-RD analysis only uses data from 2004; thus, it appears that the difference-in-difference estimate is not driven by changes in q in subsequent years (which may potentially be unrelated to Section 23E). Moreover, this effect does not exist for other years – for "false experiments" in 2003 (Column 2) and 2005 (Column 3), the estimated β is statistically indistinguishable from zero, as would be expected if the 2004 effect is indeed caused by the enactment of Section 23E.[33]

The sample in Column 1 includes all firms, including very large and very small firms that are far from the Clause 49 thresholds. Thus, a possible concern is that the results are driven by these types of firms. In Column 4, Clause 49 firms in Group 1 (the very large firms with listing flag "A") and non-Clause 49 firms with maximum paid-up share capital below 1.5 *crores* are omitted; the estimated effect, however, increases in both size and significance. In Column 5, Clause 49 firms in Group 2 are also omitted, leaving treatment and control groups that are highly comparable in terms of asset size (see Figure 2). Here, the effective sample size becomes quite small (while there are 670 observations, the estimated effect is within-industry, and there are 129 industry groups

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the omission of new firms. Also, adding a variable representing the first year in which a firm appears in the dataset (the proxy used to determine whether a firm is newly listed) to the arguments of $f(.)$ leads to essentially identical results.

[32] The flexible polynomial form includes quadratic and cubic (as well as linear) functions of $s_{i,2004}$ and w_i.

[33] The years 2003 and 2005 are of particular interest because the set of firms subject to Clause 49 was the same in those years as in 2004. For earlier years, estimated β's are also generally insignificant using the appropriate classification of Clause 49 firms for each year. For 2006, some controls are missing, but using the available control variables leads to an insignificant β.

in Column 5). Nonetheless, the estimate is still large, and is of borderline statistical significance.

VII. INTERPRETATION AND EXTENSIONS

VII.1) Discussion

The sequence of corporate governance reforms undertaken in India over the 2000-2004 period, in particular the change in the sanctions regime in 2004, provides a highly unusual opportunity to identify the causal effect of corporate governance institutions on firm value. While the set of firms affected by the reforms was, on average, very different along dimensions such as size from the unaffected firms (as depicted in Figure 2), close examination of the rules for the application of the reforms enables the construction of treatment and control groups that appear to be quite comparable. The difference-in-difference estimate reported in Table 2 is highly robust to a variety of checks along these lines. In addition, an alternative approach – a regression discontinuity analysis – also leads to very similar conclusions. Overall, the results suggest that the stronger sanctions established in 2004 led to a significant increase in the value of affected firms relative to that of unaffected firms.

This conclusion raises an immediate question: if the reforms had the ability to raise firm value, why had firms not voluntarily adopted practices such as appointing outside directors and engaging in broader disclosure? Of course, controlling shareholders may not necessarily wish to maximize firm value, as they also care about private benefits of control. However, the debate in India prior to the reforms strongly suggests that firms were very interested in gaining access to capital from outside shareholders, especially foreign investors (Khanna, 2008). Even so, voluntary adoptions of stronger governance provisions at the firm level may not in themselves be sufficiently credible to investors, as the only sanctions on firms that renege are reputational. Rather, it appears that a mandatory set of governance rules, backed up by

strong enforcement provisions, was perceived to be necessary in order to realize the potential gains in firm value from better governance. In essence, Indian firms wished to tie their hands with respect to governance practices, and could only do so by becoming subject to a stronger enforcement regime.[34]

These results also point to a further question: if corporate governance reforms and enforcement increased firm value, what was the channel through which this effect operated? The rest of this section explores some of these possible additional consequences of the reforms, focusing on accounting performance, tunneling within business groups, and the impact on foreign institutional investment. It should be emphasized, however, that the post-reform sample period is short, and the increase in firm value does not necessarily imply that these types of changes would occur in the short run. Rather, it is possible that the increase in q reflected a capitalization of longer-term improvements in the environment facing minority shareholders.

VII.2) The Impact of the Reforms on Accounting Performance

An obvious channel through which firm value may increase is through improvements in accounting performance. Table 6 reports the results of specifications that test the impact of the introduction of Section 23E on accounting profits (defined as "profits before depreciation, taxes and interest" or PBDIT) and on the return on assets (PBDIT scaled by total assets, denoted ROA). The specification used is essentially that of Eq. (3), with q replaced by the profit variables (the reported results also omit the control

[34] This interpretation may help account for one of the unusual features of the adoption of Clause 49, namely, that the reform process was initiated and supported by private industry rather than triggered by an Enron-like scandal. The CII drafted the first voluntary corporate governance code in India which formed the basis for the eventual Clause 49. Industry pushed for governance reform because access to capital was necessary to take advantage of the opportunities created by liberalization. The CII code in many respects was designed to attract foreign investors to Indian firms as many of its provisions are based on "best practices" at the international level. However, the voluntary code was not perceived to have generated a very high level of foreign investor interest and we see CII lobbying SEBI to enact governance reform (see Abhinaba Das, *CII to Urge SEBI, BSE to make Corporate Governance Must for Listings*, INDIAN EXPRESS, May 5, 1999). Enacting these reforms as law was apparently necessary to bolster the credibility of governance reform.

variables, but the conclusions are not substantively changed when they are included). If the firm-specific time trends are omitted (Column 1), then it appears that profits rose significantly in affected firms (relative to unaffected firms). However, this result does not survive the inclusion of firm-specific trends (Column 2). The effect on ROA is also positive, but not significant either with or without time trends. Thus, while the point estimates are positive, there is no robust evidence that accounting performance improved significantly for affected firms, relative to unaffected firms, over the sample period.

VII.3) The Impact of the Reforms on Tunneling

Many Indian firms belong to business groups. Consequently, a focus of the literature on Indian corporate governance has been the possibility of tunneling, a form of diversion that involves the controlling shareholders in a business group moving funds from group firms in which their ownership stakes (and hence their cash flow rights) are relatively low to group firms in which their ownership stakes are relatively high. Bertrand, Mehta and Mullainathan (2002; hereafter BMM) develop a number of tests for identifying tunneling within business groups. The simplest of these is the following. Consider a given exogenous shock to the earnings of firms in a given industry. This shock should affect the reported earnings of a stand-alone (non-group) firm more than it does the reported earnings of a group firm. Suppose that the group firm is one in which the controlling shareholders have low cash flow rights; then, they will have an incentive to tunnel money out of the firm (through high-interest loans, the manipulation of transfer prices, or various other means). Similarly, if the group firm is one in which the controlling shareholders have high cash flow rights, it will also have reduced sensitivity to industry-level shocks, as money is tunneled into the firm regardless of its industry's performance.

BMM implement their test using the following specification:

$$y_{it} = \beta_0 \hat{y}_{it} + \beta_1 (GRP_i * \hat{y}_{it}) + \mathbf{X}_{it}\gamma + \mu_i + \delta_t + \nu_{it} \quad (6)$$

where y_{it} is firm i's income in year t; $\hat{y}_{it}$ is a measure of the exogenous shock experienced by firm i in year t, calculated as the mean income for firms (other than i itself) in firm i's industry in year t. GRP_i is an indicator variable for firms that are reported by Prowess as belonging to a business group, $\mathbf{X}_{it}$ is a vector of controls,[35] μ_i is a firm effect, δ_t is a year effect, and ν_{it} is the error term. Tunneling is inferred to exist under this approach if $\beta_1 < 0$. Column 1 of Table 7 reports the results from estimating Eq. (6) over the 1998-2006 sample period. The negative estimate of β_1 is consistent with tunneling, but (unlike in BMM's 1989-1999 sample) it is not statistically significant.

The Clause 49 reforms and the stronger penalties enacted under Section 23E might be expected to have reduced the prevalence of tunneling. The following specification, based on Eq. (6), can be used to test this formally:

$$y_{it} = \beta_0 \hat{y}_{it} + \beta_1 (GRP_i * \hat{y}_{it}) + \beta_2 (CL49_i * S23E_t) + \beta_3 R_{it} + \beta_4 ((CL49_i * S23E_t) * (GRP_i * \hat{y}_{it})) + \beta_4 R_{it} + \beta_5 R_{it} * (GRP_i * \hat{y}_{it})) + \mathbf{X}_{it}\gamma + \mu_i + \delta_t + \nu_{it} \quad (7)$$

Here $CL49_i * S23E_t$ is the interaction term that represents whether firm i in year t is subject to the Section 23E financial penalties for Clause 49 violations, while R_{it} is the (time-varying) variable that captures whether firm i was expected to comply with Clause 49 in year t (note that the effects on tunneling of sanctions and of legal rules are both of independent interest, and so are both included in this test). The essential question is whether the relative under-response of group firms to industry-level shocks is reduced by Section 23E sanctions (i.e. $\beta_4 > 0$) and/or by the nominal application of Clause 49 (i.e. $\beta_5 > 0$). Column 2 of Table 7 reports the results from estimating Eq. (7); both β_3 and β_5 have the expected sign (suggesting that both types of reforms reduced the prevalence of tunneling), but are only of borderline statistical significance.

[35] The controls in BMM are the natural log of total assets, an interaction between the log of assets and $\hat{y}_{it}$, and an interaction between the firm's year of incorporation and $\hat{y}_{it}$.

Another test for tunneling developed by BMM rests on the idea that, among group firms, those in which controllers or insiders have large ownership stakes will respond more positively to earnings shocks than will group firms in which controllers or insiders have lower ownership stakes. If the corporate governance reforms had the effect of reducing tunneling, then the extent to which firms in which insiders own large stakes would react more positively would have decreased after following the reforms. More formally, this test uses the following specification:

$$y_{it} = \beta_0\hat{y}_{it} + \beta_1 InsOwn_{it} + \beta_2(CL49_i*S23E_t) + \beta_3 R_{it} + \beta_4 InsOwn_{it}*\hat{y}_{it}$$
$$+ \beta_5(InsOwn_{it}*\hat{y}_{it})*(CL49_i*S23E_t) + \beta_6(InsOwn_{it}*\hat{y}_{it})*R_{it} + \mathbf{X}_{it}\boldsymbol{\gamma} + \mu_i + \delta_t + \nu_{it} \quad (8)$$

Here, $InsOwn_{it}$ is the percentage of inside ownership in firm i in year t (based on the Prowess variable measuring total "promoter" ownership).[36] The test examines whether $\beta_5 < 0$ (i.e. whether Section 23E reduced tunneling) and/or $\beta_6 < 0$ (i.e. whether the application of Clause 49 reduced tunneling). The results for Eq. (8) in Column 3 of Table 7 show that this is the case only for β_6; the estimated β_5 is indistinguishable from zero.

BMM also propose that if tunneling occurs, then firms should respond to earnings shocks experienced by other firms within the same business group. If tunneling were affected by the reforms, then it would be expected that this tendency would be reduced as a result of Clause 49 and Section 23E. This can be tested using:

$$y_{it} = \beta_0\hat{y}_{it} + \beta_1\hat{g}\hat{y}_{it} + \beta_2(CL49_i*S23E_t) + \beta_3 R_{it} + \beta_4\hat{g}\hat{y}_{it}*\hat{y}_{it} + \beta_5(\hat{g}\hat{y}_{it}*\hat{y}_{it})*(CL49_i*S23E_t)$$
$$+ \beta_6(\hat{g}\hat{y}_{it}*\hat{y}_{it})*R_{it} + \mathbf{X}_{it}\boldsymbol{\gamma} + \mu_i + \delta_t + \nu_{it} \quad (9)$$

where $\hat{g}\hat{y}_{it}$ is the mean income for firms (other than i itself) in firm i's business group in year t. The hypotheses are that $\beta_5 < 0$ (i.e. Section 23E reduced tunneling) and/or $\beta_6 < 0$

[36] Note that the term "promoter" in the Indian context differs from standard US usage, and refers to firm insiders. In addition, data on ownership is available in Prowess on a consistent basis only from 2001, so this leads to a substantial reduction in the sample period and the sample size.

(i.e. the application of Clause 49 reduced tunneling). As shown in Column 4 of Table 7, however, the estimates of both β_5 and β_6 in Eq, (9) are indistinguishable from zero.

Overall, while there appears to be a relationship in some cases between the reforms and changes in the prevalence of tunneling, there is no robust evidence that either Clause 49 or Section 23E caused a reduction in tunneling within Indian business groups over the sample period. It should be remembered, however, that there is also no statistically significant evidence for tunneling (using the BMM tests) over the 1998-2006 period, so it is not surprising that any changes to tunneling behavior that may have occurred are difficult to detect.

VII.4) The Impact of the Reforms on Foreign Institutional Investment

As argued above, the reform process to India's corporate governance environment was not externally imposed, but rather driven by the affected firms themselves. In seeking to tie their hands through governance reforms, firms appear to have been motivated by the desire to gain greater access to capital, and especially to foreign institutional investment (Khanna, 2008). Thus, a natural question to address is whether the reforms had the desired impact – i.e. whether foreign institutional investment (FII) rose in those firms affected by Section 23E (relative to unaffected firms).

As Prowess reports the ownership structure of many of the firms in its dataset, including the fraction of the firm owned by foreign institutional investors, this hypothesis can be tested using a specification analogous to Eq. (3). In Columns 1 and 2 of Table 8, FII is measured as a fraction of the total ownership by non-insiders; in Columns 3 and 4, FII is measured as a fraction of the total ownership by non-insider (foreign and Indian) institutional investors. Using the former definition, there appears to be an increase in FII for affected firms when firm-specific time trends are omitted (Column 1); however, this is not robust to the inclusion of firm-specific trends (Column

2). For the second measure, the effect is indistinguishable from zero both with and without trends. Thus, there is no robust evidence to suggest that the corporate governance reforms caused an increase in FII over the sample period.

VIII. CONCLUSION

While there has been extensive discussion across the fields of economics, law and finance of the effects of corporate governance, the central challenge has been to find credible evidence of a causal impact of governance practices on firm value, financial development, and the wider process of economic development. This paper uses a sequence of corporate governance reforms in India as a source of exogenous variation. These reforms had several unusual features that facilitate identification of this causal effect. In particular, a large group of firms was exempted from the reforms, and the complex rules for the application of the reforms created considerable overlap in the characteristics of affected and unaffected firms. Moreover, the introduction of severe financial penalties for the violation of the new corporate governance rules took place after the rules were already in force, thus decoupling the effects of substantive legal rules and of enforcement.

Using this set of reforms, this paper finds a large and statistically significant positive effect (amounting to over 10% of firm value) of the governance reforms in combination with the sanctions. The primary contribution of the paper is thus to add to the very limited body of causal evidence for the proposition that corporate governance affects firm value. Moreover, the paper also highlights the role of enforcement – the substantive legal rules are shown to have no discernible effect until the stronger sanctions were introduced. The paper also explores the impact of the reforms on various other outcomes, though the short post-reform sample period makes it difficult to detect any changes in accounting performance, tunneling behavior, or foreign

investment. Rather, it appears that the increase in firm value capitalized expectations of longer-term benefits of the reforms.

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Figure 1: A Timeline of Clause 49 Reforms

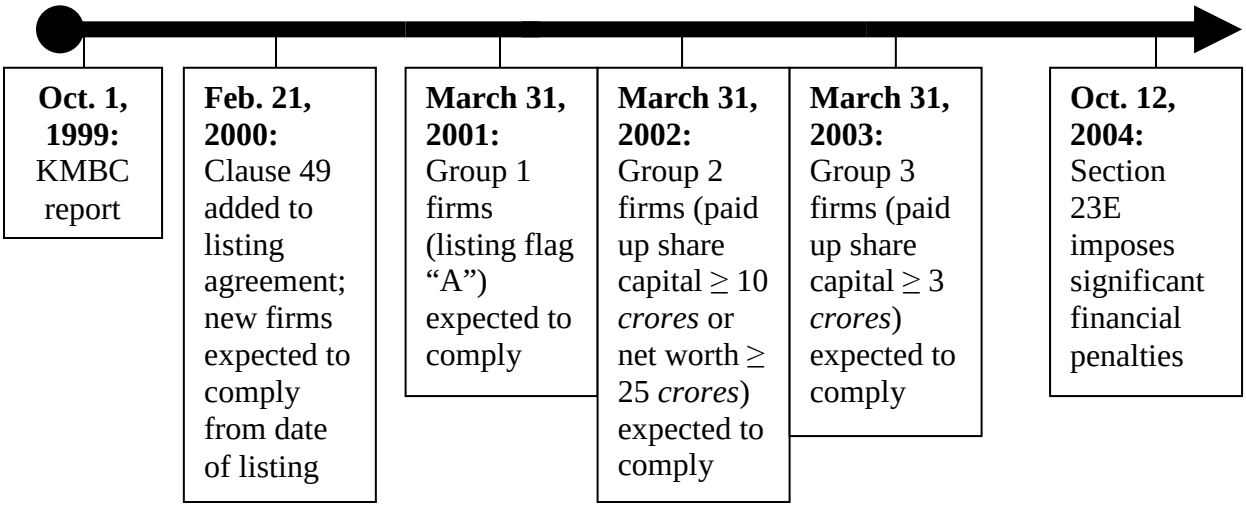
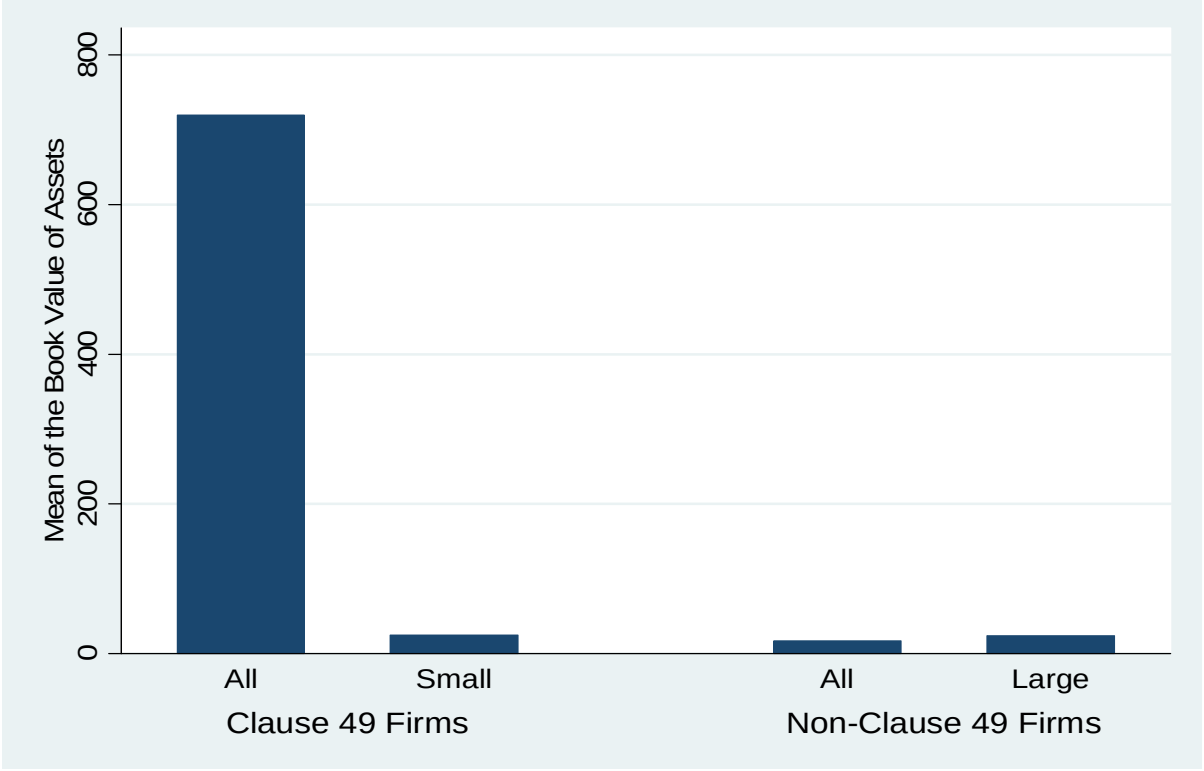
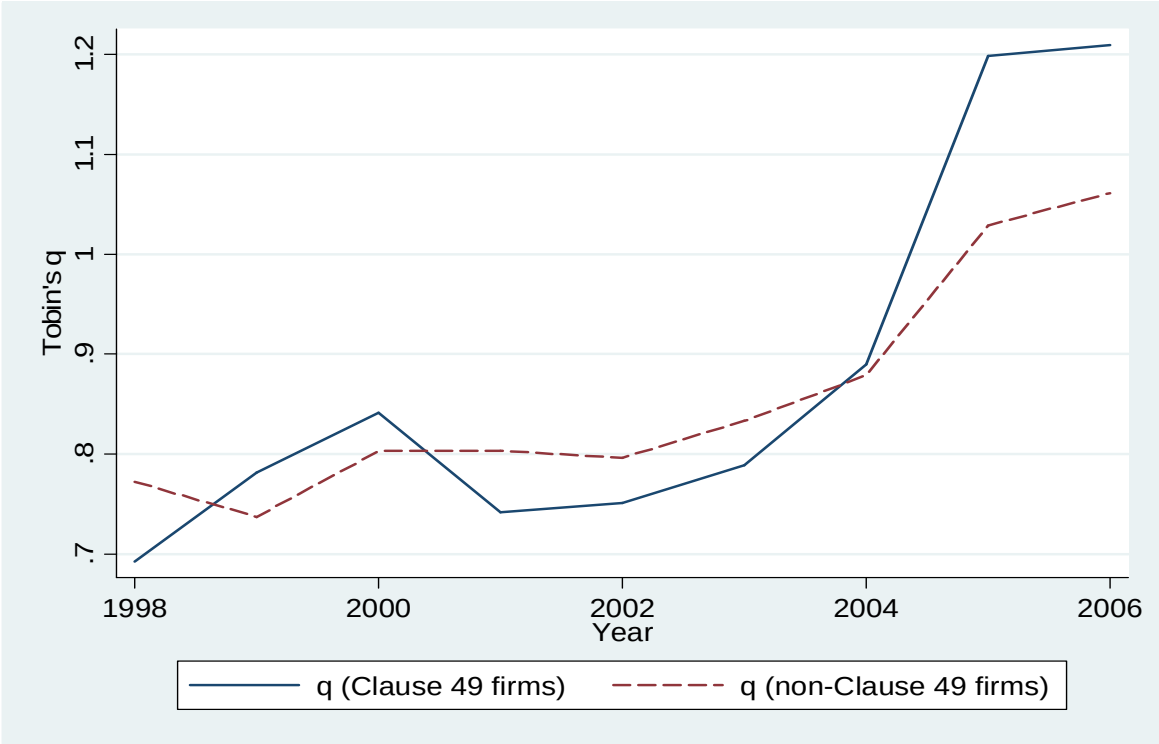


Figure 2: Asset Size of Clause 49 and Non-Clause 49 Firms



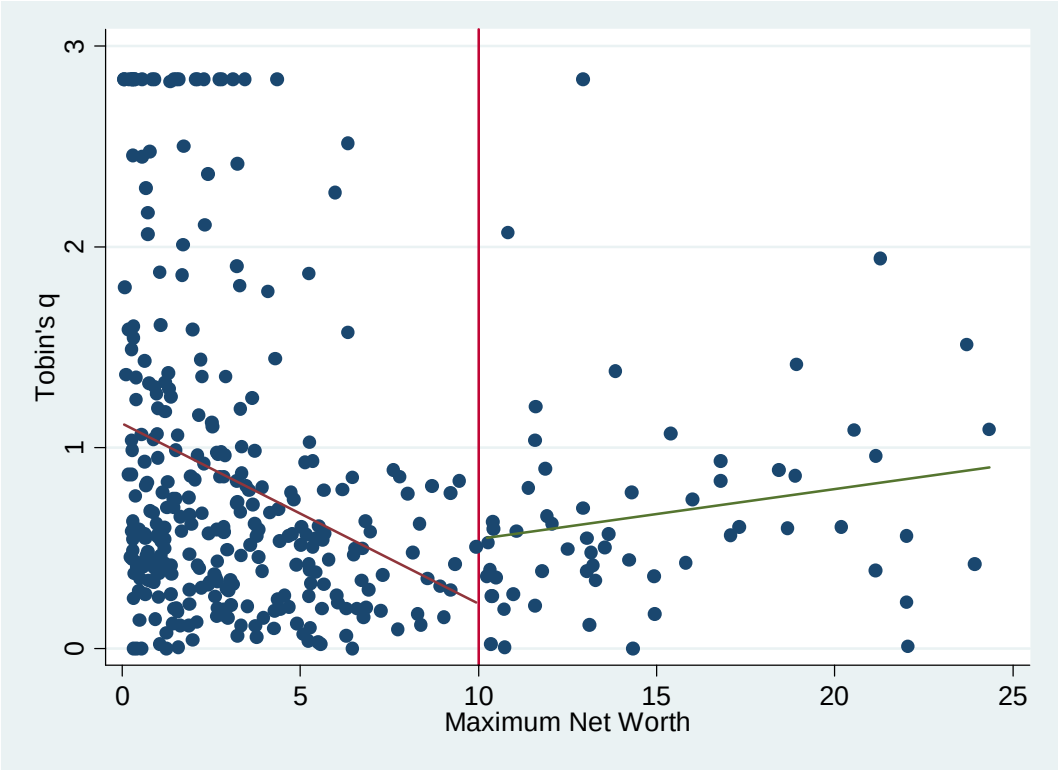
Note: This graph represents the mean book value of assets for four subgroups of firms, using the data on "total assets" in Prowess. Clause 49 firms are defined as all those that became subject to Clause 49 at some point over the sample period (including newly listed firms from 2000 subsequent years). All other firms are classified as "Non-Clause 49" firms. "Small" Clause 49 firms are defined as Group 3 firms (those with net worth < 25 *crores* and paid-up share capital < 10 *crores*, but with paid-up share capital ≥ 3 *crores*; these became subject to Clause 49 in 2003). "Large" non-Clause 49 firms are those with maximum paid-up share capital > 1.5 *crores*.

Figure 3: Tobin's *q* for Clause 49 and Non-Clause 49 Firms, 1998-2006



Note: This graph depicts annual mean Tobin's *q* (Winsorized at 5% from above) for Clause 49 and non-Clause 49 firms for each year of the sample period (1998-2006). Clause 49 firms are defined as all those that became subject to Clause 49 at some point over the sample period (including newly listed firms from 2000 subsequent years). All other firms are classified as "Non-Clause 49" firms.

Figure 4: Regression Discontinuity Analysis for 2004



Note: This graph illustrates Tobin's q in 2004 for firms that are close to the net worth threshold for the application of Clause 49 (i.e. $w_i = 10$ in Eq. (5)). Tobin's q is defined as in Eq. (1), and Winsorized at the 5% level from above. "Maximum Net Worth" is the maximum value of net worth observed for a given firm in the period up to (and including) 2004. The sample of firms is restricted to those firms with maximum net worth in the range 0-25 Rs. *crores*, and with paid up share capital below 3 Rs. *crores* (i.e. $s_i < 3$ in Eq. (5)). Note that, for these firms, the $w_i \geq 10$ threshold is binding, in the sense that (because they do not meet the $s_i \geq 3$ threshold) they are subject to Clause 49 and Section 23E if $w_i \geq 10$, and not subject if $w_i < 10$.

Table 1: Summary Statistics

Variable	Mean	Standard Deviation	Number of (Firm-Year) Observations
Tobin's *q* (Winsorized at 5% from above)	0.87	0.67	28672
(Clause 49)*(Section23E)	0.30	0.46	28672
Sales (Rs. *crores*)	356.56	3261.19	25415
Exports (Rs. *crores*)	36.26	352.77	25415
Current Liabilities (Rs. *crores*)	92.61	943.50	28672
R & D, capital account (Rs. *crores*)	0.32	5.18	28672
R & D, current account (Rs. *crores*)	18.80	506.44	28512
Advertising Expense (Rs. *crores*)	1.82	15.66	28672
Volatility	1.08	1.10	18550

Note: These descriptive statistics refer to the set of observations at the firm-year level for which the market price data required to compute Tobin's *q* exists (and which is used as the basic estimating sample in the regression analysis). Tobin's *q* is defined as in Eq. (1), and is Winsorized at the 5% level from above. "(Clause 49)*(Section23E)" is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). The volatility measure uses monthly data on firms' stock prices. For firm *i* in year *t*, it represents the standard deviation of firm *i*'s monthly price across the months of year *t*; this is annualized, and scaled by firm *i*'s mean (annual) stock price in year *t*. All other variables are as described in the text.

Table 2: Corporate Governance Reforms, Enforcement, and Firm Value – Basic Results

	(1)	(2)	(3)	(4)
	Dependent variable: Change in Tobin's *q*			
Changes in:				
(Clause49-firm)	**0.07174**	**0.06339**	**0.09278**	**0.09304**
*(Section23E)	**(0.02141)*** **	**(0.02401)*** **	**(0.03461)*** **	**(0.03479)*** **
Clause 49				-0.01360
Applicability (= 1)				(0.00936)
Sales			-0.00001	-0.00001
			(0.00001)	(0.00001)
Exports			-0.00002	-0.00002
			(0.00002)	(0.00002)
Current			-0.00004	-0.00004
Liabilities			(0.00002)*	(0.00002)*
R & D (capital			-0.00105	-0.00104
account)			(0.00067)	(0.00067)
R & D (current			-0.00001	-0.00001
account)			(0.00001)	(0.00001)
Advertising			-0.00036	-0.00036
Expense			(0.00028)	(0.00028)
Volatility			-0.00226	-0.00227
			(0.00440)	(0.00440)
Year Effects?	Y	Y	Y	Y
Firm-Specific Time Trends?	N	Y	Y	Y
No. of Obs.	22964	22964	12869	12869
No. of Firms	4087	4087	2642	2642
R-squared	0.08	0.10	0.19	0.19

Note: The dependent variable is the change in Tobin's *q*; *q* is defined as in Eq. (1), and Winsorized at the 5% level from above. The independent variable of interest is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). "Clause 49 Applicability" is an indicator variable that takes on the value 1 for firm-years in which firms were supposed to be complying with Clause 49; unlike the "Clause 49 firm" variable, it is time-varying for a given firm, based on the gradual implementation schedule illustrated in Figure 1. Robust standard errors (clustered at the firm level) are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3: Corporate Governance Reforms, Enforcement, and Firm Value – Robustness Checks for Influential Subsets of Firms and the Impact of CalPERS

	(1) Excluding Foreign and Government Controlled Firms	(2) Excluding Newly Listed Firms	(3) All Firms
	Dependent variable: Change in Tobin's *q*		
Changes in:			
(Clause49-firm)*(Section23E)	**0.08596**	**0.09341**	**0.11451**
	(0.03557)**	**(0.03458)*****	**(0.03898)*****
Foreign Institutional Ownership (%)			0.00710
			(0.00285)**
(Foreign Institutional Ownership) *(Post2003)			-0.00083
			(0.00176)
Basic Controls, Year Effects, and Firm-Specific Time Trends?	Y	Y	Y
No. of Obs.	11818	12805	8180
No. of Firms	2471	2612	2195
R-squared	0.19	0.19	0.27

Note: The dependent variable is the change in Tobin's *q*; *q* is defined as in Eq. (1), and Winsorized at the 5% level from above. The independent variable of interest is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). Foreign institutional ownership is the percentage of the firm's shares owned by foreign institutions; this is also interacted with an indicator for the years in which CalPERS invested in the Indian stock market (2004-2006). "Basic" controls are changes in sales, exports, current liabilities, R & D, advertising, and volatility (as in Table 2). Robust standard errors (clustered at the firm level) are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: Corporate Governance Reforms, Enforcement, and Firm Value – Robustness Checks Using Alternative Groups of Firms

	(1)	(2)	(3)
	Dependent variable: Changes in Tobin's *q*		
Treatment Group:	All Clause 49 Firms	Medium-Sized and Small Clause 49 Firms	Small Clause 49 Firms
Control Group:	Non-Clause 49 Firms with Max Share Cap > 1.5 *crores*	Non-Clause 49 Firms with Max Share Cap > 1.5 *crores*	Non-Clause 49 Firms with Max Share Cap > 1.5 *crores*
Changes in:			
(Clause49-firm) *(Section23E)	0.15299 (0.04805)***	0.13575 (0.04788)***	0.12367 (0.05348)**
Basic Controls, Year Effects, and Firm-Specific Time Trends?	Y	Y	Y
No. of Obs.	12553	11461	4889
No. of Firms	2565	2400	1316
R-squared	0.19	0.21	0.21

Note: The dependent variable is the change in Tobin's *q*; *q* is defined as in Eq. (1), and Winsorized at the 5% level from above. The independent variable of interest is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). "Basic" controls are changes in sales, exports, current liabilities, R & D, advertising, and volatility (as in Table 2). The control group of firms consists of those firms that were never subject to Clause 49, but for which the maximum observed value (over the sample period) of paid-in share capital exceeded 1.5 *crores*. In Column 1, the treatment group consists of all firms that were subject to Clause 49 at any stage (as in Table 2). In Column 2, the treatment group consists of these Clause 49 firms, excluding those (generally very large firms) with Bombay (Mumbai) stock exchange listing flag "A". In Column 3, the treatment group consists of Clause 49 firms, excluding those with listing flag "A" and those in Group 2 (i.e. with net worth ≥ 25 *crores* or paid-in share capital ≥ 10 *crores*). That is, the Column 3 treatment group consists only of Group 3 firms (as defined in the text), along with a small number of newly-listed firms. Robust standard errors (clustered at the firm level) are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Corporate Governance Reforms, Enforcement, and Firm Value – Regression Discontinuity Analysis

	(1) Dependent variable: Change in Tobin's q from 2003 to 2004; All firms	(2) Dependent variable: Change in Tobin's q from 2002 to 2003; All firms	(3) Dependent variable: Change in Tobin's q from 2004 to 2005; All firms	(4) Dependent variable: Change in Tobin's q from 2003 to 2004; Excluding large and very small firms	(5) Dependent variable: Change in Tobin's q from 2003 to 2004; Excluding large, medium and very small firms
Clause 49 Firm (= 1)	**0.04939 (0.02445)****	**-0.01481 (0.03415)**	**-0.00242 (0.04996)**	**0.07594 (0.02887)*****	**0.07412 (0.04197)***
Paid-up Share Capital	0.00007 (0.00005)	0.00005 (0.00004)	-0.00001 (0.00003)	-0.00020 (0.00022)	-0.00961 (0.00785)
Net Worth	0.00001 (0.000004)	0.00001 (0.000005)*	-0.00001 (0.000005)***	0.00017 (0.00008)**	0.00111 (0.00248)
Constant	0.07756 (0.02342)***	0.06212 (0.03321)*	0.34727 (0.04886)***	0.03321 (0.02821)	0.04526 (0.04496)
Changes in Basic Controls, and Industry Effects?	Y	Y	Y	Y	Y
No. of Obs.	1835	1754	1863	1626	670
No. of Industries	175	175	174	170	129
R-squared	0.12	0.13	0.20	0.12	0.10

Note: The dependent variable is the change in Tobin's q for the specified years; q is defined as in Eq. (1), and Winsorized at the 5% level from above. The independent variable of interest is an indicator for those firms that were subject to Clause 49 as of 2003 (including newly listed firms from 2000 onwards). "Basic" controls are changes in sales, exports, current liabilities, R & D, advertising, and volatility (as in Table 2). Industry effects are defined for groups of 181 different industries. Robust standard errors (clustered at the firm level) are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 6: Corporate Governance Reforms, Enforcement, and Accounting Performance

	(1) Dependent variable: Change in Profits	(2) Dependent variable: Change in Profits	(3) Dependent variable: Change in Return on Assets	(4) Dependent variable: Change in Return on Assets
Changes in:				
(Clause49-firm)	**8.13592**	**2.26844**	**0.02198**	**0.01763**
*(Section23E)	**(1.69381)*** **	**(1.98376)**	**(0.02054)**	**(0.02462)**
Year Effects?	Y	Y	Y	Y
Firm-Specific Time Trends?	N	Y	N	Y
No. of Obs.	45180	45180	44949	44949
No. of Firms	8956	8956	8945	8945
R-squared	0.0012	0.0014	0.0018	0.0020

Note: The dependent variable in Columns 1 and 2 is profits before depreciation, interest and taxes (PBDIT). The dependent variable in Columns 3 and 4 is the return on assets, computed as PBDIT divided by total assets. The independent variable of interest is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). Robust standard errors (clustered at the firm level) are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 7: Corporate Governance Reforms, Enforcement, and Tunneling

	(1) Business Group and Stand-Alone Firms	(2) Business Group and Stand-Alone Firms	(3) Business Group Firms	(4) Business Group Firms
		Dependent variable: Profits		
Industry Shock	14.8337	14.3523	54.3096	22.7635
	(13.2551)	(12.9163)	(22.4159)**	(16.9722)
(Group Firm)*(Industry Shock)	-0.1428	-0.7141		
	(0.2589)	(0.4299)*		
(Clause49 Firm)*(Section23E)		6.0687	48.0008	23.7720
		(3.9873)	(15.1709)***	(7.3288)***
Clause49 Applicability		-5.6041	-69.0701	-2.5093
		(2.5104)**	(21.0732)***	(5.6547)
(Group Firm)*(Industry Shock)		**0.1746**		
(Clause49 Firm)(Section23E)		**(0.1031)***		
(Group Firm)*(Industry Shock)		**0.2865**		
*(Clause49 Applicability)		**(0.1476)***		
Inside Ownership			-0.0876	
			(0.5948)	
(Inside Ownership)*(Industry Shock)			0.0070	
			(0.0060)	
(Inside Ownership)*(Industry Shock)			**0.0016**	
(Clause49 Firm)(Section23E)			**(0.0039)**	
(Inside Ownership)*(Industry Shock)			**-0.0055**	
*(Clause49 Applicability)			**(0.0024)****	
Group Shock				-0.1410
				(0.1764)
(Group Shock)*(Industry Shock)				**0.0137**
(Clause49 Firm)(Section23E)				**(0.0369)**
(Group Shock)*(Industry Shock)				**0.0181**
*(Clause49 Applicability)				**(0.0598)**
Log of Assets, Interaction Terms, Year Effects, and Firm Effects?	Y	Y	Y	Y
No. of Obs.	47795	47795	6285	17410
No. of Firms	7700	7700	1315	2720
R-squared	0.17	0.18	0.19	0.25

Note: The dependent variable is profits before depreciation, interest and taxes (PBDIT). The independent variable of interest is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). The industry shock is the mean PBDIT in that year for the firm's industry (excluding the firm's own PBDIT from the calculation). "Group Firm" is an indicator variable = 1 for firms that belong to business groups.

"(Clause 49)*(Section23E)" is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). "Clause 49 Applicability" is an indicator variable that takes on the value 1 for firm-years in which firms were supposed to be complying with Clause 49. The group shock is the mean PBDIT in that year for the firm's industry (excluding the firm's own PBDIT from the calculation). All other variables are as defined in the text. The sample excludes foreign-controlled and government-controlled firms. Robust standard errors (clustered at the firm level) are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 8: Corporate Governance Reforms, Enforcement, and Foreign Institutional Investment

	(1) Dependent variable: Foreign Institutional Ownership as a Fraction of Outside Ownership	(2) Dependent variable: Foreign Institutional Ownership as a Fraction of Outside Ownership	(3) Dependent variable: Foreign Institutional Ownership as a Fraction of Institutional Ownership	(4) Dependent variable: Foreign Institutional Ownership as a Fraction of Institutional Ownership
Changes in:				
(Clause49-firm)	**0.00442**	**-0.00277**	**0.01578**	**-0.00159**
*(Section23E)	**(0.00141)*** **	**(0.00176)**	**(0.00998)**	**(0.01303)**
Year Effects?	Y	Y	Y	Y
Firm-Specific Time Trends?	N	Y	N	Y
No. of Obs.	13205	13205	9308	9308
No. of Firms	3585	3585	2526	2526
R-squared	0.01	0.01	0.01	0.01

Note: The dependent variable in Columns 1 and 2 is foreign institutional ownership as a fraction of all outside ("nonpromoter") ownership. The dependent variable in Columns 3 and 4 is foreign institutional ownership as a fraction of all institutional outside ("nonpromoter") ownership. The independent variable of interest is an interaction term between an indicator for those firms that were subject to Clause 49 at any stage (including newly listed firms from 2000 onwards) and an indicator for the years in which Section 23E applied (2004-2006). Robust standard errors (clustered at the firm level) in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix 1: Summary of Clause 49

Characteristic	Clause 49
Director Independence	• Requirement – 50% independent directors if Chairman is executive director or 33% if Chairman is a nonexecutive. • Definition – no material pecuniary relationship with company, not related to Board or one level below Board and no prior relationship with the Company for the last 3 years. • Nominee Directors of Financial Institutions - considered independent..
Board Requirements & Limitations	• Meet 4 times a year (maximum 3 months between meetings) • Limits on number of committees a director can be on (10), but only 5 for which director can be Chair of committee. • Code of Conduct (Ethics) required.
Audit Committee Composition	• At least 3 directors (two-thirds must be independent). • All financially literate. • At least one having accounting or financial management experience.
Audit Committee Role & Powers	• minimum 4 meetings/year (gap between meetings not exceed 4 months). • broad role – review statutory and internal auditors as well as internal audit function, obtain outside legal or other professional advise, and review whistleblower program if one exists amongst other things.
Disclosures	• Related party transactions, • Accounting treatments and departures, • Risk management, • Annual report include discussion of internal controls adequacy, significant trends, risks, and opportunities, • Proceeds from offerings, • Compensation for directors (including nonexecutives and obtain shareholders' approval), • Details of compliance history for last 3 years. • Corporate governance reports (and disclose adoption, if any, of mandatory and non-mandatory requirements).
Certifications	• CEO & CFO: ▪ financial statements ▪ effectiveness of internal controls ▪ inform audit committee of any significant changes in the above. • Auditor or Company Secretary: ▪ Compliance with corporate governance
Subsidiary Companies	• At least one Independent director of Holding Company should sit as a director on Board of material non-listed Indian subsidiary. • Significant transactions report to Holding Company Board (along with subsidiary board's minutes).
Other	Recommendations: • Whistleblower policy is optional • Independent directors loses status as "independent" if served 9 years at company • Training board members • Evaluate nonexecutive board performance.