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The Impact of Mandated Corporate Social Responsibility: Evidence from India's Companies Act of 2013

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Abstract

Firms' Corporate Social Responsibility (CSR) activity has become the subject of a large literature in recent years. This paper analyzes CSR activity using quasi-experimental variation created by Section 135 of India's Companies Act of 2013, which requires (on a "comply-or-explain" basis) that firms satisfying specific size or profit thresholds spend a minimum of 2% of their net profit on CSR. We examine effects along a number of different dimensions including firm value, CSR spending, and other outcomes, as well as exploring broader theoretical implications. Our analysis uses financial statement and stock price data on Indian firms from the Prowess database, along with hand-collected data from firms' disclosures of CSR activity. By combining a regression discontinuity (RD) framework (based on a nonparametric local polynomial regression approach) with a standard event study, we find a negative and substantial effect on the value of affected firms (relative to unaffected firms) around the crucial event date. This effect seems to be concentrated among firms that are less customer-facing, as indicated by low advertising expenditures. Using a difference-in-difference approach, we find significant increases in CSR activity among firms affected by Section 135, especially in the fraction of firms engaging in CSR spending. The fraction of firms subject to Section 135 that engage in advertising expenditures appears to have declined, consistent with substitution between advertising and CSR. There is no robust evidence of any significant impact on sales or accounting performance, although a modest decline in the return on assets cannot be ruled out. For a subset of large firms, we hand-collect comprehensive CSR data and find that while firms initially spending less than 2% increased their CSR activity, large firms initially spending more than 2% reduced their CSR expenditures after Section 135 came into effect. We explore various explanations for this presumably unintended consequence of Section 135, and also seek to derive some wider implications of this analysis for understanding the role of CSR.

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1) Introduction

A vast literature on firms' Corporate Social Responsibility (CSR) activity has emerged in recent years across a number of scholarly disciplines, including law, economics, management, accounting, and finance.¹ Indeed, understanding the determinants and consequences of firms' CSR activity illuminates various important issues surrounding firm behavior and corporate governance, as well as much broader questions about the private provision of public goods and the role of corporations in society. For example, one longstanding concern is whether CSR activity reflects agency problems – i.e. represents the extraction of private benefits by insiders – or instead enhances shareholder value.²

This paper analyzes the impact of exogenously mandated CSR requirements on firm value, on CSR activity, and on various other outcomes such as advertising expenditures, sales revenue, and accounting performance. It uses quasi-experimental variation created by Section 135 of India's Companies Act of 2013, which requires (on a “comply-or-explain” basis) that firms satisfying specific size or profit thresholds undertake CSR activity.³ A large prior literature has examined the consequences of CSR spending on share prices, operating performance, ownership structure, and other outcomes.⁴ However, in most studies the variation in CSR expenditures is endogenously determined by the firm (e.g. Clacher and Hagedorff, 2012). To the best of our knowledge, India's 2013 Companies Act provides the only example to date of a

¹ Kitzmueller and Shimshack (2012) provide a survey of this extensive literature. CSR is typically defined to include various forms of charitable activity and the reduction of negative firm externalities to a greater extent than required by law.

² Recently, Cheng, Hong and Shue (2014) argue that exogenous improvements in governance lead to reduced growth in CSR spending. They use the 2003 tax reform in the US (that reduced tax rates on dividends) as source of variation in insider ownership. They also find that close shareholder votes (just above 50%) for measures that improve governance lead to slower CSR growth. On the other hand, Ferrell, Liang and Renneboog (2016) use a dataset of firms across a large number of countries and find that better governance is associated with higher CSR expenditures, suggesting that CSR is not primarily attributable to agency problems, but rather to efforts to increase firm value. They analyze the impact of proxies for agency problems on the level of CSR spending by firms. While some of these proxies – such as managerial compensation structure – are determined by the firm simultaneously with its choice of CSR, others – such as investor protection laws at the country level - are plausibly exogenous to the firm.

³ See the summary of Section 135 by the accounting firm Grant Thornton, available at: http://gtw3.granthornton.in/assets/Companies_Act-CSR.pdf

⁴ For instance, Dimson, Karakas and Li (2015) analyze a sample of CSR-related engagements by a large institutional investor with US firms. They find that firms where the engagement was successful experience improved accounting performance and governance outcomes, relative to firms where the engagement was unsuccessful.

legislative mandate to engage in CSR activity, and its thresholds for applicability provide an extremely rare instance of quasi-experimental variation in CSR expenditures.⁵

Section 135 requires (on a “comply-or-explain” basis) that firms satisfying certain size or profit thresholds spend at least 2% of the average of their (pretax domestic) profit over the last 3 years, if any, on CSR activity. The law also requires that firms above the threshold establish a CSR Committee of the Board of Directors. This committee is responsible for formulating the firm’s CSR policy, for ensuring that at least 2% of profits are spent on CSR activity, and (where applicable) for explaining why the firm failed to achieve the target. Schedule VII of the 2013 Companies Act provides an illustrative (but apparently not exhaustive) list of activities qualifying for CSR status for purposes of the mandate, as discussed in Section 2 below.

The threshold for the application of Section 135 is multi-faceted, based on turnover (i.e. sales revenue), net profits and the concept of “net worth” (the face value of shares originally issued by the corporation, adjusted for subsequent retained earnings and various reserves). The net worth threshold is set at Indian Rupees (INR) 5 billion (or INR 500 *crores*⁶), the sales threshold at INR 10 billion, and the net profit threshold at INR 50 million, with any firm satisfying at least one of these criteria being subject to the CSR requirement. Importantly, these particular thresholds apply only to Section 135, and were not associated with any other requirements in Indian company law. The net worth and sales thresholds are set at a level that applies to around a quarter of Indian firms, while the net profit threshold is set around the profits of the median firm. Because it is typically the net profit threshold that is binding, we focus on this threshold in our primary empirical tests.

The Companies Act of 2013 was enacted on 29 August 2013, and came into effect for the 2015 fiscal year (i.e. the fiscal year ending on March 31, 2015). The key event dates that marked its passage through Parliament are summarized in Table 1. The bill underwent extensive discussion and debate over a number of years prior to final enactment. The notion that firms would be encouraged to voluntarily undertake CSR was first mooted in late 2009. The first announcement of a mandatory CSR requirement for firms above the thresholds noted above was

⁵ Flammer (2015) finds a positive effect of CSR activity on financial performance, comparing the effects of CSR-related shareholder proposals that pass by a narrow majority to those of proposals that narrowly fail. However, CSR proposals that are initiated by shareholders may arguably be systematically different in their value effects from CSR that is mandated by company law or that is chosen by firm insiders.

⁶ In India a *crore* refers to 10 million INR; thus, for instance, 500 *crores* is identical to 5 billion INR (roughly US\$77 million or £55 million at an exchange rate of 1 USD = 65 INR).

made on August 6, 2010. Subsequent media reports (on December 24, 2010 and various later dates) suggested that this measure would be weakened to a “comply-or-explain” obligation. A “comply-or-explain” CSR obligation was included as part of the Companies Bill in July 2011. The bill was passed by the lower house of Parliament on 18 December 2012 and by the upper house on 8 August 2013 (receiving the President’s assent on 29 August 2013).

We present a simple theoretical model of CSR activity by a firm with a controlling shareholder, and characterize the impact of a legal provision mandating a minimum level of CSR spending. Our empirical tests are guided by the model, and address the impact of Section 135 on firm value, CSR activity, and outcomes such as advertising, sales, and accounting performance. To address the effect on firm value, we combine a standard event study methodology with a regression discontinuity (RD) design based on the INR 50 million net profit threshold. We first compute abnormal stock market returns around the relevant event dates, using stock price data from the Prowess database.⁷ We then compare abnormal returns for firms just above the net profit threshold with those for firms just below the threshold. As is standard in the current literature, we use a nonparametric local polynomial regression approach in implementing our RD framework (e.g. Hahn, Todd, and van der Klaauw, 2001; Calonico, Cattaneo, and Titiunik, 2014a).

On the first event date (August 6, 2010, when a CSR mandate was announced), we find a substantial negative effect on the value of firms that became subject to the CSR requirement (which at that time was expected to be mandatory, rather than a “comply-or-explain” regulation). The estimated decline in firm value is about 2.6% to 3.3%, depending on the specification. This exceeds the CSR requirement of 2%, possibly reflecting the compliance and disclosure costs of establishing a CSR committee and program. The effect seems to be concentrated among firms that are less customer-facing, as indicated by low advertising expenditures. The RD estimates for all subsequent event dates are statistically insignificant and generally small in magnitude. Overall, these results suggest that Section 135 reduced the value of firms by a magnitude comparable to (or even larger than) the amount of CSR spending that the provision required. The

⁷ The Prowess database, maintained by the Center for Monitoring the Indian Economy (CMIE), reports financial statements, share prices, and other relevant data for publicly traded Indian corporations). For more details on the Prowess database and for background on Indian corporate law and governance, see e.g. Dharmapala and Khanna (2013).

size of the effect suggests that private returns to CSR activity are quite small for firms around the threshold.

In the accounting literature, an event study by Manchiraju and Rajgopal (2017) makes an important contribution to understanding the effects of Section 135 on firm value. There are a number of significant differences between their study and ours that are detailed in Section 4 below; most importantly, they do not use a nonparametric local polynomial regression approach to analyze effects on firm value, and they limit their analysis solely to firm value whereas we engage in a more comprehensive study of the impact of this law on a wide range of outcomes, including CSR expenditures. Despite these differences, their basic results on firm value are quite similar to ours.

Most firms were not required to disclose CSR spending or activity until Section 135 took effect in fiscal year 2015. In light of this, we adopt two strategies to gather data on CSR activity. First, from 2012 onwards we can construct proxies for CSR expenditures from Prowess data, but the disclosure of these items was voluntary and thus subject to concerns about self-selection. Treating missing CSR observations as zeroes, we implement a difference-in-difference approach using panel data from Prowess over 2012-2015. The results indicate a substantial increase in CSR activity among firms subject to Section 135. This is particularly marked along the extensive margin (i.e. in the fraction of firms engaging in positive amounts of CSR spending). We also examine the impact of Section 135 on various other firm-level outcomes. There is some evidence of a decline in the fraction of firms subject to Section 135 engaging in advertising, which is consistent with some degree of substitution between advertising and CSR spending. There is no robust evidence of any significant impact on sales, perhaps reflecting optimization by firms along this dimension prior to the reform. Some of the compliance and disclosure costs of Section 135 would imply declines in accounting performance. However, there is no statistically significant impact on firms' return on assets (ROA) that is detectable, although a modest decline in ROA cannot be ruled out.

Second, for a subsample consisting of the largest 100 firms, the self-selection issue noted earlier can be overcome because India's securities regulator – the Securities and Exchange Board of India (SEBI) – required these firms to disclose their CSR spending in the year prior to the Companies Act 2013 taking effect. Although the sample size is quite small (just the top 100 firms), it is apparent that firms initially spending less than 2% of their profits on CSR increased

their CSR activity, while those that were initially spending more than 2% reduced their CSR expenditures towards 2% after Section 135 came into effect. On balance, however, the former effect was larger than the latter, so that aggregate CSR spending increased in this sample. Additional tests suggest that the latter effect does not seem attributable to mean reversion in CSR spending. We explore various explanations for this presumably unintended consequence of Section 135.

The paper also seeks to elucidate some of the wider implications of this policy for understanding the role of CSR. CSR mandates seem analogous to taxes but are also different in important respects. We explore the conditions under which CSR mandates on firms may be optimal responses by a (relatively benevolent) government to concerns with the provision of these activities by the government (e.g., governance failures, weak information on the part of the government on effective providers of CSR services, or corruption at mid-level government bodies). More generally, the pioneering episode of mandated CSR represented by Section 135 provides both a new source of quasi-experimental evidence and highlights the need for new conceptual frameworks to understand the wider implications of CSR. However, we emphasize that our paper focuses on assessing the firm value, CSR spending and other outcomes of a rule *mandating* CSR in India. Our results cannot necessarily be extrapolated to the effects of *voluntary* CSR spending or to the *social value* (rather than private firm value) of CSR.⁸

The paper proceeds as follows. Section 2 discusses the legislative history of the Companies Act of 2013 and identifies the key event dates. Section 3 presents a simple model of CSR spending. Section 4 describes the dataset and presents the empirical strategy and results. Section 5 discusses the implications of the results, and Section 6 concludes.

2) The Legislative History of the Companies Act of 2013 and of Section 135

India is the first country to require that some firms spend a percentage of their profits on socially responsible activities (as designated by law), or explain why they do not. This rule is part of Section 135 of the Companies Act 2013, which lays out the approach to CSR in two broad steps – first, by specifying which firms are subject to Section 135, and second, by specifying the obligations of these firms. Section 135 only applies to firms that satisfy at least

⁸ Indeed, some prior research has found evidence that voluntary CSR in the US is profitable and valuable to firms and to society (e.g. Ioannou and Serafeim 2015; Flammer 2015).

one of three thresholds in any financial year – either having net worth (the face value of shares originally issued by the corporation, adjusted for subsequent retained earnings and various reserves) exceeding INR 5 billion (~USD 77 Million),⁹ turnover (i.e., sales) exceeding INR 10 billion (~USD 154 Million), or net profits exceeding INR 50 million (~USD 770,000).¹⁰ All publicly traded and privately held firms with operations in India (including foreign-owned firms) are subject to Section 135 if they cross any of the thresholds.¹¹ Moreover, the “in any financial year” language appears to indicate that these thresholds apply going forward from the effective date of the Companies Act 2013.

If a firm crosses any of these thresholds, then:

- (i) it must constitute a “Corporate Social Responsibility” (CSR) committee with 3 directors, of which one must be independent,¹²
- (ii) it must disclose the composition of the CSR committee,¹³
- (iii) the CSR committee must formulate a CSR policy recommending the kinds and amounts of CSR spending the firm is to pursue and the committee must monitor that policy,¹⁴
- (iv) the Board is to approve and publicize the firm’s CSR policy (after taking into account the CSR committee’s recommendations) and to ensure that the policy is followed,¹⁵ and
- (v) the Board is to ensure that the firm spends at least 2% of the firm’s average net profits (over the last 3 years) on activities listed in the firm’s CSR Policy or provide reasons for why this spending level was not achieved (i.e., a “comply-or-explain” rule).¹⁶

⁹ Net worth is based on a firm’s “paid up share capital” (the number of shares outstanding, multiplied by the face value at which the share certificates were originally issued), but also takes account of the face value of preferred stock, and adjusts for retained earnings and various reserves (see Dharmapala and Khanna, 2013).

¹⁰ Section 135 (1), Companies Act 2013. The US Dollar totals are based on an exchange rate of 1 USD = 65 INR.

¹¹ Ministry of Corporate Affairs, *Companies (Corporate Social Responsibility Policy) Rules* (2014) (*hereinafter* CSR Rules).

¹² *Id.*

¹³ Section 135 (2), Companies Act 2013.

¹⁴ Section 135 (3), Companies Act 2013.

¹⁵ Section 135 (4), Companies Act 2013.

¹⁶ Section 135 (5), Companies Act 2013. Section 135 (5) also notes that the firm should give preference to CSR spending in its local areas; this has generated some negative commentary (Afsharipour and Rana, 2014).

It is noteworthy that the “comply-or-explain” rule only applies to the amount spent on CSR (i.e., 2% of average net profits); the other requirements (items (i) to (iv)) are mandatory and failure to meet them would trigger liability regardless of what explanation was provided. Failure to meet the 2% spending requirement would not trigger liability if an acceptable explanation for failing to meet it was provided (although it is not entirely clear to whom such an explanation must be provided and what the standard of “acceptability” is). If such an explanation is not provided and the firm failed to spend at least 2% of average net profits on CSR activities then liability would be triggered here too. The penalty on the firm and every officer of the firm who violates Section 135 is INR 10,000 for the first day of the violation plus an additional INR 1,000 a day if the violation continues.¹⁷

Finally, the Ministry of Corporate Affairs (MCA) has promulgated a set of rules in 2014 that provides a list of the activities that satisfy the requirement for CSR spending.¹⁸ The activities listed are very broad and cover a large swath of what is typically considered CSR and perhaps more (e.g., spending on education, health, poverty eradication, environment, arts, gender equality, reducing other inequalities, some designated government programs, funds for technology incubators in Government Academic institutions),¹⁹ thereby leaving firms with considerable discretion in directing their CSR spending. However, the MCA’s rules do not count as CSR spending those expenditures that would have been undertaken in the normal course of business, that are meant to benefit employees or political parties, or that relate to activities occurring outside of India.²⁰

Section 135 is part of the Companies Act 2013, which has been the subject of discussion for quite some time. Prior to the 2013 Act, India’s Companies Law was governed by the Companies Act 1956 and there had been considerable interest in overhauling it since India began the process of liberalizing its economy in the 1990s.²¹ The first public intimation of the

¹⁷ Section 450, Companies Act 2013 (also attaching liability to other persons who are in default). Although it is not clear who is to enforce Section 135 from its wording, one can assume that it is the Ministry of Corporate Affairs. Note that if the violation is repeated within a 3 year period the fine can be doubled – Section 451, Companies Act 2013.

¹⁸ CSR Rules (2014). These rules become part of Schedule VII of the Companies Act 2013.

¹⁹ CSR Rules (2014).

²⁰ CSR Rules (2014). These rules also note that CSR activities can be undertaken through a third party registered society, trust or Section 8 (of the Companies Act) entity, or by a similar entity of the firm, or via collaboration with other firms or entities.

²¹ The Irani Committee Report (2005) proposed a series of changes to India’s Companies Law that would have granted firms greater power to customize corporate governance to suit their ends. Although the report did not

Government's interest in socially responsible spending by firms came in December 2009 when the Ministry of Corporate Affairs (MCA) released a voluntary code on corporate social responsibility that exhorted firms to engage in socially responsible behavior (CSR Voluntary Guidelines (2009)).²² These voluntary guidelines did not appear to have much effect - CSR activity was by no means common among Indian firms even after the 2009 guidelines (Afsharipour, 2011; Van Zile, 2012).²³

An important news story on August 6, 2010 revealed that the Government was planning to enact a new provision in the Companies Law that would require firms above certain thresholds to develop a CSR Policy to ensure that they contributed at least 2% of their annual net profits to CSR.²⁴ The thresholds quoted in the news story are precisely the same ones that became part of Section 135, as is the 2% requirement. No other provision in the Companies Act or earlier Companies Bills used these thresholds. Thus, this is – to the best of our knowledge - the first time the market learned of a mandatory CSR requirement, the amount involved, and the applicable thresholds. The news story does not, however, discuss the possibility of requiring a CSR committee.

contain any provisions on CSR, it did note that corporations were expected to contribute not just to the economic well-being of the country but also to its social well-being.

²² Although the voluntary guidelines did not require firms to engage in CSR, they brought into focus concerns that had been percolating for some time. These included concerns that India's phased liberalization program, that began in earnest around 1991, may have benefited only a small subset of players in the economy, that income inequality had grown, and that the "business sector also needs to take the responsibility of exhibiting socially responsible business practices that ensures the distribution of wealth and well being of the communities in which the business operates" (CSR Voluntary Guidelines (2009, p. 5)). Absent some attempts to balance these effects (such as a CSR initiative), continuing liberalization was likely to face some strong political headwinds (Van Zile, 2012). Moreover, academic discussion in India seemed to be moving toward a "trusteeship" model of governance that appeared more likely to facilitate CSR regulation (Balasubramanian, 2010).

²³ See *Standing Committee on Finance*, Twenty-First Report (The Companies Bill, 2009), Lok Sabha, Clause 49, available at <http://www.prsindia.org/uploads/media/Companies%20Bill%202009.pdf>. See also *Times Foundation, Corporate Social Responsibility Practices in India* (2010). Available at <http://timesfoundation.indiatimes.com/articleshow/4662536.cms>.

See also Viji Sundaram, *Vinod Khosla To Donate Half His Fortune to Charity*, New America Media, May 18, 2011. Available at: <http://ethnoblog.newamericamedia.org/2011/05/vinod-khosla-to-donate-half-his-fortune-to-charity.php>.

²⁴ See *Mandatory CSR not a great idea, feels India Inc.*, MONEYCONTROL, CNBC-TV18 News, August 6, 2010. Available at: <http://www.moneycontrol.com/news/business/mandatory-csr-not-great-idea-feels-india-inc-475926.html>. This was also discussed in a closely followed Blog website on corporate matters in India. See Umakanth Varottil, *Viability of Mandatory CSR*, INDIACORPLAWBLOG, August 7, 2010. Available at: <http://indiacorplaw.blogspot.com/2010/08/viability-of-mandatory-csr.html>.

The response of Indian business (often known collectively as “India Inc.”) to this proposal was decidedly negative.²⁵ In short order, the Confederation of Indian Industry (a very large trade group) came out against such a rule, as did others.²⁶ These concerns not only reflected worries about mandating behavior previously thought to be voluntary, but also concerns that the CSR mandate might signal instability in the overall liberalization process. Despite the negative reaction of India Inc., the draft of the proposed CSR requirement put forward by the Standing Committee of Finance on September 8, 2010 largely tracks the news report of August 6, 2010. However, it appears to be silent on a penalty for non-compliance, preferring to rely on disclosure of non-compliance as the remedy.²⁷ However, by December 24, 2010 news reports indicate that the Government began to back away from its mandatory CSR requirement and now seemed to be adopting a “comply-or-explain” rule rather than a mandatory one.²⁸ This was largely confirmed by February 10, 2011 when news reports emerged that the MCA was planning to accept the Standing Committee on Finance’s recommendations on CSR but would rely on a “comply-or-explain” rule as its enforcement mechanism on the 2% spending requirement.²⁹ More commentary on the move away from mandatory CSR appeared on March 14, 2011.³⁰

The discussion of the mandatory or comply-or-explain rule was officially settled on July 11, 2011 when the Companies Bill was tabled in front of the lower house of Parliament (the *Lok Sabha*) containing the provision that became Section 135 and the “comply-or-explain” language.³¹ The Bill sat in the *Lok Sabha* for some time and was finally enacted by it on

²⁵ As early as the first news reports on August 6, 2010, Indian firms responded with concerns about mandating CSR. See MONEYCONTROL, CNBC-TV18 News, August 6, 2010, *op. cit.*

²⁶ See Akhila Vijayaraghavan, *Indian Industries Oppose Mandatory CSR Reporting*, JUST MEANS, August 16, 2010. Available at: <http://www.justmeans.com/editorials?action=readeditorial&p=26759>. *IT CEOs back Premji against mandatory CSR*, TIMES OF INDIA, March 26,

2011. Available at: http://articles.timesofindia.indiatimes.com/2011-03-26/software-services/29191926_1_csr-azim-premji-corporate-social-responsibility; *CSR Spend on Cards for India Inc.*, INDIAN EXPRESS, February 9, 2011. Available at: <http://www.indianexpress.com/news/2-csr-spend-on-cards-for-india-inc/747860/0>.

²⁷ See *India Inc faces 2% CSR levy*, BUSINESS STANDARD, September 8, 2010. Available at: http://www.business-standard.com/article/economy-policy/india-inc-faces-2-csr-levy-110090800022_1.html.

²⁸ See *It’s Their Business*, TIMES OF INDIA, December 24, 2010. Available at: <http://timesofindia.indiatimes.com/edit-page/Its-Their-Business/articleshow/7152001.cms>.

²⁹ See Sidhartha, *Companies Law Set to Mandate 2% CSR Spend*, TIMES OF INDIA, February 10, 2011. Available at: <http://timesofindia.indiatimes.com/india/Companies-law-set-to-mandate-2-CSR-spend/articleshow/7464529.cms>.

³⁰ See Akhila Vijayaraghavan, *India CSR: 2% Spend No Longer Mandatory, Govt Rules*, JUST MEANS, March 14, 2011 (noting that people should move away from a “mandatory or not” discussion towards a discussion on how CSR is a valid business strategy). Available at: <http://www.justmeans.com/blogs/india-csr-2-spend-no-longer-mandatory-govt-rules>.

³¹ The Companies Bill (Proposed), 2011, No. 121, Lok Sabha, Clause 135, http://www.mca.gov.in/Ministry/pdf/The_Companies_Bill_2011.pdf.

December 18, 2012. The Bill then went to the upper house of Parliament (the *Rajya Sabha*) and was enacted by it on August 8, 2013, receiving Presidential Assent on August 29, 2013.³² A summary of the dates on which relevant events and news stories occurred is provided in Table 1.

3) A Simple Model of CSR Spending

Before proceeding to the empirical analysis, we develop a simple theoretical framework for analyzing firms' decisions regarding CSR spending. Consider a firm that has exogenous value \bar{V} in the absence of CSR activity. Let x_F be the firm's expenditures on CSR activity. These expenditures are assumed to generate a benefit $B(x_F)$ for firm value (for instance, due to favorable publicity). We assume that $B(x_F) \geq 0$, allowing for the possibility that CSR spending generates no private returns for the firm (i.e. that $B(x_F) \equiv 0$ for all values of x_F). When $B(x_F)$ takes on nonzero values, we assume that it is increasing and concave (i.e. that $B'(x_F) > 0$ and $B''(x_F) < 0$), that $B(0) = 0$, and that $\lim_{x_F \rightarrow 0} B'(x_F) = \infty$; these assumptions imply an interior optimum when $B(x_F)$ takes on nonzero values. Taking into account the consequences of CSR spending, the value of the firm (denoted by V_F) can be expressed as:

$$V_F = \bar{V} + B(x_F) - x_F \quad (1)$$

The firm is assumed to have a controlling shareholder who owns a fraction $\alpha < 1$ of its stock. It is assumed that α is sufficiently large to assure effective control of the firm (for instance, $\alpha > 0.5$). This scenario reflects the ownership structure and governance environment that is typical of Indian firms. The controller has exogenous private wealth \bar{W} , in addition to her ownership of the firm's stock. She is assumed to derive utility $u(G)$ from a public good (which can be provided by personal charitable activity as well as through firms' CSR activity). G is the aggregate supply of the public good, defined as follows:

$$G = \bar{D} + x_P + x_F \quad (2)$$

\bar{D} is the exogenous amount that is supplied by all other individuals and firms in society (apart from the controller and the firm she controls),³³ while x_P denotes the amount of personal

³² Other government regulatory agencies were also gearing up for the introduction of CSR requirements. The Securities and Exchange Board of India (SEBI) – the securities markets regulator – has required since August 13, 2012 that the top 100 firms produce and disclose “business responsibility reports” and file them with SEBI. See *SEBI Circular CIR/CFD/DIL/8/2012*, August 13, 2012.

³³ \bar{D} is assumed to be exogenous for simplicity, and because the charitable activities of the controller and her firm are typically likely to be small in relation to the aggregate amount of charitable activity. However, it is possible that the charitable activity of a particularly wealthy and influential controller may induce others to contribute, especially

contributions to the public good made by the controller. In a complete analysis, both x_P and x_F would be chosen simultaneously by the controller. However, our dataset does not enable us to link firms' CSR activity with personal charitable activities by firms' controlling families or individuals. Thus, in the analysis that follows, we generally treat x_P as being fixed (and denote this fixed value by \bar{x}_P).

We assume that $u(G) \geq 0$, allowing for the possibility that the controller does not derive any utility from the public good (i.e. that $u(G) \equiv 0$ for all values of G). When $u(G)$ takes on nonzero values, we assume that it is increasing and concave (i.e. that $u'(G) > 0$ and $u''(G) < 0$), that $u(0) = 0$, and that $\lim_{G \rightarrow 0} u'(G) = \infty$; these assumptions imply an interior optimum when $u(G)$ takes on nonzero values. The controller's payoff consists of her utility (if any) from the public good,³⁴ her personal wealth (net of any personal spending on the public good), and her *pro rata* share of the firm's value. Assuming for simplicity an additively separable quasi-linear functional form, her payoff (denoted U_C) can be expressed as:

$$U_C = u(G) + \bar{W} - \bar{x}_P + \alpha(\bar{V} + B(x_F) - x_F) \quad (3)$$

The controller chooses x_F to maximize U_C ; this (privately) optimal choice of x_F is denoted by x_F^* .

As described in Section 2, the general aim of Section 135 is to encourage greater CSR activity by firms. In view of this, it is somewhat paradoxical that one of the central conclusions that emerges from the framework presented here is that firms will typically engage in *too much* CSR activity, from the perspective of minority shareholders, when the controller has altruistic preferences (i.e. when $u(G)$ is nonzero). To illustrate this point, assume that both $u(G)$ and $B(x_F)$ are nonzero, and consider the first-order condition (FOC) for x_F^* :

$$\frac{\partial B}{\partial x_F}(x_F^*) = 1 - \frac{1}{\alpha} \frac{\partial u}{\partial G}(x_F^*) \quad (4)$$

In contrast, the FOC for the choice of x_F that maximizes the value of the firm is: $\frac{\partial B}{\partial x_F}(x_F) = 1$.

As $B(x_F)$ is concave, $\alpha > 0$, and $u'(G) > 0$ by assumption, x_F^* will in general exceed the choice

when there exist network effects (Flammer 2015) or increasing returns to scale for certain types of charitable activity.

³⁴ As the controller is assumed to care about the aggregate value of G (rather than about her own contributions), this model is one of "pure" altruism. However, the results would not be fundamentally different if we were to incorporate "impure" altruism or "warm-glow" preferences (Andreoni, 1990), in which the controller also derives utility from the amount of her own contributions and/or from the amount spent by the firm on CSR activity.

of x_F that maximizes firm value (i.e. that maximizes $\bar{V} + B(x_F) - x_F$).³⁵ Intuitively, this result holds because (given that $\alpha < 1$) the controller bears only a fraction of the cost of CSR activity, while gaining not only her *pro rata* share of any increase in firm value, but also additional utility from the satisfaction of altruistic preferences. In essence, an altruistic controller shifts part of the cost of satisfying altruistic preferences to minority shareholders.

There are a number of important caveats to this claim. First, it is possible that CSR activity may be socially valuable (when its benefits are aggregated across society) even though it is excessive from minority shareholders' perspective. However, CSR activity by firms does not necessarily increase the supply of the public good. If both x_P and x_F are chosen simultaneously by the controller and are perfect substitutes, then the firm's CSR activity would completely "crowd out" personal contributions and the aggregate supply G of the public good would be unaffected by the choice of x_F . In practice, however, the reputational or other consequences of personal and corporate charitable activity may well be quite different. Under such circumstances, firms' CSR activity will increase the total supply G , with only partial crowd-out of personal charitable activity. Second, the model implicitly assumes that the activity on which CSR spending occurs is not valued by minority shareholders. If so, excessive CSR activity will be capitalized into minority shareholders' valuation of the firm. If minority shareholders derive utility from the firm's CSR activity, they will view the satisfaction of their altruistic preferences as a form of implicit payout. As in the Modigliani-Miller theory of CSR developed by Zivin and Small (2005), CSR activity will not reduce minority shareholders' valuation of the firm (although they may make offsetting adjustments to their personal charitable activities).

The maximized value of the firm (given the controller's privately optimal choice of x_F^*) can be denoted by V_F^* :

$$V_F^* = \bar{V} + B(x_F^*) - x_F^* \quad (5)$$

Suppose that a legal provision such as Section 135 is introduced, requiring that firms set $x_F \geq \bar{x}$, where \bar{x} is a minimum level of CSR spending (such as the 2% of net profits specified in Section 135).³⁶ Section 135 also imposed mandatory requirements on firms, such as the establishment of

³⁵ If $B(x_F) \equiv 0$ (while the controller has altruistic preferences), the FOC is: $\frac{\partial u}{\partial G}(x_F^*) = \alpha$. This also leads to a choice of x_F^* by the controller that exceeds the zero level of spending on CSR that would maximize firm value.

³⁶ This characterization greatly simplifies Section 135, which (as described in Section 2) is imposed on a "comply-or-explain" basis. However, the initial proposal of August 6, 2010 framed the CSR provision as involving a

a Board committee on CSR and the disclosure of CSR-related information. Firms may incur various types of compliance costs as a result, along with costs associated with the diversion of managerial time and effort, and fees for CSR consultants. These various types of costs are summarized by a fixed cost $k > 0$ that is incurred by firms in the new legal regime, and that is independent of how much CSR activity the firm chooses.³⁷

If the firm is already engaged in a higher level of CSR spending than required under the new law (i.e. $x_F^* \geq \bar{x}$), then its behavior will be unaffected and there will be no impact on firm value.³⁸ We focus in the analysis below on the scenario in which the new law is binding – i.e. where $x_F^* < \bar{x}$. Firm value under the new legal regime, denoted by $V_F^{\S 135}$, can be expressed as:

$$V_F^{\S 135} = \bar{V} + B(\bar{x}) - \bar{x} - k \quad (6)$$

One focus of our empirical analysis is on the impact of Section 135 on firm value. The change in value for firms that were initially spending less than \bar{x} on CSR can be represented by $\Delta V_F^{\S 135} = V_F^{\S 135} - V_F^*$. Using Equations (5) and (6), $\Delta V_F^{\S 135}$ is:

$$\Delta V_F^{\S 135} = x_F^* - \bar{x} - k + B(\bar{x}) - B(x_F^*) \quad (7)$$

From the assumptions made above, it follows that $\Delta V_F^{\S 135} < 0$.³⁹ i.e. the impact of the new law on firm value is negative.

In our dataset, the vast majority of smaller and medium-sized Indian firms (including those around the size thresholds at which Section 135 applied) did not report any CSR activity. Based on anecdotal evidence of the rarity of CSR among these firms and on common practice for similar variables, we treat missing CSR observations as indicating the absence of CSR activity

mandatory level of spending. As the event study analysis of firm value below focuses on this August 6, 2010 event, we use this mandatory formulation in the model to characterize the impact on firm value of this announcement.

³⁷ Compliance may also entail variable costs that are increasing in the amount spent on CSR. However, the primary focus here is on firms that previously undertook little or no CSR activity and are required to spend \bar{x} (see Equation (8) below). Thus, the variable cost of spending \bar{x} is difficult to distinguish from the fixed cost.

³⁸ The model abstracts from some factors that may cause firms that were previously spending more than the required amount to change their behavior. For instance, \bar{x} may establish a new focal point or change social norms, or the returns to reputational signaling via CSR may change under the new legal regime. Our empirical analysis finds that some large firms that were spending more than 2% of their net profit on CSR activity prior to Section 135 reduced their CSR spending after the law came into effect. Various possible extensions to the model that might explain this finding are discussed in Section 5 below.

³⁹ The FOC in Equation (4) implies that x_F^* is at least as large as the value of x_F that maximizes $[B(x_F) - x_F]$. The new law requires that the firm increase x_F from x_F^* to \bar{x} ; the incremental benefit to firm value from doing so is $B(\bar{x}) - B(x_F^*)$. As x_F^* is initially above the firm-value-maximizing level of CSR, this increase moves it even further from the firm-value-maximizing optimum. Therefore, the incremental benefit is necessarily smaller than the incremental cost ($\bar{x} - x_F^*$). Moreover, $k > 0$ by assumption. Thus, it follows that $\Delta V_F^{\S 135} < 0$.

(see Section 4 below for a more detailed discussion). Thus, for the typical firm around the size thresholds at which Section 135 applied, $x_F^* = 0$. Under the assumptions specified above, this observation implies that the controlling shareholder is not altruistic (i.e. $u(G) \equiv 0$) and that the firm derives no private returns from CSR activity (i.e. $B(x_F) \equiv 0$). In these circumstances, Equation (7) can be simplified to:

$$\Delta V_F^{\S 135} = -\bar{x} - k \quad (8)$$

Equation (8) provides a basic characterization of the expected change in firm value for most firms, which were not engaging in any CSR activity prior to the law (i.e. firms for which $x_F^* = 0$).⁴⁰

This analysis is useful in guiding the interpretation of the estimates obtained in Section 4. Equation (8) implies that a CSR mandate will reduce the value of firms by an amount that is at least as large as the amount they are required to spend; the effect may potentially be even larger due to compliance costs. This framework also provides some insight into the magnitude of private returns to firms from CSR activity. If private returns are small, we would expect an impact on firm value that is comparable to (or even larger than) the mandated spending amount (as in Equation (8)). If private returns are larger, we would expect a substantially smaller impact, along the lines of Equation (7). Furthermore, the crowd-out of personal charitable activity by the controller is not likely to be a significant concern – the observation that $x_F^* = 0$ suggests that controllers are not altruistic (or at least that personal charitable activity and CSR are not substitutes from their perspective) and so will not adjust their level of personal charitable activity.

Finally, note that the analysis so far has ignored taxes. CSR expenditures are in most cases business costs that are tax-deductible under Indian tax law. Section 135 does not address tax-deductibility, and its enactment did not change the tax-deductibility of CSR spending. If we denote the corporate tax rate by τ and assume the tax-deductibility of CSR spending (but not of the associated compliance costs), then Equation (8) becomes: $\Delta V_F^{\S 135} = -(1 - \tau)\bar{x} + k$; the observed decline in value reflects the lost after-tax (rather than pretax) cash flows and so would be correspondingly smaller in magnitude.

⁴⁰ Strictly speaking, the observed decline in value reflects the change in minority shareholders' valuation of the firm. However, since the costs of Section 135 are borne *pro rata* in our framework by controlling and minority shareholders, we ignore this distinction.

4) Empirical Analysis

4.1) Data

The dataset for this study was obtained from two sources. First, the data on financial statement variables (such as net profits, sales and net worth), daily share prices and other relevant information is obtained from the Prowess database. Prowess is a comprehensive database on publicly traded Indian firms that is maintained by the Center for Monitoring the Indian Economy. Importantly, Prowess includes a number of variables relating to expenditures on “Social and Community” activities and “Environment-related” activities. We use these variables to construct proxies for CSR spending. It should be noted, however, that these CSR-related variables are only available for fiscal years 2012-2015 for a relatively limited number of firms. Stock price data is available in Prowess for each trading day. Financial statement variables are reported on an annual basis, as of the end of each fiscal year (i.e., March 31 of a given year). Thus, the data for fiscal year 2010 reflects results from April 1, 2009 to March 31, 2010. In the event study analysis, we match the event date to the closest corresponding fiscal year to obtain the required financial statement data (for instance, the August 6, 2010 event date is matched to the 2010 fiscal year, which is the most recently completed fiscal year as of that event date).

Our second source of data is the Business Responsibility Reports of the 100 largest firms in India that were filed with the securities market regulator – the Securities and Exchange Board of India (SEBI). These disclosures were required due to a circular issued by SEBI in August 2012.⁴¹ The Business Responsibility Reports provide a more direct measure of CSR activity than we can construct using Prowess data; however, they are only available for the 100 largest firms. We hand-code the business responsibility (i.e., CSR) expenditures of these 100 firms for the 2014 and 2015 fiscal years (before and after Section 135 came into effect).

4.2) The Impact of Section 135 on Firm Value

Event studies use a variety of approaches to estimate firms’ normal or predicted returns. We use the market model, which does not rely on any specific economic assumptions. Using daily stock price data from Prowess, we compute abnormal returns for the firms in our sample over a (-3, +3) event window for each of the events identified in Section 2 (i.e. we consider the market reaction over a period extending from 3 trading days prior to the event to 3 trading days

⁴¹ See *SEBI Circular CIR/CFD/DIL/8/2012*, August 13, 2012.

following the event). This event window accommodates some degree of anticipation prior to the event, and allows some scope for delayed reactions.

The market model uses daily returns for each firm i and for the market, and can be represented as follows (e.g. Bhagat and Romano, 2002, p. 146; Dharmapala and Khanna, 2016):

$$R_{it} = a_i + b_i M_t + e_{it} \quad (9)$$

where R_{it} is firm i 's return on day t , M_t is the market return on day t , and e_{it} is the error term. We run this regression separately for each firm over an estimation window that consists of a year of daily returns data prior to the event window. We use the results to compute a predicted return for each firm on each day of the relevant event window. We then subtract this predicted return from the actual return on each day of the event window to obtain the abnormal return for each firm i on each of these days. These abnormal returns are then summed to compute cumulative abnormal returns (CARs) for each firm for the event window.

The quasi-experimental variation in this study is attributable to the use in Section 135 of specific bright-line thresholds to determine the applicability of the CSR provision. As noted previously, the threshold for the application of Section 135 is multi-faceted, based on turnover, net profits and net worth. The net worth and sales thresholds are set at levels that apply to around a quarter of Indian firms, while the net profit threshold is set around the profits earned by the median firm (and so applies to about half of the firms in the Prowess database). It is thus typically the net profit threshold that is binding - virtually all firms that satisfy the net worth or sales thresholds also satisfy the profit threshold, whereas many firms satisfy the net profit threshold without satisfying the other criteria. We therefore focus on the net profit threshold in our primary empirical tests and discuss why this is a particularly powerful identification strategy after presenting our main results.⁴²

An RD design can be implemented statistically in a number of different ways. A particularly influential approach is the use of nonparametric local polynomial regressions (e.g. Hahn, Todd, and van der Klaauw, 2001; Calonico, Cattaneo, and Titiunik (2014a), hereafter CCT). A local polynomial regression involves fitting a weighted least squares regression to each observation, using data from a neighborhood close to that observation; this data is weighted in

⁴² In order to ensure that these tests use only firms for which the net profit threshold is relevant, we exclude from the analysis any firm that satisfies either the sales or the net worth threshold. This exclusion affects very few firms close to the net profit threshold – for instance, in the OLS implementation of the RD design that is restricted to firms with net profit in the range INR zero to 100 million (see Table 5 below), only 3 firms are excluded because they meet either the sales or net worth criteria.

some specific way by the distance to the observation of interest. Weighting the data requires a choice of “bandwidth” – i.e. the width of the set of observations used for the regression. There are a number of approaches to the selection of the bandwidth (e.g. Imbens and Kalyanaraman, 2012); our reported results use a bandwidth that optimizes mean squared error.

Intuitively, the nonparametric local polynomial regression approach involves estimating local polynomial regressions separately above and below the threshold. The RD treatment effect is estimated as the difference in the values of the regression functions at the threshold. Observations are weighted by their proximity to the cutoff, with observations close to the threshold receiving more weight. CCT (2014a) develop a new approach to estimating confidence intervals for RD estimators based on local polynomial regressions, which is used in deriving robust standard errors in the analysis below.⁴³

The intuition underlying this RD approach (and our result on firm value) can be illustrated by Figure 1. This plots the CARs around the August 6, 2010 event date for firms that reported net profit in fiscal year 2010 in the range of INR 40 million to INR 60 million, representing a range of net profit centered on and close to the INR 50 million cutoff. The CARs are Winsorized on both sides at 5% in order to address potential outliers. The three different figures show local polynomial regression functions estimated separately above and below the cutoff, using polynomials of order 1, 2, and 3, respectively.⁴⁴ As might be expected given the noise associated with stock returns, the plot of the CARs is quite scattered, and does not immediately suggest a sharp break at the threshold. However, all three panels of Figure 1 show a substantial difference in the values of the regression functions at the threshold. This pattern implies a negative RD estimate of the impact of Section 135 on firm value, and this appears to be robust to the choice of the order of the polynomial.

Table 2 reports the RD estimates obtained using a local polynomial regression approach for each of the event dates of interest.⁴⁵ The first announcement of a mandatory CSR requirement (using the thresholds that we have described) occurred on August 6, 2010. Our RD

⁴³ CCT (2014b) provide a Stata command (“rdrobust”) that implements their approach and other commonly-used approaches to RD estimation using local polynomial regressions; we use this package in generating the RD estimates described below.

⁴⁴ There is no generally optimal order of the polynomial, so we illustrate regression functions using polynomials of three different orders.

⁴⁵ These estimates are obtained using the Stata command “rdrobust” (CCT, 2014b), with a triangular kernel, bandwidth selected to optimize mean squared error, and a third-order polynomial. The results are mostly similar using lower-order polynomials.

estimate indicates a substantial decrease in firm value around that date for firms that were expected to be affected by the CSR mandate. The estimate implies a reduction in firm value of 3.3%, relative to unaffected firms. This is of borderline statistical significance, using the CCT (2014a) approach to computing robust standard errors. In particular, the z-statistic is -1.84 and the p-value is 0.066, implying significance at the 7% level. While its statistical significance is admittedly only marginal, it should be borne in mind that data on abnormal stock returns is intrinsically very noisy and thus some imprecision in the estimates might be expected.

We also undertake a number of placebo tests that involve positing a (nonexistent) legal threshold at some other value of net profit. Figure 2 illustrates a placebo test around INR 100 million, and plots CARs around August 6, 2010 for firms that reported net profit in fiscal year 2010 in the range of INR 90 million to INR 110 million. There is little difference in the values of the regression functions at this placebo “threshold.” Table 3 reports the RD estimates for placebo tests at the INR 100 million and INR 150 million net profit levels for August 6, 2010 (using a local polynomial regression approach). The results at these placebo “thresholds” are statistically insignificant and the coefficients are quite small.

On December 24, 2010, media reports emerged of a relaxation in the CSR mandate towards a “comply-or-explain” obligation. As shown in Table 2, the RD estimate for this event date entails a positive market reaction of 1.2% for firms affected by the CSR provision, relative to unaffected firms. This estimate, however, is not statistically significant.⁴⁶ Table 2 also reports the RD estimates for the subsequent event dates. All of these are statistically insignificant and mostly quite small in magnitude.

In addition to the nonparametric local polynomial regression illustrated above, we also use a straightforward ordinary least-squares (OLS) implementation of our RD design as an additional robustness test. This involves running the following OLS regression:

$$CAR_i = \alpha + \beta \mathbb{1}_{35}_i + f(\pi_i, s_i, w_i) + \mathbf{X}_i \gamma + \epsilon_i \quad (10)$$

CAR_i is the CAR computed for firm i around August 6, 2010. The function $f(\pi_i, s_i, w_i)$ is a polynomial function of the three variables that determine the applicability of Section 135 – net profit, sales, and net worth, respectively; the reported results use quadratic functions of these variables. The variable of interest, $\mathbb{1}_{35}_i$, is an indicator = 1 if Section 135 applies, and 0

⁴⁶ The estimated effect around December 24, when combined with the estimated effect around August 6, would imply about a -2% net effect of the comply-or-explain CSR obligation. However, the insignificance of the December 24 result makes it difficult to draw this conclusion with any substantial degree of confidence.

otherwise. As firms that satisfy the sales or net worth criteria are excluded from the sample, $\mathbb{1}_{\pi_i > \text{INR } 50 \text{ million}}$ is a vector of control variables (in the reported results, these are total assets, advertising expenditures, and export earnings), α is a constant, and ϵ_i is the error term. The sample is restricted to firms with net profit in the range of zero to INR 100 million in fiscal year 2010, to ensure that the estimate is based only on firms relatively close to the threshold.

The OLS implementation of the RD design leads to quite similar conclusions. Table 4 provides descriptive statistics for CARs around August 6, 2010 and for control variables in fiscal year 2010. Table 5 reports RD estimates using the OLS specification in Equation (10) for firms in the zero to INR 100 million net profit band. Column 1 shows that firms to which Section 135 applies experience a firm value decline of about 2.6%, relative to unaffected firms. This is marginally significant; the t-statistic is -1.79 and the p-value is 0.074, indicating significance at about the 8% level. The magnitude is quite similar to that of the corresponding estimate in Table 3.

In principle, the model in Section 3 implies that this decline in firm value should apply only to firms that engaged CSR spending below 2% of net profit. Unfortunately, we do not have data on CSR spending in 2010; using the earliest available data (for 2012) and omitting the 19 firms that spent 2% or more of net profit on CSR in 2012 leads to very similar results to those in Column 1.⁴⁷ The estimated effect among firms that spent 2% or more of net profit on CSR in 2012 is positive and around 2%, but statistically insignificant (possibly due to the small sample size). Such an effect may be consistent with a scenario in which these firms' controllers were originally overspending on CSR from the perspective of minority shareholders (as suggested by Equation (4)), and where investors anticipated that CSR spending among such firms would fall after Section 135 came into effect (as we find in Section 4.5 below). However, it is difficult to reach any firm conclusions due to the statistical insignificance of the estimate.

The volatility and potential manipulability of profits create two distinct challenges for our RD approach. The first is that firms may seek to manipulate net profits in order to remain below the threshold. If so, this would violate one of the central assumptions of the RD approach - that assignment to the treatment is random close to the threshold. This is primarily a concern for the RD analysis of CSR spending in Section 4.3; however, even the RD estimates of the impact on

⁴⁷ The nonparametric RD estimate is also robust to omitting such firms.

firm value may be affected if investors anticipate that firms will manipulate net profits to stay below the threshold.

To test for the manipulation of net profits, we conduct a test for a discontinuity in the density of firms at the INR 50 million threshold in 2015. This exercise is in the spirit of McCrary's (2008) test for manipulation of the running variable in RD settings; however, it uses a more recent formulation developed by Cattaneo, Jansson and Ma (2017). Figure 3 plots the density of firms in a region (INR 40-60 million) close to the net profit threshold after Section 135 had taken effect in 2015. This test shows some apparent bunching below the threshold; however, the null hypothesis that there is no discontinuity in the density at the INR 50 million threshold cannot be rejected. Thus, while some degree of bunching cannot be ruled out, there is no evidence of substantial and statistically significant manipulation of net profits.⁴⁸

A second, and distinct, problem is that the volatility of profits may lead investors to expect that even firms not currently satisfying the net profit threshold will do so in the near future. Market reactions for firms just below the threshold may reflect such expectations. While this would primarily create a bias against any findings, we address this issue (as well as the possibility of bunching below the threshold) by using an approach known in the health economics literature as a "donut-hole" RD design (e.g. Almond and Doyle, 2011). This approach involves excluding observations in a region close to the threshold and conducting the RD analysis on the remaining observations. In Column 2 of Table 5, we omit observations in the range INR 43-50 million and calculate the RD estimate comparing observations around INR 43 million and those just above INR 50 million.⁴⁹ The results are very similar to those in Column 1.

Finally, it is possible that the effect may differ across firms with differing characteristics. For instance, firms with less final customer interaction may have lower gains from CSR spending (e.g. Servaes and Tamayo, 2015). To test for this, we proxy for final customer interaction by using advertising expenses as reported in Prowess. Columns 3 and 4 of Table 5 divide firms that have net profits ranging from 0 to INR 100 million into two subsamples – one

⁴⁸ To the extent that Section 135 imposes sizeable costs, the apparent absence of substantial bunching may seem surprising. Note, however, that the costs of manipulating profits may also be substantial, and the present value of the benefits from bunching may be limited if firms anticipate that they will only be able to remain below the threshold for a small number of years (for instance, due to natural growth in size). It should also be remembered that (as described in Section 2) firms are required to spend 2% of an income measure that is averaged over the last 3 years; this reduces the benefits of bunching in any particular year.

⁴⁹ Note that varying the size of the "donut hole" (i.e. using values other than INR 43 million) leads to fairly similar estimates.

(in Column 3) where firms have zero or missing advertising expenses (suggesting little final customer interaction) and the other (in Column 4) where firms have positive advertising expenses. Column 3 reports a firm value decline of 3.5% (which is marginally significant at the 10% level) for firms with zero or missing advertising; Column 4 reports an insignificant effect (with a much smaller coefficient) for firms with positive advertising. This is consistent with the negative firm value effect being largely concentrated among firms with zero or missing advertising expenses. As discussed further in Section 4.4, one potential explanation might be that firms with more advertising expenses could reduce their “advertising expenses” and increase their “CSR spending” (i.e., substitute between advertising and CSR spending).

Manchiraju and Rajgopal (2017) also undertake an event study analysis of Section 135. There are a number of significant differences between their event study methodology and ours, as well as significant differences in the questions we address in our respective papers (e.g., we go beyond firm value effects). For instance, they do not use a nonparametric local polynomial regression approach in assessing firm value effects. In addition, the precise event dates that they identify are somewhat different from ours. They use a somewhat smaller sample of firms (restricted to those trading on the National Stock Exchange of India), whereas we use all firms in the Prowess database. We interpret our results in the light of the theoretical model in Section 3 that emphasizes the central role of controlling shareholders, leading to some important differences of interpretation. Despite all of these differences, when our analyses overlap the results are quite similar; in particular, they also find a substantial negative effect of Section 135 on firm value. However, Manchiraju and Rajgopal (2017) focus only on firm value, whereas we engage in a more comprehensive study of the impact of Section 135 on a wide range of outcomes, including CSR expenditures (to which we turn next).

4.3) The Impact of Section 135 on CSR Expenditures

The second important question we address is the impact of Section 135 on CSR expenditures. As the CSR obligation in Section 135 takes a comply-or-explain form – where firms may make no change to their CSR activity and instead provide explanations for why it falls below the 2% target - the impact of Section 135 on CSR spending is by no means a trivial question. Unfortunately, the empirical estimation of this effect is hampered by limitations of the pre-Section 135 data on CSR spending. Most Indian firms were not required to disclose CSR

activity until the provision took effect in fiscal year 2015.⁵⁰ For years starting in 2012, it is possible to construct proxies for CSR expenditures from variables reported in the Prowess dataset. In particular, the variables “Social and Community” expenditures and “Environment-related” expenditures appear closely related to CSR, and we add these two categories together to construct a proxy for CSR spending.⁵¹

There are a number of important caveats with respect to this measure, especially for fiscal years prior to 2015. First, disclosure of these items was voluntary, and thus subject to concerns about self-selection. Second, there are a large number of missing observations – for instance, in 2014, there are 893 non-missing observations for our CSR measure, out of 4628 firms in the Prowess database (and there are even fewer observations in earlier years). The simplest approach – which we adopt in the analysis below – is to treat missing CSR observations as zeroes, as is commonly assumed in the literature for variables such as advertising and R&D; this is also consistent with anecdotal evidence suggesting that CSR activity was small or nonexistent among smaller Indian firms.⁵²

To measure the impact of Section 135 on CSR activity, we use both a difference-in-difference (DiD) approach (using panel data from Prowess over 2012-2015) and an RD design using data for 2015 (described below). The DiD approach tests for changes in CSR spending among “treatment” firms that became subject to Section 135 (based on net worth, sales, or net profit) in 2015, relative to CSR spending by those (“control”) firms that remained unaffected. Figure 4 depicts mean CSR spending by treatment and control firms with net profits between 0 and INR 100 million over the period 2012-2015. There is a marked increase in CSR spending by treatment firms from 2014 to 2015. However, treatment firms’ CSR spending exhibits more volatility prior to the implementation of Section 135, so the inference of an effect from the visual inspection of Figure 4 should be drawn with some caution.

The basic empirical specification for the DiD analysis is the following:

$$CSR_{it} = \beta(\$135_{it} * YR2015_t) + \mathbf{X}_{it}\gamma + \mu_i + \delta_t + v_{it} \quad (11)$$

⁵⁰ The largest 100 firms constitute an exception, and data for these firms is analyzed separately in Section 4.5 below.

⁵¹ A third category reported in Prowess (“Donations”) may also overlap with CSR. However, it is unclear whether the donations typically made by firms fall within the definition of CSR provided in Schedule VII of the Companies Act 2013. Thus, we exclude “Donations” from our baseline measure. However, the results are similar when “Donations” are included in the CSR measure.

⁵² See CSR Voluntary Guidelines (2009); Afsharipour, 2011; Van Zile, 2012; NEW AMERICA MEDIA, May 18, 2011. op cit.

where CSR_{it} is our measure of CSR activity (described above) for firm i in year t ; this is Winsorized from above at 5% to address potential outliers. $\$135_{it}$ is an indicator variable equal to 1 if firm i met at least one of the net worth, sales or net profit thresholds in year t (and zero otherwise). $YR2015_t$ is an indicator variable equal to 1 in 2015, when Section 135 came into effect (and zero otherwise). As $\$135_{it} = 1$ if the thresholds are satisfied, even in years prior to the implementation of Section 135, it is the interaction term $\$135_{it} * YR2015_t$ that reflects the applicability of the new law, and the basic hypothesis is that $\beta > 0$. The terms μ_i and δ_t are firm and year fixed effects, respectively, and v_{it} is the error term. \mathbf{X}_{it} is a vector of control variables, which includes total assets, advertising expenditures (treating missing observations as zeroes), and export earnings (treating missing observations as zeroes). As the “treatment” depends on net profit, net worth and sales, we include linear and squared terms of each of these variables as controls. Table 6 provides descriptive statistics for CSR spending and the control variables.

It is possible that treatment firms may have experienced faster growth in CSR spending even prior to Section 135, and that the estimated DiD effect may represent a continuation of this preexisting trend, rather than a causal impact of Section 135. To address this possibility, we add firm-specific linear trends in CSR spending (denoted by g_{it} , where g_i represents the firm-specific growth rate in CSR for firm i) to the model in Equation (11). The augmented model can be straightforwardly implemented using estimation in first differences (see Wooldridge, 2002, pp. 315-316):

$$\Delta CSR_{it} = \beta \Delta(\$135_{it} * YR2015_t) + \Delta \mathbf{X}_{it} \gamma + g_i + \zeta_t + \eta_{it} \quad (12)$$

where $\Delta CSR_{it} = CSR_{it} - CSR_{i,t-1}$, 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 v_{it} , respectively). The firm fixed effect μ_i in Equation (11) drops out of Equation (12). However, the firm-specific trend g_i can be estimated by including a firm effect in the estimation of Equation (12).

Column 1 of Table 7 reports the results of the specification in Equation (11), using a panel of Prowess data for the years 2012-2015 with 13,770 observations on nearly 4000 firms. The estimated Section 135 treatment effect is statistically significant, and its magnitude is about INR 6 million. For purposes of comparison, mean CSR expenditure in 2014 was INR 65 million among firms that reported positive CSR. Thus, this result implies that CSR spending rose as a consequence of Section 135 by about 9% relative to the mean among firms reporting positive

CSR.⁵³ In Column 2, we add several additional control variables, and obtain a very similar estimate.

The analysis so far assumes that missing CSR observations are zeroes. To test whether the results are sensitive to this assumption, we estimate Equation (11) for the subsample consisting only of firm-years with non-missing CSR expenditures, as reported in Column 3 of Table 7. While the sample size is much smaller (consisting of 2108 observations on 915 firms), the estimated Section 135 treatment effect is statistically significant; its magnitude is about INR 9.7 million, representing an increase in CSR spending of about 15% relative to the mean among firms reporting positive CSR. Column 4 of Table 7 reports the results of estimating Equation (12); this is a first-differenced specification, so the variables should be interpreted as changes rather than as levels. The estimated Section 135 treatment effect (relative to the preexisting trend) is statistically significant, and its magnitude is very similar to that of the baseline effect in Column 1.

In addition, we also consider the “extensive margin” of CSR activity – i.e. the fraction of firms that engage in any CSR activity. We reinterpret CSR_{it} in Equation (11) as a dichotomous variable, equal to 1 if firm i reports a positive amount of spending on CSR in year t , and zero otherwise (all other variables are as defined above). This test is implemented using a linear probability model of the probability that a firm engages in CSR activity (although results are fairly similar using logit and probit models). Figure 5 depicts the fraction of treatment and control firms that have positive CSR spending over 2012-2015. There is clearly a marked increase in the fraction of treatment firms with positive CSR spending from 2014 to 2015 (although this fraction is still quite far below 1, reflecting the comply-or-explain nature of the law and possibly also some degree of noncompliance or nonreporting).

Column 1 of Table 8 shows that the probability of engaging in CSR increased among treatment firms by about 0.33. This is substantial in magnitude and statistically significant, and also closely mirrors the graphical evidence in Figure 5. Column 2 of Table 8 restricts the sample to observations with net profit in the range INR 0-100 million. Among these smaller firms, the increase in the probability of engaging in CSR increased among treatment firms is smaller

⁵³ Two categories of firms that are potentially of particular interest are state-owned and foreign-owned firms. The basic result – an increase in CSR spending among firms subject to Section 135 – holds within each of these subgroups of firms, and the magnitude of the effect is fairly similar to that for the full sample. The baseline result also holds when state-owned and foreign-owned firms are omitted from the sample.

(around 0.05), but is also statistically significant and quite large relative to the mean among treatment firms in 2014 (of about 0.08).

An alternative to the DiD approach is an RD design that uses data for 2015 and tests whether there is a difference in CSR spending among firms just above and below the net profit threshold. The underlying intuition is that the discontinuous application of Section 135 at the INR 50 million net profit threshold should lead to a discontinuous jump in CSR spending among firms just above the cutoff (assuming that at least some firms comply rather than explain). As in the analysis of firm value, we use a nonparametric local polynomial regression approach that involves estimating local polynomial regressions separately above and below the cutoff. The RD treatment effect of Section 135 on CSR spending is estimated as the difference in the values of the regression functions at the threshold.

Column 1 of Table 9 reports this RD estimate, using data for fiscal year 2015. The estimate – an increase in CSR spending of about INR 2.7 million - is very large relative to the DiD estimates in Table 7, and is of borderline statistical significance. As the RD estimate applies to firms close to the threshold, the most relevant comparison is with mean CSR expenditure in 2014 among firms with profits less than INR 100 million that reported positive CSR (which was INR 1.71 million). The RD estimate implies that CSR spending rose as a consequence of Section 135 by about 160% relative to the mean among firms in this size category reporting positive CSR. We also report a placebo test in Column 2 of Table 9 that involves estimating the same RD treatment effect using data for the years 2012-2014, when Section 135 did not apply. As expected, this RD estimate is statistically insignificant and much smaller in magnitude than that for 2015. Even so, however, the small number of firms reporting positive CSR in the region of the threshold makes it difficult to rule out the possibility that the 2015 result is driven by a few influential observations. In addition, it is subject to concerns about potential bunching, as discussed in Section 4.2. Thus, while we report the result in Table 9 for completeness, it should be interpreted with considerable caution.

4.4) The Impact of Section 135 on Advertising, Sales, and Accounting Performance

In Table 5, the negative impact of Section 135 on firm value appears to be concentrated among firms that do not engage in advertising. One potential explanation - that firms with more advertising expenses can more readily substitute CSR spending for advertising - receives support from Column 3 of Table 8, which reports DiD estimates from a linear probability model of the

impact of Section 135 on the probability of engaging in advertising. The dependent variable is an indicator for strictly positive advertising expenses. There is a statistically significant decline in the probability of engaging in advertising among firms subject to Section 135, relative to control firms. Column 4 restricts the analysis to firms with net profits between 0 and INR 100 million. The point estimate here is very similar to that in Column 3, but is no longer statistically significant. These findings suggest that there may be some degree of substitutability between CSR spending and advertising, although caution is warranted due to the lack of statistical significance in Column 4.

We also examine the impact of Section 135 on the ratio of sales to total assets and on the return on assets (ROA, the ratio of net profit to total assets). We use both DiD specifications (analogous to Equation (11), but with the dependent variable being the ratio of sales to total assets or ROA) and an RD approach around the INR 50 million threshold in 2015. There are no robust, consistent and statistically significant results for either of these variables across these specifications. Figure 6 plots the ratio of sales to total assets in fiscal year 2015 for firms with net profit in the range of INR 40 million to INR 60 million. There is little difference between the local polynomial regression functions estimated below and above the cutoff. The apparent absence of any causal effect of CSR activity on sales should be interpreted with some caution, given the difficulty of establishing a negative result. However, it is consistent with firms choosing CSR activity (or the lack thereof) to optimize their sales performance prior to the enactment of the new law.

Figure 7 tells a similar story with respect to ROA in fiscal year 2015. We might expect that some types of costs associated with the CSR mandate (such as fees paid to CSR consultants, or the distraction of managers from normal business operations) may result in decreases in ROA. In a DiD specification, the estimated effect of Section 135 on ROA is quite imprecise. However, a modest decline in ROA – of up to 1.5 percentage points, relative to a mean ROA of 11% - as a result of Section 135 cannot be ruled out at the 95% level.

4.5) Section 135 and the CSR Activity of Large Firms

Taken in combination, the results in Section 4.3 above imply that Section 135 increased CSR activity significantly, especially along the extensive margin. However, it should be noted that the results are subject to the self-selection concerns noted earlier, and rely on the assumption that missing values are zeroes. For a subsample consisting of the largest 100 firms, the self-

selection issues can be overcome because India's securities regulator (SEBI) required these firms to disclose their CSR spending in the year prior to the Companies Act 2013 taking effect (i.e. for fiscal year 2014) as well as for the year in which it took effect (fiscal year 2015).⁵⁴ For these firms, we hand-collect data on CSR expenditures before and after Section 135 from these Business Responsibility disclosures. Unfortunately, despite the mandate from SEBI to disclose CSR spending, data is missing for some firms. In addition, the disclosure requirement only applied to firms with positive profits (as loss-making firms are exempt from Section 135). Ultimately, we obtain data on CSR spending in both 2014 and 2015 for a sample of 55 firms (those among the top 100 firms for which there is complete CSR data for both years, and which did not experience losses in either year). Of these firms, 10 met or exceeded the 2% target in 2014, even prior to Section 135 taking effect. The remaining 45 spent less than 2% of net profits on CSR in 2014. Descriptive statistics for each category of firms are presented in Table 10.

Although the sample size is very small, it is apparent from Table 10 that while firms that were initially spending less than 2% increased their CSR activity, those that were initially spending more than 2% *reduced* their CSR expenditures after Section 135 came into effect. This presumably unintended effect is also apparent in Figure 8, which depicts CSR spending as a percentage of net profit for each group of firms for fiscal years 2014 and 2015. Firms that were initially spending less than 2% increased their CSR spending from about 0.8% of net profit on average to about 1.5% of net profit. On the other hand, firms that were initially spending more than 2% decreased their CSR spending from about 2.7% of net profit on average to about 2.2% of net profit. On balance, however, overall CSR spending among these 55 firms increased from 2014 to 2015.⁵⁵

The apparently conflicting effects of Section 135 on these two groups of firms is further illustrated in Table 11. In Column 1 of Table 11, we report the results of the following regression:

$$\Delta CSR\%_i = \alpha + \beta L_i + \epsilon_i \quad (13)$$

$\Delta CSR\%_i$ is the change in CSR expenditures as a percentage of net profit from 2014 to 2015 for firm i . L_i is an indicator equal to one if the firm spent less than 2% of net profit in 2014. The

⁵⁴ See *SEBI Circular CIR/CFD/DIL/8/2012*, August 13, 2012.

⁵⁵ Aggregate CSR expenditures among firms that were initially spending less than 2% increased from INR 14.1 billion to INR 22.6 billion. Among firms that were initially spending more than 2%, aggregate CSR expenditures fell from INR 16.4 billion to INR 13 billion. Overall, for the entire group of firms, aggregate CSR expenditures rose from INR 30.6 billion to INR 35.6 billion.

coefficients imply that CSR expenditures as a percentage of net profit fell among firms that were initially above 2% by about 0.47 percentage points on average, while they rose among firms that were initially below 2% by about 0.65 percentage points on average.⁵⁶

A simpler representation of these changes is obtained by dividing the sample into firms spending above and below 2% in 2014, and running the following regression separately for each group of firms:

$$\Delta CSR\%_i = \alpha + \gamma \Delta \pi_i + \epsilon_i \quad (14)$$

where $\Delta \pi_i$ is a control variable for the change in firm i 's net profits from 2014 to 2015. The results in Columns 2 and 3 imply that (controlling for changes in net profit) CSR expenditures as a percentage of net profit fell among firms that were initially above 2% by about 0.38 percentage points on average, while it rose among firms that were initially below 2% by about 0.64 percentage points on average.

Of course, these results should be interpreted with caution, as the sample size is very small and the analysis relies on a before-and-after comparison (there is no control group among large firms, since they were all subject to Section 135). The main alternative explanation involves some form of mean reversion (i.e. that firms with high CSR spending in 2014 tended to lower their spending in 2015 and *vice versa*, for reasons unrelated to Section 135). To test this, we examine whether there is a tendency to converge towards the 2% target imposed by Section 135, or to converge towards the initial mean within this sample. The mean of CSR spending as a percentage of net profit is 1.15% in 2014, while the median is 1%; in the analysis below, we use the median of 1% for simplicity.

Column 4 of Table 11 reports a regression analogous to Equation (13); however, L_i is now an indicator equal to one if the firm spent less than 1% of net profit in 2014 (the approximate 2014 mean). The sample is restricted to the 45 firms that spent less than 2% in 2014. The basic idea behind this test is that if this phenomenon were attributable to mean reversion, then firms initially above 1% would decrease CSR, while only firms initially below 1% (rather than 2%) would increase CSR. The results in Column 4 show that CSR expenditures as a percentage of net profit rose among firms that were initially above 1% by about 0.4 percentage points on average, and rose among firms that were initially below 1% by about 0.83

⁵⁶ The latter is implied by the 1.13 effect of the indicator for being initially below 2%, relative to the firms that were initially above 2% and experienced a 0.47 percentage points decline in CSR.

percentage points on average.⁵⁷ Thus, CSR rose *both* for firms initially below and above 1%, contrary to what we would expect under mean reversion, and the increase in CSR for those firms initially above 1% is statistically significant.

Another reason to doubt the mean reversion story is provided by the histograms in Figure 9, which illustrate the density of firms over CSR spending as a percentage of net profit in 2014 and 2015. In 2014, there was a quite dispersed distribution. In 2015, it narrows dramatically, with a large spike at 2%. This spike appears to draw mass from both the left (firms initially spending less than 2%) and the right (firms initially spending more than 2%). A mean reversion story cannot easily explain why 2% became such a strong focal point after Section 135. Thus, our tests suggest that the decrease in CSR among high-spending firms does not seem attributable to mean reversion in CSR spending. We explore various explanations for this presumably unintended consequence of Section 135 in Section 5 below.

5) Discussion

Before discussing our results in greater detail, it is worth noting some background facts about CSR spending in India prior to the enactment of Section 135. The available data suggests that most medium-sized Indian firms did not engage in CSR activity. This observation is consistent with (and indeed, in our theoretical framework in Section 3, implies) the following. First, the controlling shareholders of these firms either do not gain much utility from charitable activities, or perceive limited fungibility between personal charitable activity and CSR. From this, it follows that mandating CSR spending by firms is unlikely to crowd out controlling shareholders' personal charitable activity (and so will expand the aggregate supply of charitable activity). Second, the private returns from CSR activity for medium-sized Indian firms are small. Of course, these generalizations do not apply to large firms, most of which engage in some CSR activity, with some having done so considerably in excess of the 2% level prior to Section 135. With this as background, we discuss our results in greater detail, and examine some of the broader implications of India's experiment with mandatory CSR requirements.

5.1) Firm Value Effects

The first announcement of the proposed mandatory CSR rule caused a decline in firm value of about 2.6% to 3.3% (depending on the specification) for treatment firms relative to

⁵⁷ The latter is implied by the 0.43 effect of the indicator for being initially below 1%, relative to the firms that were initially above 1% and experienced a 0.4 percentage points increase in CSR.

control firms. A negative effect is not especially surprising; if CSR spending benefited firms, one might expect that they would already have been doing it voluntarily. The magnitude of the effect, however, provides some important implications. First, the magnitude is comparable to (or even larger than) the amount of CSR spending that the provision required. At the time of the announcement, the expectation was that the CSR spending requirement would be mandatory, rather than being implemented on a comply-or-explain basis. Thus, it is not necessarily puzzling that the firm value decline may exceed the required amount of CSR spending. For instance, the CSR mandate might be expected to entail significant compliance costs, including those associated with the diversion of managers' and directors' time and effort from business operations, the costs of researching suitable recipients of CSR spending (or hiring consultants to do this), and the costs of disclosing CSR activity.⁵⁸

Even so, there remains the question of whether the compliance and disclosure costs implied by the estimate may be unreasonably large, and of whether any light can be shed on their magnitude. To partially address this, we regress the August 6, 2010 CARs on firms' CSR spending in 2015:

$$CAR_i = \alpha + \beta CSR_{2015}_i + \epsilon_i \quad (15)$$

CAR_i is the CAR computed for firm i around August 6, 2010, CSR_{2015}_i is firm i 's CSR spending in fiscal year 2015, α is a constant, and ϵ_i is the error term. Assuming that investors can (to some degree) predict how much firms will end up spending on CSR once Section 135 comes into effect, the estimate of the constant α indicates the compliance and disclosure costs borne by firms when $CSR_{2015}_i = 0$. While this is a rather rough exercise, subject to numerous caveats, it enables us to separate out the cash flow effects of CSR spending from the compliance and disclosure costs. The estimate of α is about -1%, indicating that a substantial fraction of the negative market reaction is attributable to compliance and disclosure costs (along with any reputational costs for firms that spend nothing on CSR).

Another concern is that the estimated effect on August 6, 2010 would be discounted by the probability that the announced policy would ultimately be enacted (and thus that the true effect, accounting for this probability, may be implausibly large). However, in a parliamentary system, it would generally be expected that the policy favored by the governing coalition (with

⁵⁸ See "CSR to Make available 50,000 More Jobs in the Sector: Experts," BUSINESS STANDARD, October 13, 2013. Available at: www.business-standard.com/article/economy-policy/csr-to-make-available-50-000-more-jobs-in-the-sector-experts-113101300181_1.html.

its parliamentary majority) would eventually be enacted, even though there would have been some uncertainty about the timing. It was also widely expected that a new Companies Act (of which Section 135 formed a part) would be enacted to update the existing law dating from 1956. Thus, it does not seem unreasonable to view the anticipated probability of eventual enactment, as of the event date, as being quite close to 1.

The size of the effect also sheds some light on an important question in the study of CSR – the magnitude of firms’ private returns from CSR activity, which has important implications for the extent to which governments should subsidize CSR activity, as well as for understanding firms’ motivations for CSR. The large decline in the value of firms (relative to the amount of CSR required) suggests that the private returns to CSR activity are quite small, at least for Indian firms around the threshold. The estimated magnitude is quite consistent with Equation (8), which reflects circumstances in which $B(x_F) \equiv 0$ (i.e. where there are no private returns to CSR activity).⁵⁹

On the other hand, it is possible that the August 6, 2010 event gave rise to expectations of future increases in regulation. This would make it more difficult to interpret the implications of the magnitude of the effect. However, it appears unlikely that any such future regulation (or a general reversal of liberalization, of the sort described in Section 2) would apply at precisely the same thresholds used for Section 135, especially as these thresholds are not used elsewhere in Indian company law.

In general, an important caveat is that our firm value results measure the value to the firm of CSR spending, not the *social* value of such spending. Thus, our results should not be viewed as indicating that CSR spending is socially value-destroying. Indeed, in Section 5.4 we discuss briefly how India’s mandatory rule might be socially value-enhancing even if it generates negative firm value effects.⁶⁰

5.2) *Compliance and Enforcement*

⁵⁹ This conclusion is reinforced by the fact that Equation (8) does not take account of the tax-deductibility of CSR spending. To the extent that CSR spending is tax-deductible, our estimate represents the after-tax loss of value and so may understate the pretax effect.

⁶⁰ Indeed, it is possible that if enough firms start engaging in CSR then network effects may develop that make it more valuable to firms to engage in CSR (Flammer 2015). That may not have happened by 2010 in India, but given the large increases in CSR spending and the rapidly increasing fraction of firms doing this spending that may happen soon. Also, there have been suggestions in the literature in the US that analysts’ perceptions and valuations of CSR have changed over time (Ioannou and Serafeim 2015).

One important set of concerns about this study relates to the limited enforcement of company and securities law in India. While this is an important background consideration, it is generally the case that most potential compliance and enforcement problems are likely to create a bias against our findings. Moreover, the “comply-or-explain” structure of Section 135 is in many ways well-tailored to a weak enforcement environment, relying primarily on disclosure. We thus begin by discussing firm’s decisions on whether to spend or to explain their lack of CSR activity. We then consider problems arising from possible corruption, fraud, and noncompliance.

Spending at least 2% of net profits on CSR and spending less but providing an explanation of the failure to spend 2% are both alternative forms of compliance with Section 135. To understand the prevalence and consequences of these choices, we hand-collect data on the explanations provided by the largest 100 firms from their Business Responsibility reports. Of 53 firms with usable data, about one third spend 2% or more, while virtually all the rest provide explanations (as required by Section 135). Thus, even among the largest firms, explaining rather than spending 2% is common. The explanations provided are generally not very detailed and often not particularly compelling. Some common themes include the novelty of the CSR requirement and the difficulty of identifying worthy causes on which to spend in the limited time available. A number of firms promise to carry forward their shortfall by spending more than required in future years. We also run a regression of the August 6, 2010 CAR on an indicator for whether firms spent 2% or more in fiscal year 2015 or instead provided an explanation. The firms that explained experienced a market reaction that was almost 1 percentage point less negative than that for firms that ended up spending 2% or more; however, the difference between the effects is not statistically significant.

A significant concern is that the CSR mandate may give rise to corrupt or fraudulent forms of spending, for instance where the firm directs funds towards a fraudulent organization that then returns most of the money. If such “kickbacks” were returned to the firm, we would not observe (as we do) a substantial negative market reaction. However, if they were directed to the *controller*, then this would amount to a form of controller self-dealing that may give rise to a negative market reaction (reflecting minority shareholders’ valuation). However, it should be remembered that Section 135 does not create any new opportunities for self-dealing by controllers. If CSR spending happens to be an effective mechanism for self-dealing, then controllers would already have been engaged in this practice. Thus, if Section 135 gives rise to

“kickbacks” of this type, then they would be offset by reductions in other forms of self-dealing. It is therefore unlikely that fraudulent forms of CSR spending would confound our basic results.

Perhaps the most egregious form of noncompliance by firms would be to falsely claim CSR expenditures that they had not actually made. This strategy is fraught with difficulty, however. The ostensible beneficiaries of the “spending” would be aware that funds had not been received and are likely to object. Indeed, even in the absence of enforcement by SEBI or other official bodies, India has a quite vibrant business press that would be likely to publicize such forms of noncompliance.

5.3) CSR Spending Effects

After Section 135 came into effect, there was a significant increase in CSR spending by treatment firms relative to control firms, and a particularly large increase in the fraction of treatment firms (relative to control firms) that engaged in positive amounts of CSR spending. At the same time, we find that the negative effect on firm value seems to have been concentrated among firms that had little customer interaction, proxied for by those with zero or missing advertising expenses. Further, we find some evidence indicating that the likelihood of advertising spending decreased when firms were subject to Section 135. These results collectively indicate some degree of substitutability between CSR and advertising, suggesting that the primary benefit to Indian firms of CSR spending is inculcating goodwill or good public relations (very much like advertising).⁶¹ Other benefits of CSR that have been discussed in the literature, such as CSR spending insulating firms against government enforcement actions (e.g. Jeffers, 2015; Hong and Liskovich, 2016) seem unlikely to hold in the Indian context where such enforcement actions are infrequent and often mired in delays.

The increase in CSR spending was concentrated among firms that spent less than 2% of their net profits on CSR prior to Section 135. While there were few firms that spent more than 2% prior to Section 135, these firms appear to have *decreased* their CSR spending after Section 135 came into effect; presumably, this was an unintended and undesired outcome. It is particularly interesting because many of these leading CSR firms were opposed to Section 135.⁶²

⁶¹ These results suggest that firms with positive advertising reduced their advertising expenditures and increased their CSR spending and that these firms suffered a lesser negative firm value effect compared to firms that did no advertising, which increased their CSR spending. Stated this way, it appears the advertising firms were able to reduce the cash flow effect of CSR spending by reducing advertising, but the no-advertising firms did not have this option.

⁶² See MONEYCONTROL, CNBC-TV18 News, August 6, 2010, op cit; INDIACORPLAWBLOG, August 7, 2010, op cit.

One explanation is that the firms (and their controllers) might consider the primary benefit of CSR to be the goodwill it generates for the firm (or its controlling group), which might be negatively impacted by mandated CSR spending. For instance, imagine that prior to Section 135, a separating equilibrium existed in which “good” firms engaged in 4% CSR (and thereby signaled their type), while “bad” firms did no CSR activity.⁶³ After Section 135, “good” firms must increase their CSR – e.g. to 8% – to remain distinguishable from the “bad” firms (which now spend 2%). This may not be worth the cost, in which case the “good” firms will settle for a pooling equilibrium in which all firms spend 2%.

In addition to the signaling story, it is possible that the 2% level serves as a focal point because it is specified (though not required) in the law. This would also be consistent with the observed pattern (among large firms) of convergence from both below and above to 2%. This result also connects to a broader literature that examines what happens when a practice that was previously voluntary becomes mandated. In some scenarios, this may have a deleterious effect on the underlying practice, with the threshold becoming both a ceiling and a floor (or an “anchor”).⁶⁴ Finally, to the extent that CSR activity reflects intrinsic motivations of firms’ insiders, the result may also be seen as relating to the literature on the crowd-out of intrinsic motivation (e.g. Gneezy and Rustichini, 2000).

5.4) CSR Mandates versus Corporate Taxation

Finally, one of the most intriguing aspects of Section 135 is that it can be viewed as a tax imposed by the government (of 2% of net profits), albeit spent by the firms (rather than by the government) on a broad array of CSR activities.⁶⁵ This prompts two different types of questions. One of these concerns the parallels between our empirical findings and results on the impact of corporate taxes on firm value. The other is about when such a rule might be preferable to a

⁶³ Lys, Naughton and Wang (2015) present evidence that CSR activity may signal future financial performance.

⁶⁴ For example, in 1993 the US Congress enacted Section 162(m) of the US tax code. This provision limited the deductibility to corporations of an executive’s compensation to \$1 million (unless the compensation is performance-based). Subsequently, some firms that had been paying their CEOs less than \$1 million of salary increased their salaries to \$1 million (Harris and Livingstone, 2002).

⁶⁵ Note, however, that while loss-making firms are exempt from the CSR requirement, firms are not able to “carry forward” losses to offset their future CSR obligations. In this respect, the CSR “tax” is less favorable to firms than the typical corporate tax. Moreover, as described in Section 3, firms are required to spend 2% of an income measure that is averaged over the last 3 years, so it appears possible that a loss-making firm may face CSR obligations based on this 3-year average income measure (whereas it would have no current tax obligations).

straightforward tax of 2%; although we do not develop a formal model here, we identify below a few key factors to consider.⁶⁶

Increases in corporate tax rates would, other things equal, be expected to lead to commensurate reductions in the after-tax value of corporations. While there is a substantial literature on the valuation effects of various aspects of firms' responses to taxation (e.g. Desai and Dharmapala, 2009), there is relatively little event study evidence on market reactions to corporate tax changes. Moreover, these market reactions are potentially difficult to interpret, as they depend not simply on the tax rate change, but also on changes in the tax base, firms' responses (e.g. firms may reduce investment and increase their pretax return, thereby shifting some of the incidence from capital to labor), and on the personal tax treatment of shareholders' returns. Perhaps the most closely analogous study is on the 1986 US tax reform, which reduced corporate tax rates while broadening the corporate base (with the latter effect dominating, such that corporate tax revenue increased substantially). Givoly and Hayn (1992) analyze the aggregate impact of various legislative events associated with this reform on firms' market values, computing an overall decline in market value of about \$450 billion. The present value of the additional tax payments, however, are estimated to be about \$275 billion. Thus, as in our setting, the market reaction was rather more negative than would be expected from the direct cash flow consequences.

That then leads to our second question – when might India's CSR rule be preferable to a straightforward tax? Important differences between Section 135 and a corporate tax include who spends the funds and what kind of disclosure accompanies it. In the latter, governments (i.e., government employees) spend the money on whatever it considers its priorities, with the level of disclosure determined by the political system. Under Section 135, firms (i.e., firm insiders and employees) spend the money, with the level of disclosure determined by securities law. The Section 135 approach may be advantageous if there are reasons to think that firm employees will do a better job than government employees in deciding where to spend the funds, for instance because firms stand to gain goodwill from (effective) CSR spending and so motivate employees to spend funds effectively. If so, firms' employees may find better projects and avoid siphoning

⁶⁶ There has been considerable policy interest in the apparent growth of tax avoidance activity by multinational firms (e.g. OECD, 2013; Dharmapala, 2014). Indeed, current discussion seems to entertain the possibility that tax payments by large multinationals may be sufficiently voluntary in nature to constitute CSR activity (e.g. Desai and Dharmapala, 2006). In this environment, CSR mandates may possibly be viewed by some policymakers as an alternative to corporate taxation.

funds off to other activities. It is not clear that government employees have similar incentives, and in some emerging market (and other) contexts the risk of government employees' misuse of funds may be greater than that associated with firms' employees.

A related point is that firms' decisions on CSR spending might reveal their private information on effective CSR programs. For example, firms might better target their resources to providers that generate the "best" results. Firms' choices might influence other firms (especially if firms disclose their CSR spending in detail) so that more funds reach "better" providers. This could be valuable if the firms' decisions track the efficacy of the providers in meeting their stated objectives and if firms' have some advantage in gathering, publicizing and making credible such information.

We hasten to add, however, that these comments should not be taken to suggest that firms are always better at this sort of activity than the government. It is not difficult to imagine less optimistic scenarios. It is not impossible that politicians may favor a CSR mandate because it enables them to pressure firms to direct CSR activity to politicians' preferred causes or organizations. However, it should be remembered that such pressure could have been exerted before Section 135, as nothing prevented firms from spending on CSR. Section 135 adds the element of mandatory disclosure of CSR activities. This may enable politicians to better monitor firms' choice of CSR beneficiaries, and make it more likely that firms direct their spending towards politically favored groups. If this is expected to be widespread, then our estimate of the market reaction may be influenced by this expectation and the estimate may not reflect the returns from "genuine" CSR activity that is free of political pressure. We plan to explore such issues (and the question raised above of whether firms direct CSR spending to the "best" providers) through the hand-collection of further information from disclosures of CSR activity. More generally, India's experiment with Section 135 provides an opportunity to think more broadly about how one might approach the issue of providing certain kinds of CSR activities and the circumstances in which the approach in India might be potentially desirable. We leave more fulsome discussion of this to future research.

6) Conclusion

The Corporate Social Responsibility (CSR) activities of firms are of great interest to policymakers, practitioners, investors, and the general public. They have generated a vast

academic literature cutting across multiple disciplines, and implicating fundamental questions regarding corporate governance, the role of corporations in society, and the institutional design of the provision of public goods. This paper analyzes the consequences of CSR activity using the quasi-experimental variation created by Section 135 of India's Companies Act of 2013, which requires (on a "comply-or-explain" basis) that firms satisfying specific size or profit thresholds spend a minimum of 2% of their net profit on CSR.

Using an RD design based on a nonparametric local polynomial regression approach, we find a negative and substantial effect on firm value around the first announcement of the CSR mandate. This effect is larger than the 2% spending requirement, suggesting the importance of additional compliance and disclosure costs, and implying that the private returns of mandated CSR activity to firms around the threshold are small. The effect seems to be concentrated among firms that are less customer-facing, as indicated by low advertising expenditures; along with other evidence we report, this indicates some degree of substitutability between CSR and advertising. We also find significant increases in CSR activity among firms subject to the new provision, especially along the extensive margin (i.e. the fraction of firms engaging in CSR spending). For a subset of large firms (the top 100), we find that while firms initially spending less than 2% increased their CSR activity, firms initially spending more than 2% reduced their CSR expenditures after Section 135 came into effect. These findings bring new evidence to bear on the wide-ranging debates over the consequences of CSR activities, and suggest new ways of understanding this important phenomenon.

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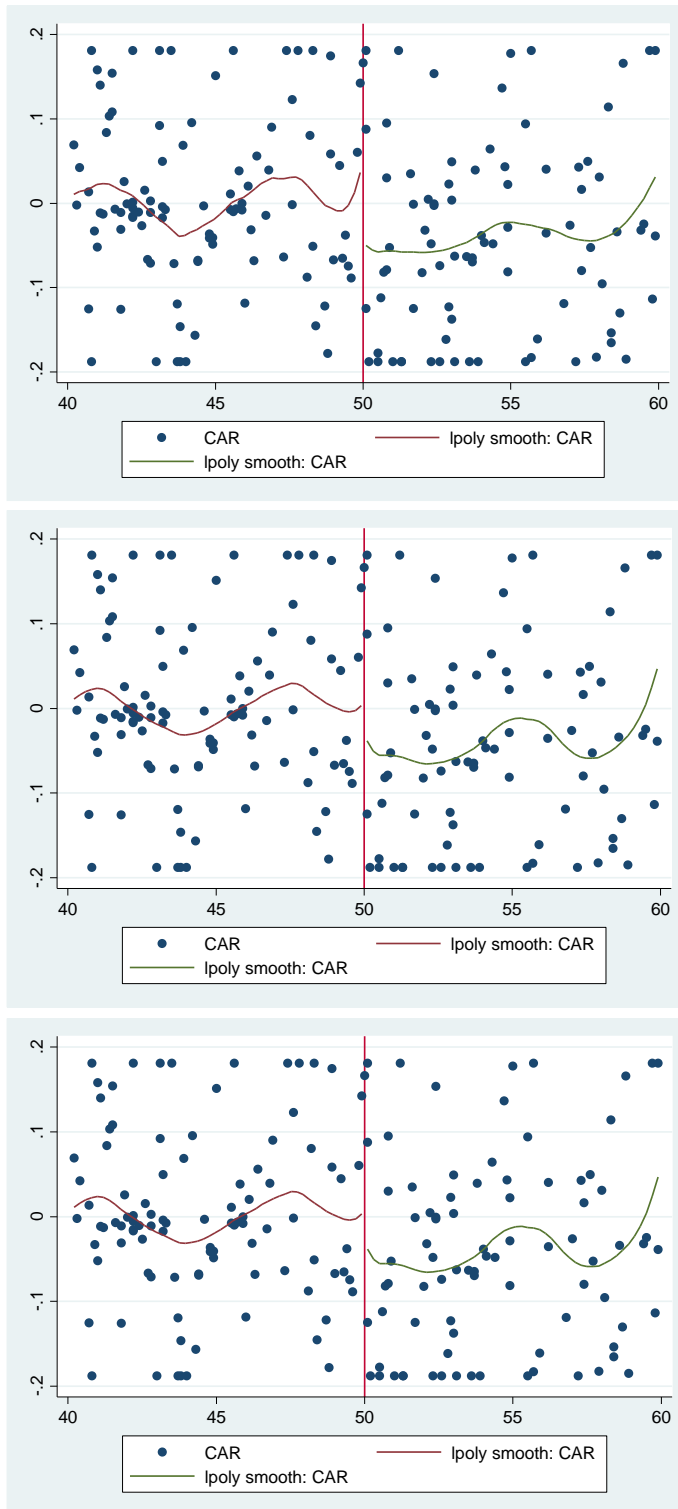
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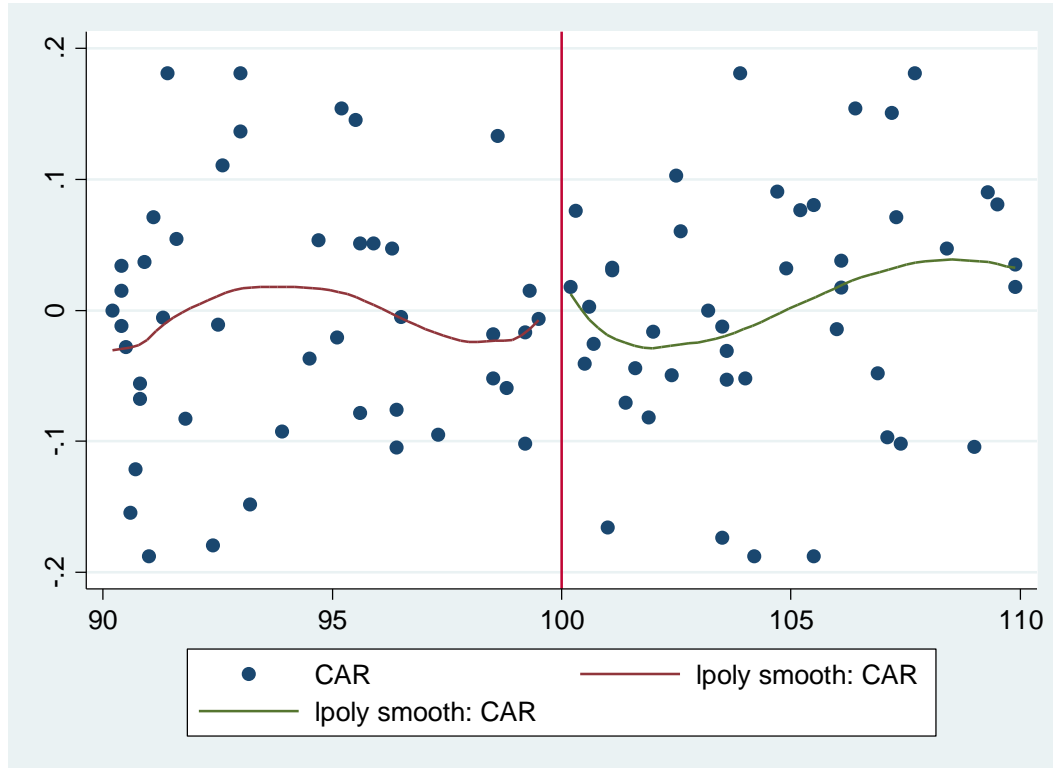
Figure 1: Cumulative Abnormal Returns (CARs) around August 6, 2010 in the Neighborhood of the Net Profit Threshold (INR 40 million to INR 60 million)



Note: These graphs plot cumulative abnormal returns (CARs) around the August 6, 2010 event (using a (-3, +3)-day window) for firms with net profit in the range of INR 40 million to INR 60

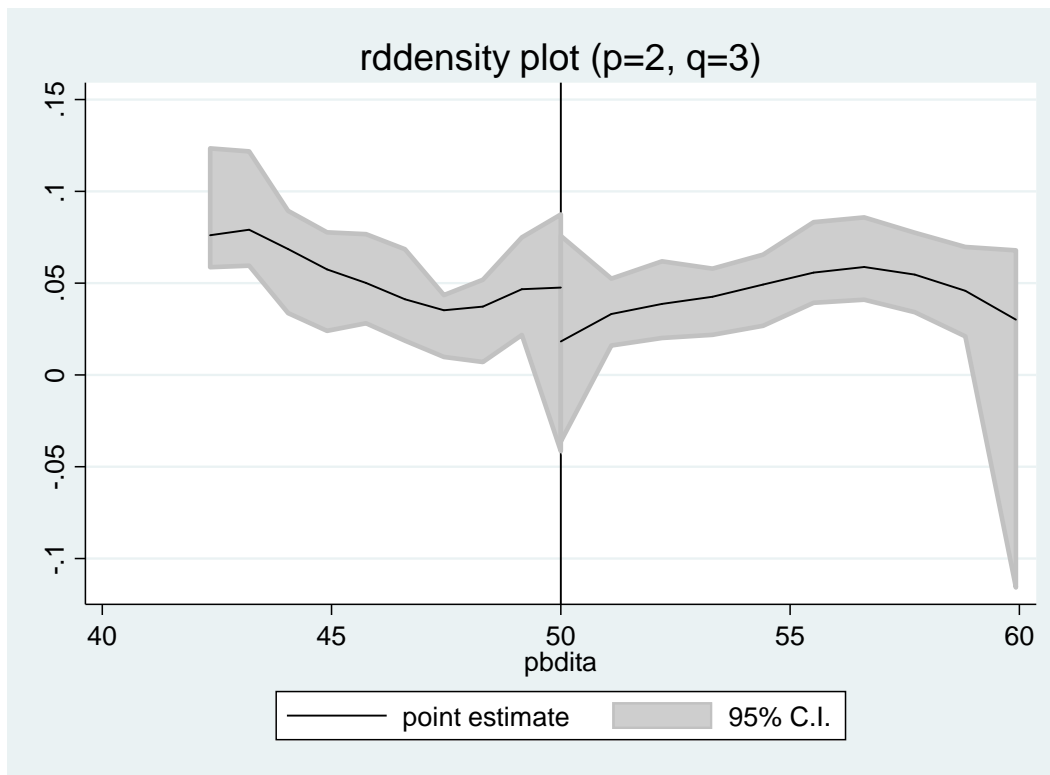
million in fiscal year 2010. The vertical red line represents the Section 135 net profit threshold of INR 50 million. The figure also shows fitted values on either side of the threshold, using local polynomial regressions with polynomials of degree one (top panel), degree two (middle panel), and degree three (bottom panel), with a triangular kernel.

Figure 2: Placebo Test – Cumulative Abnormal Returns (CARs) around August 6, 2010 in the Neighborhood of Net Profits of INR 100 million



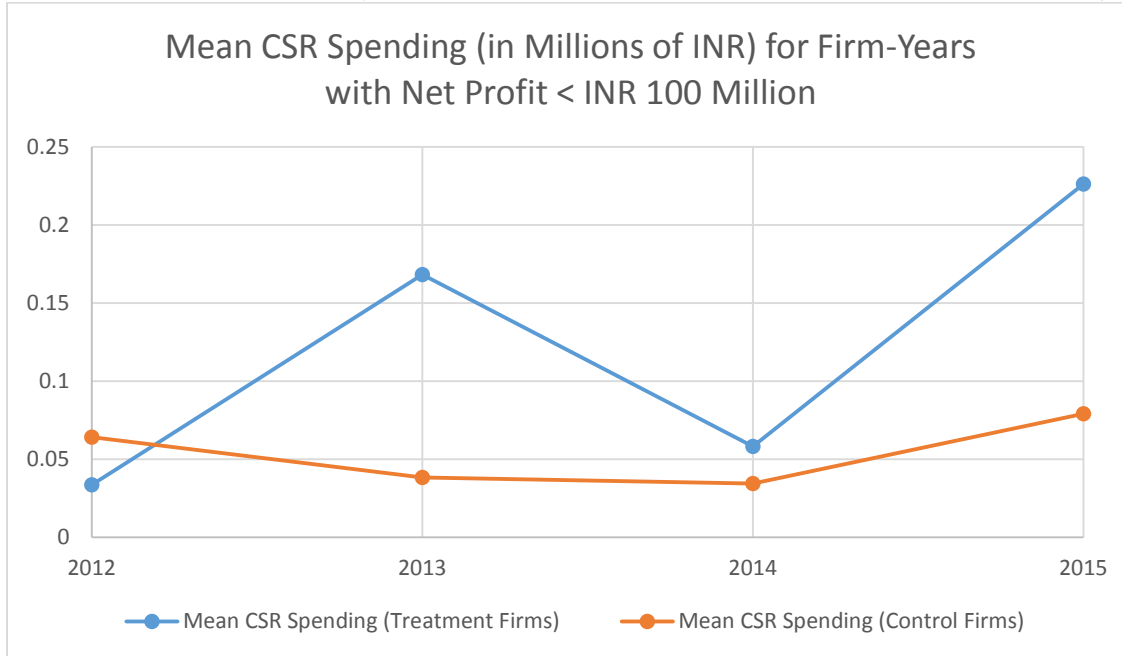
Note: This graph plots cumulative abnormal returns (CARs) around the August 6, 2010 event (using a +/- 3 day window) for firms with net profit in the range of INR 90 million to INR 110 million in fiscal year 2010. The vertical red line represents net profits of INR 100 million (the placebo threshold). The figure also shows fitted values on either side of the threshold, using local polynomial regressions with polynomials of degree three and a triangular kernel.

Figure 3: Test for Manipulation of Net Profits in the Neighborhood (INR 40 million to INR 60 million) of the Threshold (INR 50 million) in Fiscal Year 2015



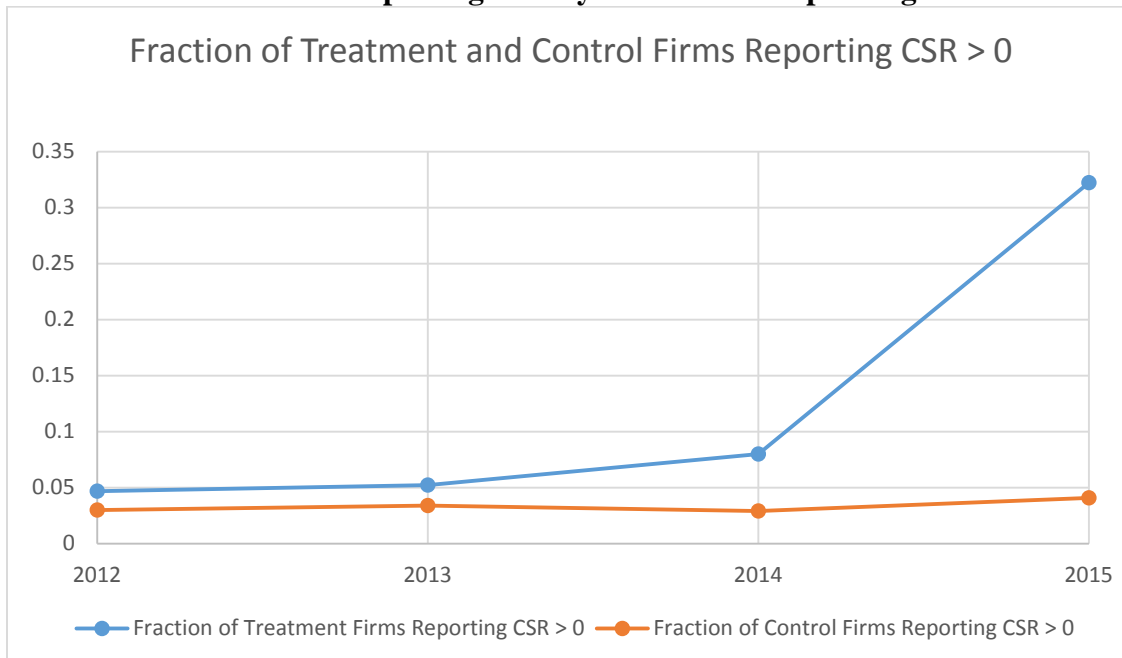
Note: This density plot represents the density of firms across the range of net profits INR 40 million to INR 60 million in fiscal year 2015. The test is that developed by Cattaneo, Jansson and Ma (2017), based on McCrary's (2008) test for manipulation of the running variable in a regression discontinuity design.

Figure 4: Difference-in-Difference Analysis – Mean CSR Spending by Treatment and Control Firms (for Firm-Years with Net Profit below INR 100 million)



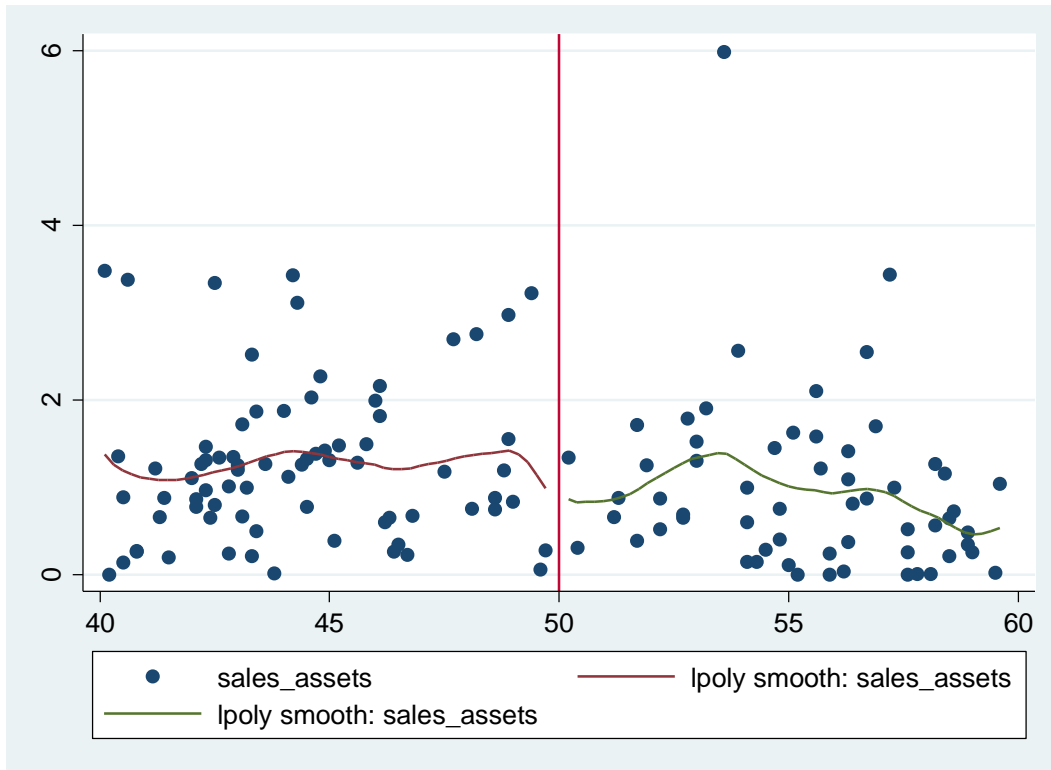
Note: This graph plots the mean level of CSR spending among treatment firms (those satisfying the Section 135 size criteria) and control firms (those not satisfying these criteria) for the years 2012-2015. The sample is restricted to firm-years with net profit below INR 100 million. Missing values of CSR spending are treated as zeroes. CSR expenditures are constructed as described in the text, and are Winsorized from above at 5%.

Figure 5: Difference-in-Difference Analysis – Fractions of Treatment and Control Firms Reporting Strictly Positive CSR Spending



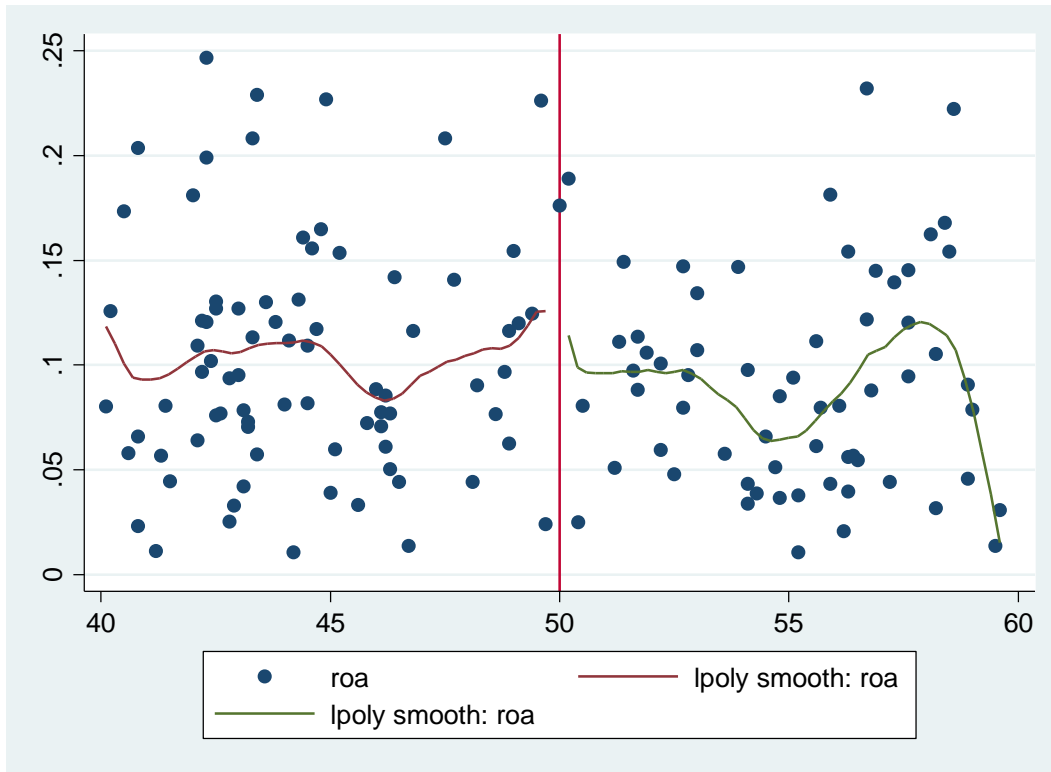
Note: This graph plots the fraction of firms reporting strictly positive CSR spending, separately for treatment firms (those satisfying the Section 135 size criteria) and control firms (those not satisfying these criteria) for the years 2012-2015.

Figure 6: The Ratio of Sales to Total Assets in 2015 among Firms in the Neighborhood of the Net Profit Threshold (INR 40 million to INR 60 million)



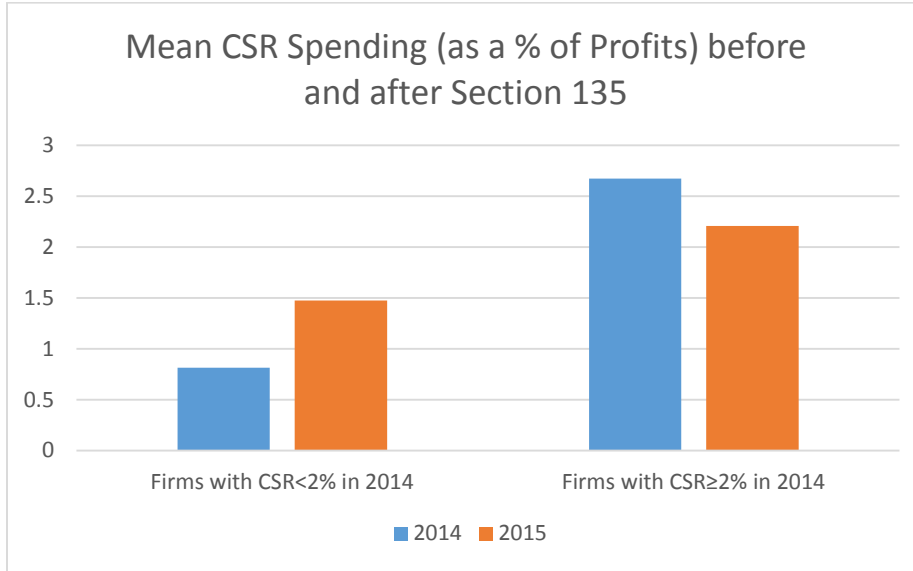
Note: This graph plots the ratio of sales to total assets in fiscal year 2015 for firms with net profit in the range of INR 40 million to INR 60 million. Observations where the sales to assets ratio exceeds 6 are omitted. The vertical red line represents the Section 135 net profit threshold of INR 50 million. The figure also shows fitted values on either side of the threshold, using local polynomial regressions with polynomials of degree one and a triangular kernel.

Figure 7: Return on Assets (ROA) in 2015 among Firms in the Neighborhood of the Net Profit Threshold (INR 40 million to INR 60 million)



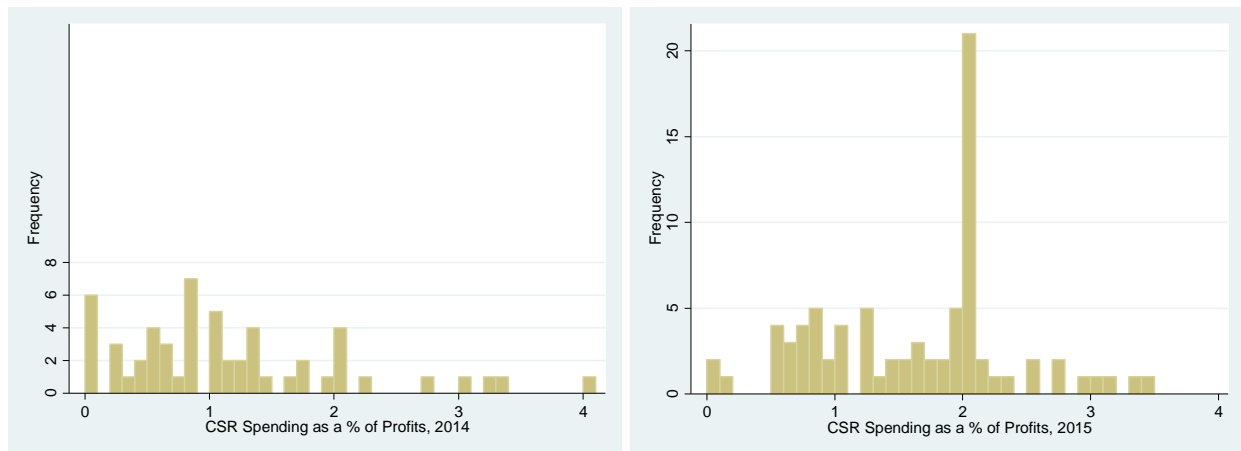
Note: This graph plots the return on assets (ROA) in fiscal year 2015 for firms with net profit in the range of INR 40 million to INR 60 million. Observations where ROA exceeds 0.25 are omitted. The vertical red line represents the Section 135 net profit threshold of INR 50 million. The figure also shows fitted values on either side of the threshold, using local polynomial regressions with polynomials of degree one and a triangular kernel.

Figure 8: Mean CSR Spending by Large Firms before and after Section 135



Note: This bar chart reports mean CSR expenditures as a percentage of net profits in fiscal years 2014 and 2015 by 55 of the largest 100 Indian firms (i.e. all firms in this category for which the required data could be obtained). CSR expenditures as a percentage of net profits is measured in percentage points.

Figure 9: Density of Large Firms' CSR Spending as a Percentage of Net Profit in 2014 and 2015



Note: These histograms represent the frequency distribution over CSR expenditures as a percentage of net profits (measured in percentage points) in fiscal years 2014 and 2015 for 55 of the largest 100 Indian firms (i.e. all firms in this category for which the required data could be obtained).

Table 1: Major Event Dates in the Enactment of Section 135

Date	Event	Key Event?
December 14-21, 2009	The first proposals are made for a voluntary CSR provision as part of the new Companies Act.	No
August 6, 2010	First announcement of a mandatory CSR requirement (using the specific size thresholds)	Yes
September 8, 2010	Parliamentary standing committee recommends mandatory CSR requirement	Yes
December 24, 2010	Media reports of a relaxation from mandatory CSR to a comply-or-explain obligation	Yes
February 10, 2011, March 14, 2011	Further news of movement towards a comply-or-explain obligation	Yes
July 11, 2011	The first proposals are made for a mandatory CSR provision as part of the new Companies Act.	Yes
August 13, 2012	SEBI (India's securities regulator) requires disclosure of CSR spending by the largest 100 firms.	No
December 18, 2012	The bill that became the Companies Act of 2013 is passed by the <i>Lok Sabha</i> (the lower house of Parliament). The bill includes the CSR provision.	Yes
August 8, 2013	The bill that became the Companies Act of 2013 is passed by the <i>Rajya Sabha</i> (the upper house of Parliament). The bill includes the CSR provision.	Yes
August 29, 2013	President assents to the Companies Act.	No
September 20, 2013	The Ministry of Corporate Affairs issues rules on what counts as CSR for purposes of the Act.	No
February 27, 2014	These rules are approved	No
April 1, 2014	The CSR requirement of Section 135 becomes effective for firms satisfying the size-related thresholds (from the 2014-15 fiscal year	No

Note: This list of event dates is based searches for media reports and on parliamentary records. See CSR Voluntary Guidelines (2009); MONEYCONTROL, CNBC-TV18 News, August 6, 2010,

op cit; INDIACORPLAWBLOG, August 7, 2010, op cit; *Standing Committee on Finance*, Twenty-First Report (The Companies Bill, 2009); BUSINESS STANDARD, September 8, 2010, op cit; TIMES OF INDIA, December 24, 2010, op cit; TIMES OF INDIA, February 10, 2011, op cit; JUST MEANS, March 14, 2011, op cit; The Companies Bill (Proposed), 2011, No. 121, Lok Sabha, Clause 135; *SEBI Circular CIR/CFD/DIL/8/2012*, August 13, 2012.

Table 2: The Impact on Firm Value of the Major Events in the Enactment of Section 135 – RD Estimates using Local Polynomial Regressions

Date	Event	RD Estimate,	Number of Observations
August 6, 2010	First announcement of a mandatory CSR requirement	-0.03318* (0.01803)	2252
September 8, 2010	Parliamentary standing committee recommends mandatory CSR requirement	0.00978 (0.01602)	2246
December 24, 2010	Media reports of a relaxation from mandatory CSR to a comply-or-explain obligation	0.01161 (0.01955)	2278
February 10, 2011	Further news of movement towards a comply-or-explain obligation	-0.02543 (0.01705)	2174
March 14, 2011	Further news of movement towards a comply-or-explain obligation	-0.00663 (0.01317)	2188
July 11, 2011	The CSR provision are included as part of the new Companies Act	-0.00156 (0.01145)	2195
December 18, 2012	The bill that became the Companies Act of 2013 is passed by the <i>Lok Sabha</i> (the lower house of Parliament). The bill includes the CSR provision.	-0.01646 (0.01137)	2257
August 8, 2013	The bill that became the Companies Act of 2013 is passed by the <i>Rajya Sabha</i> (the upper house of Parliament). The bill includes the CSR provision.	-0.01165 (0.00964)	1825

Note: This table reports regression discontinuity (RD) estimates for cumulative abnormal returns (CARs) calculated using a (-3, +3) window around each of the major event dates, as described in the text. The CARs are Winsorized at 5%. The RD estimates use the INR 50 million threshold

for net profits specified in Section 135, and the samples include only those firms that did not meet either of the net worth or sales thresholds (and for whom the net profit threshold is therefore binding). Net profit, net worth and sales are determined as of the closest financial year to the event date. The RD estimates are based on a nonparametric local polynomial regression approach, and implemented using the “rdrobust” package developed by Calonico et al. (2014b), with a triangular kernel, bandwidth selected to optimize mean squared error, and a third-order polynomial. Robust standard errors are in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Placebo Tests for Cumulative Abnormal Returns (CARs) around August 6, 2010 – RD Estimates using Local Polynomial Regressions

	(1) Placebo Test at INR 100 million	(2) Placebo Test at INR 150 million
RD Estimate	-0.00783	0.00376
	(0.02093)	(0.01998)
Number of Observations	2252	2252

Note: This table reports regression discontinuity (RD) estimates for cumulative abnormal returns (CARs) calculated using a (-3, +3) window around the August 6, 2010 event. The RD estimates are calculated for each of two placebo thresholds (net profit of INR 100 million and net profit of INR 150 million). They are based on a nonparametric local polynomial regression approach, and implemented using the “rdrobust” package developed by Calonico et al. (2014b), with a triangular kernel, bandwidth selected to optimize mean squared error, and a third-order polynomial. Robust standard errors are in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Descriptive Statistics for Cumulative Abnormal Returns (CARs) around August 6, 2010 and for Control Variables in Fiscal Year 2010

	Mean	Standard Deviation	Number of Observations
CAR around August 6, 2010	-0.0066142	0.0934474	3,171
Indicator for Section 135	0.6478179	0.4777064	4,262
Total Assets (Fiscal Year 2010)	23759.23	225225.6	4,209
Advertising Expenditures (Fiscal Year 2010)	90.47138	655.2254	1,932
Export Earnings (Fiscal Year 2010)	2803.42	26508.03	1,839
Net Profit (Fiscal Year 2010)	2335.763	18122.34	4,169
Sales (Fiscal Year 2010)	8721.394	73381.95	3,446
Net Worth (Fiscal Year 2010)	5210.476	36394.27	4,212

Note: The cumulative abnormal returns (CARs) around the August 6, 2010 event are calculated using a (-3, +3) window, as described in the text, and are Winsorized at 5%. All financial variables are in millions of INR, and are obtained from the Prowess database.

Table 5: The Impact on Firm Value of the August 6, 2010 Event – RD Estimates using OLS Specifications

	(1) Firms with net profit in the range INR 0-100 million	(2) Firms with net profit in the range INR 0-43 million and INR 50-100 million (“Donut hole” RD)	(3) Firms with net profit in the range INR 0-100 million, and zero or missing advertising expenditures	(4) Firms with net profit in the range INR 0-100 million, and positive advertising expenditures
	Dependent Variable: CAR around August 6, 2010			
Indicator = 1 if Section 135 applies	-0.02633* (0.015)	-0.02720* (0.016)	-0.03552* (0.021)	-0.01203 (0.021)
Total Assets	0.00000 (0.000)	0.00000 (0.000)	0.00000 (0.000)	0.00001 (0.000)
Advertising Expenditures	0.00039*** (0.000)	0.00042*** (0.000)		
Export Earnings	-0.00001 (0.000)	-0.00002 (0.000)	-0.00000 (0.000)	-0.00002 (0.000)
Quadratic Functions of Profits, Sales, and Net Worth?	Yes	Yes	Yes	Yes
Constant	-0.00466 (0.007)	-0.00425 (0.007)	-0.00998 (0.008)	0.00700 (0.011)
Observations	1,036	981	544	492
R-squared	0.015	0.018	0.013	0.019

Note: The cumulative abnormal returns (CARs) around the August 6, 2010 event are calculated using a (-3, +3) window, as described in the text, and are Winsorized at 5%. All financial variables are in millions of INR. Robust standard errors are in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Descriptive Statistics for CSR Expenditures and Control Variables for Fiscal Years 2012-2015

	Mean	Standard Deviation	Number of Observations
CSR Expenditures	15.16738	33.53105	2,284
CSR Expenditures (treating missing observations as zeroes)	1.875395	12.80217	18,472
Indicator for Section 135	0.6639238	.4723781	18,472
Total Assets (Fiscal Years 2012-2015)	39913.62	382694.7	16,361
Advertising Expenditures (Fiscal Years 2012-2015)	112.6742	887.8421	8,480
Export Earnings (Fiscal Years 2012-2015)	5017.355	57803.53	7,251
Net Profit (Fiscal Years 2012-2015)	3754.378	30427.55	16,362
Sales (Fiscal Years 2012-2015)	13442.6	124582.6	13,770
Net Worth (Fiscal Years 2012-2015)	7921.936	54824.68	16,372
Ratio of Sales to Total Assets (Fiscal Years 2012-2015)	0.8752026	1.269247	13,767
Return on Assets (ROA; Fiscal Years 2012-2015)	0.1100781	1.95438	16,341
Indicator for CSR > 0 (Fiscal Years 2012-2015)	0.0867259	0.2814405	18,472
Indicator for Advertising Expenditures > 0 (Fiscal Years 2012-2015)	0.4202577	0.4936136	18,472

Note: CSR expenditures are constructed as described in the text, and are Winsorized from above at 5%. All financial variables are in millions of INR. The indicator for Section 135 is set to 1 for firm-years in which the net profit, sales, or net worth criteria for Section 135 are satisfied (regardless of whether Section 135 was in force at the time).

Table 7: Difference-in-Difference Estimates of the Impact of Section 135 on CSR Expenditures

	(1) Full sample, treating missing CSR observations as zeroes	(2) Full sample, treating missing CSR observations as zeroes	(3) Omitting missing CSR observations	(4) First- differenced specification, treating missing CSR observations as zeroes
	Dependent Variable: CSR Expenditures			Dependent Variable: Change in CSR Expenditures
Indicator = 1 if Section 135 applies	5.96820*** (0.501)	5.72615*** (0.490)	9.73799*** (1.262)	5.12944*** (0.527)
Total Assets		0.00003 (0.000)	-0.00010 (0.000)	-0.00002 (0.000)
Advertising Expenditures		0.01050*** (0.003)	0.03130*** (0.012)	-0.00233 (0.004)
Export Earnings		-0.00005 (0.000)	0.00007 (0.000)	-0.00003 (0.000)
Quadratic Functions of Profits, Sales, and Net Worth?	Yes	Yes	Yes	Yes
Firm Fixed Effects?	Yes	Yes	Yes	Yes
Year Effects?	Yes	Yes	Yes	Yes
Sample Period	2012-2015	2012-2015	2012-2015	2012-2015
Observations	13,770	13,770	2,108	13,068
Number of Firms	3,988	3,988	915	3,807
R-squared (within)	0.143	0.163	0.222	0.044

Note: CSR expenditures are constructed as described in the text, and are Winsorized from above at 5%. All financial variables are in millions of INR. Missing observations for advertising expenditures and export earnings are treated as zeroes. Robust standard errors are in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 8: Difference-in-Difference Estimates of the Impact of Section 135 on the Probabilities of Undertaking CSR and Advertising

	(1) Full sample	(2) Firm-years with net profit in the range INR 0-100 million	(3) Full sample	(4) Firm-years with net profit in the range INR 0- 100 million
	Dependent Variable: Indicator for CSR Expenditures > 0		Dependent Variable: Indicator for Advertising Expenditures > 0	
Indicator = 1 if Section 135 applies	0.32815*** (0.012)	0.04693** (0.019)	-0.02118** (0.010)	-0.02647 (0.019)
Total Assets	0.00000 (0.000)	0.00001 (0.000)	-0.00000 (0.000)	-0.00001 (0.000)
Advertising Expenditures	0.00008** (0.000)	-0.00336 (0.002)		
Export Earnings	-0.00000 (0.000)	-0.00001 (0.000)	-0.00000 (0.000)	0.00009*** (0.000)
Quadratic Functions of Profits, Sales, and Net Worth?	Yes	Yes	Yes	Yes
Firm Fixed Effects?	Yes	Yes	Yes	Yes
Year Effects?	Yes	Yes	Yes	Yes
Sample Period	2012-2015	2012-2015	2012-2015	2012-2015
Observations	13,770	5,659	13,770	5,659
Number of Firms	3,988	2,196	3,988	2,196
R-squared (within)	0.274	0.020	0.002	0.011

Note: All financial variables are in millions of INR. Missing observations for advertising expenditures and export earnings are treated as zeroes. Robust standard errors are in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 9: RD Estimates of the Impact of Section 135 on CSR Expenditures, Fiscal Year 2015

	(1) RD Estimate Outcome Variable: Annual CSR Expenditure (in INR Millions) in 2015	(2) Placebo Test Outcome Variable: Annual CSR Expenditure (in INR Millions) in 2012-2014
RD Estimate	2.7288*	0.59024
	(1.4983)	(2.3352)
Observations	465	789

Notes: The RD estimates are based on a nonparametric local polynomial regression approach, and implemented using the “rdrobust” package developed by Calonico et al. (2014b), with a triangular kernel, bandwidth selected to optimize mean squared error, and a third-order polynomial. Robust standard errors are in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 10: Descriptive Statistics for CSR Spending among Large Firms

Fiscal Year	CSR Expenditures by Firms Spending < 2% in 2014 (INR Millions)			CSR Expenditures by Firms Spending \geq 2% in 2014 (INR Millions)		
	Mean	Standard Deviation	Number of Observations	Mean	Standard Deviation	Number of Observations
2014	313.7389	394.1862	45	1644.481	2278.836	10
2015	501.8097	587.7019	45	1302.998	2279.675	10

Note: This table reports descriptive statistics for CSR expenditures (measured in INR Millions) by 55 of the largest 100 Indian firms (i.e. all firms in this category for which the required data could be obtained).

Table 11: Changes in CSR Expenditures from 2014 to 2015 among Large Firms

	(1) Full sample of top 100 firms with available data	(2) Firms in the top 100 with CSR expenditure < 2% of profits in 2014	(3) Firms in the top 100 with CSR expenditure ≥ 2% of profits in 2014	(4) Firms in the top 100 with CSR expenditure < 2% of profits in 2014
	Dependent Variable: Change in CSR Expenditure (as a % of Profits) from 2014 to 2015			
Indicator = 1 if CSR expenditure < 2% of profits in 2014	1.12601*** (0.239)			
Change in Profits from 2014 to 2015 (INR Billions)		-0.00023 (0.004)	0.01357 (0.029)	
Indicator = 1 if CSR expenditure < 1% of profits in 2014				0.43147** (0.184)
Constant	-0.46760** (0.217)	0.64496*** (0.104)	-0.37932* (0.193)	0.39952*** (0.120)
Observations	55	44	8	45
R-squared	0.298	0.0001	0.049	0.101

Note: The dependent variable is the change in CSR Expenditure as a percentage of net profits from 2014 to 2015. It is measured in percentage points. Robust standard errors are in parentheses; *** p<0.01, ** p<0.05, * p<0.1.