ACCOUNTING WORKSHOP

Does Mandated Corporate Social Responsibility Reduce Intrinsic Motivation? Evidence from India

By

Shivaram Rajgopal*
Columbia University

Prasanna Tantri
Indian School of Business

Thursday, May 3rd, 2018
1:20 – 2:50 p.m.
Room C06

*Speaker
Paper Available in Room 447

Does Mandated Corporate Social Responsibility Reduce Intrinsic Motivation? Evidence from India[*]

Shivaram Rajgopal   Prasanna Tantri

April 13, 2018

Does Mandated Corporate Social Responsibility Reduce Intrinsic Motivation? Evidence from India

Abstract

We investigate the implementation of a 2014 Government of India mandate that requires companies to at least spend 2% of their profits on corporate social responsibility (CSR) activities. Firms that voluntarily engaged in CSR before the mandate reduce their spending significantly down to the suggested 2% level. Firms that did not actively engage in CSR before the mandate increase their spending marginally. CSR spending post mandate is highly sensitive to negative shocks to firm profits, but not to positive profit shocks. CSR spending post mandate is channeled to more opaque venues with limited third-party verification, relative to before the regulation. Our results are consistent with the hypothesis that regulatory intervention dampens managers' intrinsic motivation to "do good" and, hence, could at times be counter-productive.

1 Introduction

"I don't think you generate CSR by putting statutory requirements. I think there is enough social consciousness among the larger companies to drive it on the basis of what they consider their responsibility "

   - Azim Premji, Philonthropist and Chairman of Azim Premji Foundation.[1]

Governments in several countries have begun playing an active role in the area of corporate social responsibility (CSR). Some have moved from encouraging corporations to nudging them, and from nudging to mandating either spending or disclosures. Recently, the European Union member states have agreed to pass legislation requiring corporations to report their CSR activities in a specific format and in specified detail.[2] Similar laws have been passed or are being contemplated in countries such as Denmark and Canada.[3] Some countries, such as India (Manchiraju and Rajgopal (2017)) and Indonesia (Waagstein (2011)) have gone a step further and have promulgated laws that make not only disclosure, but also spending, on specified CSR activities mandatory. Given these global developments, it is interesting to investigate the impact of the governmental intervention on corporations' CSR spending.

In particular, we examine how a Government of India mandated level of CSR spending of 2% of profits impacts the CSR activities of Indian firms that voluntarily incurred CSR expenditure before the regulatory intervention. In other words, we focus on firms whose spending on CSR prior to the government intervention was higher than the minimum 2% limit specified by the government (labeled "high CSR"firms.) Although there is some debate about the overall contribution of CSR to firm value (see Orlitzky, Schmidt, and Rynes (2003), McWilliams, Siegel, and Wright (2006), Margolis, Elfenbein, and Walsh (2009),

---

[1]Source:http://economictimes.indiatimes.com/news/company/corporate-trends/azim-premji-against-law-on-mandatory-csr-spending-by-corporates/articleshow/7782555.cms. Wipro is one of the largest Information technology companies in India.

[2]Source: https://www.theguardian.com/sustainable-business/eu-reform-listed-companies-report-environmental-social-impact, http://corporatejustice.org/, http://corporatejustice.org/news/1174-getting-non-financial-reporting-right-eu-commission-guidelines-clarify-expectations-towards-business, https://www.globalreporting.org/information/policy/Pages/EUpolicy.aspx

[3]Source: https://mastereia.wordpress.com/2014/04/10/mandatory-environmental-corporate-social-responsibility-can-canada-become-a-leader/ https://www.greenbiz.com/news/2009/01/07/mandatory-csr-reporting-denmarks-largest-companies

and Perrini, Russo, Tencati, and Vurro (2011) for a meta-analysis of the debate relating to link between CSR and firm value), there is a growing literature on the importance of top management motivation (Di Giuli and Kostovetsky (2014), Petrenko, Aime, Ridge, and Hill (2016)) and the legal and institutional environments (Liang and Renneboog (2017)) as explanatory variables affecting CSR spending.

If a firm that spends more than 2% before the mandate (labeled " high CSR firms") undertakes CSR activities to transmit a positive signal to broader stakeholders (Deng, Kang, and Low (2013), Lins, Servaes, and Tamayo (2017)), then spending more than the levels mandated by the government will likely continue to have signaling value. Hence, high CSR firms are likely to be unaffected by the government mandate. However, if the intrinsic motivation of top management or of the controlling shareholders to "do good" drives CSR, then as shown by Gregg and Kosfeld (2006), Tirole (2006), Mellström and Johannesson (2008), any regulatory intervention could be seen as a signal of the government's distrust in management's motives towards prosocial behavior. In particular, managers could view a mandatory limit as an indication of how much voluntary prosocial behavior society expects from them.[4] In such cases, imposing mandatory CSR limits could reduce the level of CSR activities undertaken by high CSR firms to the bare minimum required by the law. Therefore, which of these views actually describes the data is an empirical question.

We examine the consequences of the law on mandatory CSR passed by the Indian Parliament in the financial year 2013–2014. The law requires that qualifying firms allocate at least 2% of their average profits for the last three years to CSR activities. Notably, the law provides that any failure to comply with the CSR requirement needs to be justified by the company's board (the comply or explain model).

Data on CSR spending prior to the effective years of the CSR law comes from the Prowess database maintained by the Center for Monitoring Indian Economy (CMIE). We obtain data on post-period CSR spending from the Ministry of Corporate Affairs, Government of India.

---

[4]Major Indian corporations are run by large groups of controlling shareholders, known as promoters (Bertrand, Mehta, and Mullainathan (2002), Khanna and Palepu (2000), Gopalan, Nanda, and Seru (2007)).

We begin by identifying firms that spent more than 2% of the average profits over the last three years on CSR before the law was passed. We find that in the post-intervention period, such high CSR firms significantly reduce their CSR spending to around 2%. As expected, the so-called low CSR firms that spent less than 2% before the law increased their CSR spending but not up to the full 2% level. These firms preferred to explain their low spending rather than actually incur the expense to undertake socially responsible projects.

High CSR firms reduce their CSR spending by 67%, as measured by the decline in the ratio of CSR to profits, after the law was passed. In contrast, we document a mild increase in CSR spending for low CSR firms. To formalize these changes, we estimate a difference-in-differences regression. Here, the difference in CSR as a proportion of profits between high CSR and low CSR firms in the post-period serves as the first difference. The same difference in the pre-intervention period serves as the second difference. We document that the difference between the two pre-post differences declines by 8 percentage points. This decline represents a 37.2% reduction in the CSR-to-profit ratio and, is hence, economically meaningful. We confirm the existence of parallel trends in CSR spending between high and low CSR firms in the pre-treatment period. The two types of firms do not differ significantly in terms of important observable characteristics. Finally, we perform placebo tests to rule out the possibility that mechanical mean reversion drives our results.

We then focus on the spillover impact of CSR. We find that in the post-intervention period, CSR contributions become highly sensitive to the level of profit. Interestingly, such increased sensitivity is driven mostly by negative shocks to profits, and not by positive shocks. A firm that reports a loss reduces CSR by, on average, Rupees 15.5 million (approximately USD 246,031 at 63 Rupees to a USD) more in the post-intervention period, compared with that in the pre-intervention period. This represents a nearly 44% reduction from the average CSR spending during the pre-intervention period. In other words, when CSR is mandatory, negative shocks to profits reduce CSR more significantly. Interestingly, we find no corresponding increase in CSR spending when firms experience positive shocks to profits in the post intervention period. These results suggest that (i) firms view mandatory CSR as a tax,

and (ii) mandatory CSR reduces firms' intrinsic motivation to devote resources to prosocial behavior.

We focus next on the change in the composition of CSR spending. We hypothesize that reduction in intrinsic motivation to engage in prosocial behavior leads to a reduction in transparency. The Prowess database classifies CSR into four broad categories, namely donations, environment related expenditure, community spending and a miscellaneous category. Note that donations can be easily verified using third party reporting (Kirchler (2008), Kleven, Knudsen, Kreiner, Saez, et al. (2011), Kleven, Kreiner, and Saez (2016)) as donees are required to maintain books of accounts in most cases.[5] The other two types of CSR spending are relatively opaque. In line with our expectations, we find that treatment firms reduce donations and increase other types of CSR spending post mandate. Given the above results, it is reasonable to infer that when forced to spend on CSR, firms may try to "manage"CSR spending as they do in case of taxes (Frank, Lynch, and Rego (2009), Rego and Wilson (2012)).

CSR in response to a government mandate potentially enjoys less of a signaling value to stakeholders relative to voluntary CSR. In this context, firms are free to spend more than the mandated 2% limit and, hence, could still credibly signal their "high quality"type (McWilliams and Siegel (2001)). Firms that voluntarily spent more than the prescribed limit later reduce their spending on CSR in response to the limit. This goes against the "reduction in signal value"hypothesis. Nonetheless, we perform several cross-sectional tests in order to investigate this mechanism further.

First, Servaes and Tamayo (2013) find that the signaling value of CSR is higher for firms that incur higher advertising expenditure.[6] Here, we test whether the reduction in CSR is higher for firms that spend more on advertising in the pre-intervention period. We do not find such a result. Second, we investigate whether the reduction in CSR spending is higher for firms that cause significant environmental pollution. However, the data suggests

---

[5]NGOs in India are required to be registered under various state and federal laws
[6]The study uses advertising expenditure as a proxy for consumer awareness.

that polluting firms do not reduce their level of CSR spending more than other firms do. Finally, we examine whether firms use advertising expenditure in the post-mandate period as a substitute for CSR. If CSR loses its signaling value after the mandate, firms may have to incur higher advertising expenditures. However, we do not find any significant increase in advertising expenditure of high CSR firms. Taken together, these findings suggest that the reduction in CSR among high CSR firms is unlikely to be attributable to a reduction in signaling value. We believe that the reduction occurs because the government imposed mandate diminishes management's intrinsic motivation to devote resources to prosocial behavior (Gregg and Kosfeld (2006)).

Our results are robust to several checks. First, the CSR law provides broad guidelines for identifying the types of expenditure that qualify as CSR under the regulation. Note that the Prowess database maintains data on total CSR spending, as reported by a company, which in theory, can include expenditure not considered as CSR under the law. For example, donations to religious institutions are not considered as CSR under the law, even if (i) such institutions engage in charitable activities; and (ii) the company's board may consider such donations as CSR spending. As a result, total CSR expenditure reported by the Prowess database, in some cases, contains spending not considered as CSR by the law.

In order to address this limitation, we develop one more measure of CSR. Even at the risk of substantial double counting, we aggregate the CSR spending numbers reported by Prowess and by the Ministry. Because this adjustment is made for the post-intervention period only, the double counting, if any, can only underestimate the decline in CSR in the post-period and hence, bias against our main findings. All measures rely on the Prowess data in the pre-intervention period because the Ministry does not track pre-intervention data. Our results remain robust to such a rigorous re-measurement of the data.

Second, we employ firm fixed effects in all regression specifications, and also reproduce our main results using Industry X Year fixed effects. Third, the CSR law was part of the new Companies Act and such bundling would raise concerns about other confounding changes. However, the CSR provisions were implemented from the year 2014-2015 whereas the other

key provisions of the new Companies Act were implemented at different times. In particular, no other provisions that were implemented in 2014-2015, in our view, impacted high and low CSR firms differentially with respect to their CSR spending. Moreover, high and low CSR firms share similar observable characteristics. And, as mentioned before, we also include firm fixed effects in all our regression-based tests.

Our findings suggest that the mandatory CSR is likely to adversely affect the CSR expenditure of firms in which management is motivated intrinsically and, thus, engages in prosocial behavior on its own. Such crowding out behavior is an important cost that advocates of mandatory CSR and Government intervention might want to consider. If the proportion of intrinsically motivated managers in the economy is high enough, imposing mandatory CSR could lead to an overall reduction in CSR spending.

Our study contributes to the large and growing literature on CSR (Manchiraju and Rajgopal (2017), Deng, Kang, and Low (2013), Cheng, Ioannou, and Serafeim (2014), Lins, Servaes, and Tamayo (2017)). To the best of our knowledge, this is the first paper to examine the impact of government mandates on the actual CSR activities of different types of firms. Manchiraju and Rajgopal (2017) use the same setting but they focus on the stock price impact of CSR mandate and do not examine the implementation of the mandate. Second, our study contributes to the literature on intrinsic motivation and cost of control (Gregg and Kosfeld (2006), Tirole (2006), Mellstrom and Johannesson (2008)). To the best of our knowledge, this is the first study to examine the impact of intrinsic motivation towards prosocial behavior in a corporate setting. We find that even in a corporate setting, externally imposed controls seem to crowd out intrinsic motivation.

2 Institutional Background and the Event

India has a rich tradition of corporations contributing to social causes. Even before India achieved independence from the British, Indian business groups, such as the Tata group, the Birla group, and others, actively participated in social causes. Some corporations contributed

6

overtly and/or covertly to the freedom struggle, even at risk of facing penal consequences from the colonial government.[7] As in the case of other countries, CSR remained a largely voluntary activity in India until 2013.

Under pressure from activists and non-governmental organizations (NGOs), the Government of India introduced legislation that required companies above a threshold (defined in terms of net worth, sales, and profit) to spend 2% of their profit on CSR activities. The mandate was imposed via section 135 of the newly introduced Companies Act of 2013. The eligibility threshold was defined as either INR[8] 50 million (USD 0.78 million)[9] in profit, INR 5 billion (USD 0.78 billion) in net worth, or INR 10 billion (USD 1.56 billion) in sales. Given the low profit threshold, almost all listed and actively traded firms fell under the purview of the new rule. Every covered company was required to create a CSR policy. Although the new Companies Act came into force on 29th August 2013, the CSR mandate was made effective from the financial year 2014-2015 (i.e., the year beginning April 1, 2014).

The law requires non-complaint companies to explain in their annual reports the reasons for their non-compliance. However, the law does not specify guidelines to determine whether an explanation is valid, leaving room for regulatory discretion and, in some cases, extortion by the bureaucracy. The Act defines CSR broadly, but leaves the details to the boards of the individual companies (see Manchiraju and Rajgopal (2017) for details about the CSR provisions). Certain activities, such as contributions to religious organizations, are excluded from the definition of CSR.

The reaction to the mandate was predictable. While NGOs welcomed the move, many business leaders expressed serious concerns about the government's interference in what should be a voluntary activity. The critics of the mandatory CSR law include some of the biggest philanthropists in the country.[10] One senior executive of a large Indian business conglomerate was quoted as saying, "Charitable giving used to be a big reputation builder

---

[7]Source:http://www.gatewayhouse.in/a-brief-history-of-indian-csr/.

[8]INR stands for Indian Rupees

[9]We assume an exchange rate of INR 63 to USD 1

[10]Source: https://fastexposure.wordpress.com/2012/06/04/should-corporate-social-responsibility-be-voluntary-or-mandatory/

for us...now it's just about legal compliance."[11] Another senior executive stated that "for most organizations, the discussion at the board level is now not about what we do, but does it count as CSR and does it meet the legal requirements."

If the above statements reflect the sentiment of industry in general, then firms that voluntarily engaged in CSR activities potentially lose some of the intrinsic motivation for prosocial behavior after the imposition of the mandate and hence cut back their CSR spending. In this paper, we examine whether these hypothesized consequences are seen in the data.

3 Data, Variable Definition And Sample Construction

As mentioned in the Introduction, we obtain data on CSR expenditure from two sources: a) the Prowess database, maintained by the Center For Monitoring Indian Economy (CMIE); and b) the CSR database maintained by the Ministry of Corporate Affairs. CMIE is a leading economic think tank in India. The Prowess database provides financial information related to all listed companies, and some unlisted companies as well. The information is extracted from annual reports of firms. Many scholarly articles (Vig (2013), Gopalan, Nanda, and Seru (2007), Bertrand and Mullainathan (2001), Alfaro and Chari (2014)) have used these data.

Prowess reports amounts spent by companies on CSR activities as indicated in their financial statements. We use the numbers reported in Prowess to compute CSR spending in the pre-regulation period. For the post-regulation period, two sources of data are available. The Ministry of Corporate Affairs started collecting data reported by firms on mandatory CSR expenditure from 2014–2015 on specific regulatory filings distinct from financial statements.[12] The Prowess database continues to report financial statement data on CSR spending, as before. Unfortunately, the numbers reported by the two sources do not match perfectly in all cases.

The Ministry numbers are likely to accurately reflect the spending on mandatory CSR.

---

[11]Source:https://www.theguardian.com/sustainable-business/2016/apr/05/india-csr-law-requires-companies-profits-to-charity-is-it-working.

[12]The Indian financial year starts on April 1 and ends on March 31.

However, companies potentially continued to contribute to charitable causes that are not considered CSR under the law. As mentioned in section 2, donations to religious institutions are not considered CSR, even if such institutions use the funds for causes classified as CSR by the law. Prowess however codes such expenditure as CSR in their database. On the other hand, Prowess potentially omits CSR expenditure incurred with a view to comply with the law. Therefore, at the risk of substantial double counting, we aggregate the expenditure reported by both sources, and consider the sum as the total expenditure on CSR in the post-regulation period. Note that the procedure substantially biases the results against us. Consider a case where Prowess reports that a company spent INR 10 million in CSR in the pre-regulation period and INR 8 million in the post-regulation period, while the Ministry reports that the same company spent INR 12 million in the post regulation period. Then, the post-regulation expenditure is measured as INR 20 million (8 + 12) in our study. As can be seen, the measure is a very conservative estimate that biases against our hypothesis of reduced CSR spending post mandate for the high-CSR firms. We provide definitions of the key variables in Table 1.

3.1 Sample Construction

The Prowess database contains information on 33,481 companies. A large number of these are shell companies, formed with the motive of either money laundering or tax evasion. Recently, the Government of India ordered 162,000 companies to cease operations because they were found to be shell entities.[13] The Ministry dataset covers 10,164 companies. As a starting point, we merge the two data sets using a unique corporate identification number (CIN). The merged data set contains 1,882 companies. Note that we match the records only using CIN. We do not rely on fuzzy matching techniques based on names. This is because hundreds of Indian companies are registered under similar names. The problem is acute in the case of groups of companies because the names of all group companies start with a

---

[13]http://www.firstpost.com/business/over-1-62-lakh-shell-companies-deregistered-over-half-from-mumbai-delhi-hyderabad-3907583.html.

common name. For example, there are more than 100 companies with names that begin with "Reliance." In this scenario, the fuzzy matching technique would end up matching non-unique companies. Therefore, we restrict ourselves to corporate identity numbers (CIN).

Prowess began recording CSR information from the year 2010. Our sample starts the same year. The years between 2009–2010 and 2013–2014 are labeled as the pre-regulation years. The sample ends in the year 2015–2016. Of the 1,828 firms, 1,087 firms contain information for all seven years. Our main tests are conducted on a sample of 9,853 firm-year observations. However, for regressions that consider the impact on CSR, we include an additional filter that a firm should have earned a profit of at least INR 50 million, as required by the law. This reduces the sample to 6,882 observations for those tests. These results are presented in Table 2.

4 Empirical Strategy and Results

The empirical analysis begins with a definition of the key variables (see Table 1). As described in Section 3, our main measure of CSR expenditure uses the data provided by the Prowess database for the pre-regulation period, and the data provided by the Ministry of Corporate Affairs for the post-regulation period. We normalize the CSR variable by the average profit of the preceding three years as required by the law. The normalized variable is called CSRRatio. Our second CSR variable is calculated as the sum of the values provided by the two data sources for the post-regulation period. The normalized form of this variable is called CSRTRatio[14]. We use the ratio measures as the dependent variables in our regression-based tests.

Next, we identify the "treatment" firms in our context. Note that our focus is the impact of the political intervention on CSR spending by firms that voluntarily engage in CSR activities before the intervention. We refer to these firms as "high CSR" firms. Specifically, we first calculate CSRRatio for each firm-year. Then, we average the ratio over the pre-regulation

---

[14]We use T to denote total

period. Firms with an average CSRRatio greater than 2% form the high CSR group. For robustness, we define a second high CSR group in a similar way, but we use the conservative CSRTRatio instead. As a further robustness check, we use three other threshold groups: 5%, 7.5%, and 10%.

The law is unlikely to negatively impact the utility of CSR as a signaling mechanism because high CSR firms could continue to spend more than 2% of their profits, even after the government mandate. In other words, investing more than the mandated amount could work as a signal. On the other hand, if the Government mandate has a negative impact on the intrinsic motivation (Gregg and Kosfeld (2006), Tirole (2006), Mellström and Johannesson (2008)) of top management or the controlling owners, CSR contributions are likely to fall. In such cases, treatment firms may reduce their CSR expenditure to the government mandated 2% level. Here, we compare high and low CSR firms by limiting the sample to firms that have data for all seven years. The results are qualitatively similar.

4.1 Comparison of High and Low CSR Firms

We compare high and low CSR firms in terms of important observable characteristics, such as sales, profits and total assets (see Table 3). We do not find a significant difference between the two sets of firms in terms of sales and profits. However, low CSR firms are slightly larger than high CSR firms in terms of total assets. Based on these results, it is reasonable to infer that the two types of firms are similar in terms of important observable characteristics. In Table 20 presented in the on-line appendix, we perform the above comparison by limiting the sample to firms that have complete data for all seven years. The results are qualitatively similar.

4.2 Distribution of CSR Expenditure

We depict the distribution of CSR expenditure in Figures 1 to 3. We divide the sample firms into four buckets, based on CSRRatio, and calculate the proportion of the sample in

each bucket. Figure 1 shows the distribution for the entire sample, before and after the introduction of the regulation. Note that the proportion of firms that spend more than 5% of their profit on CSR declines substantially in the post-regulation period. The proportions of firms that spend between 1% and 2% and between 2% and 5% of their profit increases. Surprisingly, the proportion of firms that spend less than 1% of their profit increases slightly, even though the law mandates that they all need to spend 2%. Thus, many firms prefer to explain their failure to comply with the law rather than actually incur the 2% of CSR spending.

In Figure 2, we focus on firms that spent more than 5% of their profit in the pre-regulation period. In the post-regulation period, a significant proportion of firms falls within the lower buckets, and the "5% plus" bucket becomes significantly smaller. Thus, many firms that spent a significant portion of their profit on CSR reduced their spending in the post-regulation period. The distribution of low CSR firms is shown in Figure 3. As expected, firms move from the lower spending buckets to the higher buckets in this group. However, much of the movement is restricted to the 1%–2% and 2%–5% brackets. Very few firms move beyond the 2%–5% bracket. Thus, the increase in spending by low CSR firms seems minimal.

We perform univariate tests and report the results in Table 4. In line with the graphical evidence presented above, we find that the firms that invested more than 2% in CSR voluntarily in the pre regulation period cut back their spending on CSR significantly. Expectedly, those firms that invested less than 2% in the pre regulation period increase CSR spending marginally.

4.3   Pre–Post Comparison

We estimate the following regression equation:

$$Y_{\text{it}} = \alpha + \beta_1 * Post_t + \beta_2 * X_{it} + \beta_3 * \theta_i + \epsilon_{it}. \tag{1}$$

Here, the sample is restricted to those treatment firms with a profit greater than INR 50 million. The dependent variable is one of our ratio measures of CSR for firm i in year t. The main explanatory variable is $Post_t$, a dummy variable that takes the value of one for 2014–2015 and 2015–2016 (post-regulation years), and zero otherwise. Then, θ_i represents the firm fixed effect, X_{it} denotes firm-level time-varying variables, such as profit and total assets. The standard errors are clustered at the firm level and adjusted for heteroskedasticity.

The results are reported in Table 5. In Panel A, CSRRatio is the dependent variable whereas in Panel B, CSRTRatio is the dependent variable. First, we focus on the results presented in column 1. Here the sample is restricted to firms who spent, on average, 2% of their profits in CSR before the introduction of the regulation. As shown in the table, CSRRatio (CSRTRatio) decreases by 0.08 (0.04), and the decrease is statistically significant. This represents a 67.85% (33.92%) decrease in CSRRatio (CSRTRatio), which is also economically significant.[15] The magnitude of the decrease is higher when we use higher thresholds. The significant decrease in CSR expenditure is in line with the "stifling of intrinsic motivation" hypothesis. As hypothesized, firms which spent significant amounts voluntarily on CSR in the pre-regulation period, seem to have cut down spending after the passage of the mandatory CSR law.

We now shift our attention to low CSR firms. These are firms that spent less than the threshold limit on CSR during the pre-regulation period. In this case, firms' CSR expenditure ought to increase as a result of the mandate. However, as explained in the Introduction, these firms did have the option to spend less than 2% of profits on CSR provided they explained in their annual reports why they failed to fulfil the requirement. If firms resort to explanations, then their expenditure on CSR might remain unchanged. Finally, a reduction in intrinsic motivation of top management to "do good" could dampen the impact of the law, as in the case of the treatment firms. In such a case, even the low CSR firms may not increase CSR spending.

We estimate regression equation 1 for the low CSR sample. As before, we restrict the

---

[15]Note that the average CSR levels during the pre-regulation period are the same under both measures.

sample to firms with a profit greater than INR 50 million (see Table 6). The arrangement of rows and columns in the table is the same as that in Table 5. The results show a mild increase in CSR expenditure. In Panel B, we find that CSRTRatio increases by 0.01. The increase is CSRRatio is very small in economic terms. This shows that the control firms increased their spending slightly in response to the law. However, they do not reach the mandated 2%. This implies that many firms prefer explaining their inability to spend on CSR to actually complying with the minimum 2

4.4 Difference-In-Differences Test

We test whether the treatment and control groups converge in the post-regulation period using the difference-in-differences approach. Note that the difference between the CSR expenditure of the treatment and the control groups may narrow either because of a reduction in spending by the treatment group firms or because of an increase in spending by the control group firms. In Tables 5 and 6, we show that the CSR spending of the treatment group decreases significantly, while the CSR spending of the control group increases marginally. Here, we use the difference-in-differences method to estimate the degree of convergence.

4.4.1 Parallel Trends

As a prerequisite for applying the difference-in-differences method, we investigate the trend in the difference between the treatment and control groups in the pre- and post-regulation periods. In order to rule out the possibility that our results are driven by a mechanical continuation of pre-existing trends, it is important to show that a parallel trend exists between the two groups in terms of the dependent variable, and that the trend break occurs as a result of the government's spending mandate (Bertrand, Duflo, and Mullainathan (2004)).

The pre- and post-trends are shown in Figure 4, which tracks the movement in CSRRatio between the high CSR and low CSR groups during the sample period. We plot the median of the CSRRatio for each year and for each group. The orange line represents the high CSR

group, and the grey line represents the low CSR group. Years 4 and 5 represent the post-regulation periods of 2014–2015 and 2015–2016, respectively. Years 1, 2, and 3 represent the pre-regulation periods of 2011–2012, 2012–2013, and 2013–2014, respectively.

An almost parallel trend is clearly evident between the high CSR and the low CSR groups in the pre-regulation period. By selection, high CSR group firms spend more than the low CSR group firms in this period. Note the sharp decrease in the spending of the high CSR group, and the moderate increase in the spending of the low CSR group firms. From this figure, it is reasonable to conclude that our results are not driven by a mechanical continuation of an existing trend. As noted in Section 4.1 (Table 20), high and low CSR firms do not significantly differ in terms of their observable characteristics.

4.4.2 Difference-in-Differences Equation

After testing for the existence of parallel trends in the pre-regulation period, we estimate the following regression equation:

$$Y_{\text{it}} = \alpha + \beta_1 * Post_t * Treatment_i + \beta_2 * X_{it} + \beta_3 * \theta_i + \beta_4 * \gamma_t + \epsilon_{it}. \tag{2}$$

We restrict the sample to firms with a profit greater than INR 50 million. The dependent variable is a ratio measure of the CSR of firm i in year t. The variable $Post_t$ is a dummy variable, which takes the value of one for years 2014–2015 and 2015–2016 (post-regulation years), and zero otherwise. Treatment is a dummy variable that takes the value of one if a firm's average CSR spending in the pre-regulation period is more than the threshold limit, and zero otherwise. The interaction between the above two variables is the explanatory variable of interest. Then, θ_i represents the firm fixed effects, γ_t represents the year fixed effects, and X_{it} represents firm-level time-varying variables, such as profit and total assets. The standard errors are clustered at the firm level and adjusted for heteroskedasticity.

The results are reported in Table 7. As expected, we find a sharp decrease in the difference between the treatment and control firms in the post-regulation period compared with that

in the pre-regulation period. Then, CSRRatio (CSRTRatio) decreases by 8 (4) percentage points, which is statistically significant. As shown in Tables 5 and 6, this is driven primarily by the decrease in the CSR expenditure of the treatment group.

We perform three additional robustness tests. First, we limit the sample to those firms for which we have CSR expenditure data for all seven years from 2009–2010 to 2015–2016. We then estimate the regression equation 1 using this subsample. The results are shown in Table 16 in the online appendix. We find that the results are in line with those reported in Table 7. Second, in order to account for possible anticipation of the law on account of the discussion in the media before its implementation, we omit the period 2013–2014 from the sample, which is when the new Companies Act was introduced. The CSR provision came into force effective 2014–2015. We estimate equation 1 using this subsample, and find that the results are consistent with our hypotheses. We report these results in Table 17 of the online appendix. Finally, we repeat the above difference-in-difference specification after including industry X Year effects. The purpose is to account for time-varying industry-level shocks. The results, reported in Table 19 of the online appendix, are similar to those reported in Table 7.

We then proceed to address concerns regarding mechanical mean reversion. Firms that invest more in CSR activities in one period might reduce their investment in the next period, and vice versa. However, based on extant research on CSR, such a pattern is unlikely to occur. As discussed in the Introduction, certain types of firms (Servaes and Tamayo (2013)) or management groups continue to engage more in CSR than others (Di Giuli and Kostovetsky (2014)). Figure 4 clearly shows that trends in the pre-regulation period are close to parallel. Therefore, the figure does not support the mean-reversion view. Nevertheless, we perform placebo tests using false treatment years. In particular, for the placebo test, we consider the periods 2012–2013 and 2013–2014 as the false treatment years, and other years in the sample as false pre-regulation years. We then estimate regression equation 6 (see Table 18 of the online appendix). In line with our expectations, we do not find a statistically significant decrease in CSR expenditures.

4.5 Shocks to Profit

As described in Section 2, the new Companies Act prescribed mandatory CSR as a function of a firm's profit. Therefore, it is natural to expect that, in the post-regulation period, CSR contributions would become more sensitive to profit. Our hypothesis in this study is that intervention by the government dampens the intrinsic motivation of top management to engage in prosocial behavior by forcing them to view CSR purely as a compliance exercise. In such a scenario, we expect two things to happen in the post-regulation period. First, CSR contributions will likely decrease sharply in a year when a company reports a loss. Note that the legal obligation to invest in CSR is smaller anyway for lower levels of profit. Second, we expect that CSR contributions will not increase when companies earn significantly higher profits, because these companies will limit their contributions to close to the legally mandated 2% level. Note that we expect greater sensitivity in the post-regulation period between profit and CSR contributions for negative shocks, and lower sensitivity between the two variables for positive shocks, relative to the pre-regulation period.

4.5.1 Overall Shocks to Profit

We consider the overall shocks to profit by estimating the following regression equation:

$$Y_{\text{it}} = \alpha + \beta_1 * Post_t * Profits_{it} + \beta_2 * Profit_{it} + \beta_3 * X_{it} + \beta_4 * \theta_i + \beta_5 * \gamma_t + \epsilon_{it}. \quad (3)$$

Here the dependent variable is a CSR spending number (expressed in INR) as the purpose is to understand the sensitivity of the level of CSR expenditure to the level of profits. The independent variable of interest is the interaction term between the Post-regulation dummy and profit, measured at the firm-year level. This specification picks up the incremental sensitivity of CSR in the post-regulation period compared with that in the pre-regulation period. We include firm and time fixed effects in all specifications.

The results are reported in Table 8. We use CSR-H (which considers Prowess data for pre regulation period and the Ministry data for the post regulation period) as the dependent variable in columns 1 and 2, and CSR-T (which sums the values from the two data sources in the post-regulation period) as the measure of CSR expenditure. Note that these are raw amounts, not ratios. The interaction term indicates that CSR expenditure becomes more sensitive to profit in the post-regulation period, although the magnitude of the association is quite low, ranging from 0.01 to 0.03.

4.5.2 Direction of Profit and Sensitivity

The implication of the increase in sensitivity between CSR and profit depends crucially on whether such an increase happens during positive or negative profit shocks. An increase in sensitivity during positive shocks, and no change, or a decrease during negative shocks, is likely to lead to an increase in overall CSR expenditure. The opposite is true if the increase in sensitivity is limited to negative shocks.

We estimate the above relation using the following triple interaction framework:

$$Y_{it} = \alpha + \beta_1 * Shock_{it} * Post_t + \beta_2 * Shock_{it} + \beta_3 * X_{it} + \beta_4 * \theta_i + \beta_5 * \gamma_t + \epsilon_{it}. \quad (4)$$

We define a negative shock in two ways. Our first measure is a dummy variable that takes the value of one if a firm reports a loss in a year, and zero otherwise. The second measure is also a dummy variable, which assumes the value of one if the profit reported in a year is more than 50% lower than that of the preceding year. We define two measures of positive shocks in a similar way. Here, our focus is on the interaction term.

We report the results in Table 9. The first four columns report the results related to the two types of negative shocks. We find that a negative shock leads to a reduction in CSR contributions by INR 15.15 million (USD 246,031 approximately). Note that the

average CSR expenditure incurred by companies during the pre-regulation period is INR 41.04 million (USD 654,142 approximately). In this context, a decrease of INR 15.15 million during negative shocks is a meaningful reduction in economic terms. The next four columns report the results for positive shocks. The interaction terms are statistically indistinguishable from zero in all four columns.

In sum, the results presented in Table 9 show that the increased sensitivity between profit and CSR expenditure in the post-regulation period (shown in Table 8) is driven primarily by lower CSR spending during periods of negative profit shocks. In other words, firms reduce their spending on CSR when faced with negative profit shocks, but they do not increase their spending when they experience positive profit shocks. As discussed in the early part of this section, the above result clearly indicates that firms treat mandatory CSR as a mere compliance activity, devoid of much internal motivation to engage in prosocial behavior after the government intervention.

4.6 Composition of CSR Expenditure

The results presented thus far indicate that, in the post intervention period, firms view CSR as a compliance activity akin to a tax to be paid. Extant research has shown than firms attempt to manage their tax liabilities via aggressive tax sheltering and geographic transfers of income to low tax jurisdictions (Desai and Dharmapala (2006), Frank, Lynch, and Rego (2009), Hoi, Wu, and Zhang (2013), Chyz (2013)). If firms view mandatory CSR as a quasi tax, they potentially also start managing their CSR contributions. A potential way to game mandatory spending limits is to shift CSR expenditure from relatively more transparent avenues, which are subject to third party reporting, to relatively opaque avenues where very little third party reporting exists. Extant research has shown that third party reporting works as a deterrent against tax avoidance (Kirchler (2008), Kleven, Knudsen, Kreiner, Saez, et al. (2011), Kleven, Kreiner, and Saez (2016), Duflo, Greenstone, Pande, and Ryan (2013)) .

The Prowess data base classifies CSR expenditure into four categories, namely donations, environment protection related expenditures, and community service and others. Note that donations are usually made to recognized funds set up by the government[16] or NGOs. Both the government as well as NGOs maintain books of accounts and hence a large fraction of these expenditures is verifiable through third party reporting. The other two types of expenditures are relatively opaque. Firms direct such expenditures to their in-house trusts and foundations. Therefore, the motive and the opportunity for managing CSR expenditure is higher when such trusts and foundations are involved.

Given the above discussion, we expect firms to shift CSR expenditure from donations to the other two sources in the post intervention period. We estimate the regression equation 1 separately for treatment and control firms. We rely on the proportion of each type of expenditure over total CSR expenditure as the dependent variable. We report the results in Table 10. Note that donations as a proportion of total CSR decline by 42 percentage points for treatment group and 58 percentage points for the control group. Expenditure on community activities increases by 60 percentage points for both the groups. Environment related expenditure stays almost unchanged. These results are consistent with our conjecture that firms start "managing" CSR expenditure in the post intervention period. However, this test entails a sharp decline in the number of observations. This is because the classification of expenditure into one of the three types is missing for large number of firms in the database. Hence, we treat this evidence as suggestive given the proportion of missing data and the absence of a clean exogenous method for classifying expenditure based on transparency.

4.7   Impact on Different Types of Firms

Servaes and Tamayo (2013) show that the signaling value of CSR is higher for firms with greater consumer awareness. In their study, the authors use advertising as a proxy for consumer awareness. Similarly, firms responsible for high levels of pollution are likely to

---

[16]Examples include Prime Minister's Drought Relief Fund, cleanliness campaign launched by the Federal Government, fund for protecting female children, etc.

engage in greater CSR to send a signal about their social responsibility to stakeholders (Keim (1978), Devinney (2009), Laroche, Bergeron, and Barbaro-Forleo (2001)). As noted in Section 2, the law does not prevent firms from spending more than the mandated 2% of profit. Thus, firms that intend to signal their type to stakeholders could continue to do so by spending more than the mandated limit. On the other hand, if imposing control reduces the intrinsic motivation on the part of management to "do good" we expect all types of firms to reduce their CSR spend.

We use a triple-interaction framework to examine the impact of the law on firms that advertise more. Specifically, we estimate the following regression equation:

$$Y_{\text{it}} = \alpha + \beta_1 * HighAd_i * Post_t * Treatment_i + \beta_2 * Post_i * Treatment_i + \beta_3 * Post_i * HighAd_i$$
$$+\beta_4 * X_{it} + \beta_5 * \theta_i + \beta_5 * \gamma_t + \epsilon_{it} \tag{5}$$

The treatment and post-regulation dummies have the same meaning assigned to them in previous tables. Here, we consider a threshold of 2%, of CSR spending relative to the average of last three years' profits, for the treatment group. "High Ad" is a dummy variable that takes the value of one if a firm spends more than the average advertising-to-sales ratio in the pre-regulation period.[17] Each observation is a firm-year. The CSRRatio is the dependent variable. Our focus is on the triple interaction term $HighAd * Post * Treatment$.

The results are reported in Table 11. The triple interaction term is statistically indistinguishable from zero. This result suggests that the change in CSR spending does not depend on firms' pre-regulation advertising activities. Note that the interaction term between the post-regulation dummy and the treatment dummy continues to be negative in all specifications, with economic magnitudes comparable to those reported in Table 7. However, in two of the eight specifications, the co-efficient marginally misses statistical significance.

In a similar spirit, we examine firms that belong to highly polluting industries. We obtain

---

[17]Our results remain directionally similar even if we use the median for classification.

the three digit codes of the highly polluting industries from the Ministry of Environment, Government of India. These industries are coded as red by the Ministry. Then, we compare CSR spending of such firms before and after the mandate with those of firms in other industries, using the triple interaction term in equation 5. We report the results in Table 12. As in the case of advertising, the triple interaction term is statistically insignificant throughout. These findings are inconsistent with the signaling hypothesis but are supportive of the intrinsic motivation view. Note that the interaction term between the post-regulation dummy and the treatment dummy is negative and significant in all specifications, even when we use the triple interaction framework. In other words, the treatment firms spend relatively less on CSR in the post-regulation period.

4.8   Impact on Advertising Expenditure

Finally, we examine the impact of the government mandate on total advertising expenditure. If CSR were used primarily for signaling, and regulation diminishes the signaling value of CSR, then firms would potentially increase their advertising expenditure as a substitute. On the other hand, if CSR was driven by intrinsic motivation of senior management to "do good", then we do not expect any impact on their firms' advertising budgets.

We examine the impact of the government mandate on advertising expenditure by estimating an equation similar to equation 6. We use the INR value spent on advertising by a firm in a year as the dependent variable. We report the results in Table 13. Here, we focus on the interaction term. If advertising is substituted for CSR in the post-regulation period, we expect the interaction term to acquire a positive and significant coefficient. However, in three out of four specifications, the reported coefficient acquires a negative sign. More importantly, in three out of four specifications, the coefficient value is statistically indistinguishable from zero. Given these results, it is reasonable to conclude that the treatment firms did not increase their advertising expenditure after the event. These results further reinforce our claim that the reduction in CSR expenditure is driven by the negative impact of the government mandate on intrinsic motivation.

5 Suggestive Evidence Regarding Motivation

In this study, we hypothesize that the political intervention in the area of CSR diminishes senior management's intrinsic motivation to do good, resulting in reduction in CSR spending among firms that invested heavily on CSR before the regulation was passed. Admittedly, it is difficult to find explicit archival evidence in support of or against a motive behind any empirical phenomenon. Our study is no exception to this limitation. Nonetheless, we attempt to infer the manager's motives by collating multiple pieces of "suggestive"evidence. In Section 7 of the online appendix, we present a brief description of CSR reporting in the annual reports. We find a noticeable decline in the quality of reporting in the post regulation period.

Various statements made by prominent businessmen that we cite in the Introduction and in Section 2, and a cursory analysis of the annual reports presented in section 7 in the online appendix, are consistent with our thesis. To provide yet another piece of evidence, we examine the CSR spending of firms that constitute the Environmental, Social and Governance (ESG) Index launched by the Bombay Stock Exchange (BSE). The companies listed in the index satisfy the norms laid down for social and environmental responsibility. Firms with high corporate governance scores are also a part of the index. Assuming the these firms are intrinsically motivated to "do good", we hypothesize that if mandatory CSR indeed destroys management's intrinsic motivation to do good then firms which are a part of this index should reduce CSR spending relatively more in the post intervention period.

After passing through the data filtering process explained in Section 4, we are left with 37 ESG firms whose identification codes match with firms in our main database. To maintain comparability, we limit the sample to firms that are a part of BSE-100 index. In other words, ESG firms that are a part of the BSE-100 form the treatment group whereas ESG firms that are not a part of the BSE-100 index form the control group.

We estimate the following regression equation on the sample of high CSR firms.

$$Y_{\text{it}} = \alpha + \beta_1 * Post_t * ESG_i + \beta_2 * X_{it} + \beta_3 * \theta_i + \beta_4 * \gamma_t + \epsilon_{it}. \tag{6}$$

ESG firms invest more than 2% of their profits on CSR in the pre-regulation period. A measure of CSR is the dependent variable and the explanatory variable of interest is the interaction term between ESG_Dummy and Post Period dummies.

We report the results in Table 14. In column 1(2), the dependent variable is CSRRatio (CSRRatiot). Note that the interaction term is negative and statistically significant. The decline ranges between 1% and 2%, which is economically meaningful. Even the economic magnitude is comparable to that of our main results. This implies that among the high CSR spenders, ESG firms reduce CSR spending more than other firms in a difference-in-difference design. However, the number of observations in this sub sample is just 46. This explains the large standard errors.

In columns 3 and 4, we consider the subsample of low CSR firms- firms that invested less than 2% of their profits in CSR in the pre-regulation period. Note that in this sub sample, by construction, even the ESG companies did not spend much on CSR voluntarily in the pre regulation period. As shown in the table, expectedly, we do not find any decrease in CSR expenditure in this sub-sample.

6 Conclusion

In this study, we examine the impact of a regulatory edict related to minimum CSR spending on the actual CSR spending of firms. We rely on the recent law passed in India that mandates all companies above a certain profit threshold have to spend at least 2% of their income on CSR. We separately examine the impact of this law on firms that were voluntarily engaged in CSR before the regulation was passed, relative to those that did not do so.

We find that voluntary spenders reduced their CSR spending significantly after the mandate to close to the legally mandated limit of 2% of profits. On the other hand, firms that

spent less on CSR during the pre-regulation period increased their spending slightly to meet the new requirement. We go on to examine the possible mechanism behind these results. If firms that spent voluntarily on CSR are altruistic or use CSR to signal their type, then imposing a non-binding cap should not reduce their CSR spending. If CSR indeed signals a firm's type to its stakeholders, then spending significantly more than the mandated limit should serve the same purpose. On the other hand, if CSR spending is the result of intrinsic motivation of the top management and the controlling shareholders towards prosocial behavior, then the mandate could negatively impact their motivation. The end result could be a reduction in CSR spending by firms that spent on CSR voluntarily in the pre regulation period.

We perform several tests in order to understand the mechanism behind the results. First, we examine whether the sensitivity between profit and CSR expenditure changes in the post-regulation period. We find that high CSR firms reduce their spending when faced with negative shocks to profit, but do not increase their spending when they experience positive shocks to profit. In addition, we also find that firms divert CSR spending from relatively transparent avenues to relatively opaque activities, suggesting "management"of CSR expenditure. The evidence suggests that in the post-regulation period, firms treat CSR as a compliance activity, consistent with the view that the regulation crowds out managers' intrinsic motivation for engaging in CSR.

Second, we identify firms that would have used CSR as a signaling tool in the pre-regulation period, and examine whether such firms reduce their expenditure on CSR by a level greater than the others. We would expect such a result if the law diminished the signaling value of CSR. We do not find any incremental reduction in CSR spending by such firms when compared to other firms. Finally, we find that firms do not increase their advertising expenditure as a substitute for the possible reduction in the signaling value of CSR. The above results indicate that the cut in CSR spending among high CSR firms is likely due to their diminished intrinsic motivation for CSR. We do not claim that CSR does not have signaling value. Our hypothesis, given that firms have an option of spending more

25

than the mandated limit, is that the signaling value of CSR does not diminish after imposing a non-binding mandate.

Regulators might want to consider the possible impact of a proposed intervention on the CSR spending of firms that voluntarily engage in prosocial behavior. It is possible that, in the short run, a mandate may lead to an increase in total CSR spending because it brings a larger number of companies into the mandatory CSR net. However, if the compulsion to spend on CSR reduces firms' intrinsic motivation to do good, then such a mandate may lead to a reduction in CSR spending in the long run. Companies that would have voluntarily spent on CSR, with some persuasion by NGOs, may not do so when regulation is imposed.

Our study opens up interesting follow up questions. First, does the mandate reduce the unobserved quality of CSR given that firms treat CSR as a compliance activity? Second, does the imposition of a mandate reduce the responsiveness of firms to local natural disasters? Top management may feel that they have discharged their social responsibility by complying with the regulation and, hence, do not need to do more. Answers to these questions may reveal additional costs of mandating CSR over and above those identified in this study.

References

ALFARO, L., AND A. CHARI (2014): "Deregulation, misallocation, and size: Evidence from india," *The Journal of Law and Economics*, 57(4), 897–936.

BERTRAND, M., E. DUFLO, AND S. MULLAINATHAN (2004): "How much should we trust differences-in-differences estimates?," *The Quarterly journal of economics*, 119(1), 249–275.

BERTRAND, M., P. MEHTA, AND S. MULLAINATHAN (2002): "Ferreting out tunneling: An application to Indian business groups," *The Quarterly Journal of Economics*, 117(1), 121–148.

BERTRAND, M., AND S. MULLAINATHAN (2001): "Are CEOs rewarded for luck? The ones without principals are," *Quarterly Journal of Economics*, pp. 901–932.

CHYZ, J. A. (2013): "Personally tax aggressive executives and corporate tax sheltering," *Journal of Accounting and Economics*, 56(2), 311–328.

DENG, X., J.-K. KANG, AND B. S. LOW (2013): "Corporate social responsibility and stakeholder value maximization: Evidence from mergers," *Journal of Financial Economics*, 110(1), 87–109.

DESAI, M. A., AND D. DHARMAPALA (2006): "Corporate tax avoidance and high-powered incentives," *Journal of Financial Economics*, 79(1), 145–179.

DEVINNEY, T. M. (2009): "Is the socially responsible corporation a myth? The good, the bad, and the ugly of corporate social responsibility," *The Academy of Management Perspectives*, 23(2), 44–56.

DI GIULI, A., AND L. KOSTOVETSKY (2014): "Are red or blue companies more likely to go green? Politics and corporate social responsibility," *Journal of Financial Economics*, 111(1), 158–180.

DUFLO, E., M. GREENSTONE, R. PANDE, AND N. RYAN (2013): "Truth-telling by third-party auditors and the response of polluting firms: Experimental evidence from India," *The Quarterly Journal of Economics*, 128(4), 1499–1545.

FRANK, M. M., L. J. LYNCH, AND S. O. REGO (2009): "Tax reporting aggressiveness and its relation to aggressive financial reporting," *The Accounting Review*, 84(2), 467–496.

GOPALAN, R., V. NANDA, AND A. SERU (2007): "Affiliated firms and financial support: Evidence from Indian business groups," *Journal of Financial Economics*, 86(3), 759–795.

GREGG, F., AND M. KOSFELD (2006): "The hidden costs of control," *The American economic review*, 96(5), 1611–1630.

HOI, C. K., Q. WU, AND H. ZHANG (2013): "Is corporate social responsibility (CSR) associated with tax avoidance? Evidence from irresponsible CSR activities," *The Accounting Review*, 88(6), 2025–2059.

KEIM, G. D. (1978): "Corporate social responsibility: An assessment of the enlightened self-interest model," *Academy of Management Review*, 3(1), 32–39.

KHANNA, T., AND K. PALEPU (2000): "Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups," *The Journal of Finance*, 55(2), 867–891.

KIRCHLER, E. (2008): "Why paying taxes? A review of tax compliance decisions," *International Journal of Psychology*, 43(3), 200–201.

KLEVEN, H. J., M. B. KNUDSEN, C. T. KREINER, E. SAEZ, ET AL. (2011): "Unwilling or Unable to Cheat? Evidence From a Tax Audit Experiment in Denmark," *Econometrica*, 79(3), 651–692.

KLEVEN, H. J., C. T. KREINER, AND E. SAEZ (2016): "Why can modern governments tax so much? An agency model of firms as fiscal intermediaries," *Economica*, 83(330), 219–246.

LAROCHE, M., J. BERGERON, AND G. BARBARO-FORLEO (2001): "Targeting consumers who are willing to pay more for environmentally friendly products," *Journal of consumer marketing*, 18(6), 503–520.

LIANG, H., AND L. RENNEBOOG (2017): "On the foundations of corporate social responsibility," *The Journal of Finance*, 72(2), 853–910.

LINS, K. V., H. SERVAES, AND A. TAMAYO (2017): "Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis," *The Journal of Finance*.

MANCHIRAJU, H., AND S. RAJGOPAL (2017): "Does Corporate Social Responsibility (CSR) Create Shareholder Value? Evidence from the Indian Companies Act 2013," *Journal of Accounting Research*.

MARGOLIS, J. D., H. A. ELFENBEIN, AND J. P. WALSH (2009): "Does it pay to be good... and does it matter? A meta-analysis of the relationship between corporate social and financial performance," .

MCWILLIAMS, A., D. S. SIEGEL, AND P. M. WRIGHT (2006): "Corporate social responsibility: Strategic implications," *Journal of management studies*, 43(1), 1–18.

MELLSTRÖM, C., AND M. JOHANNESSON (2008): "Crowding out in blood donation: was Titmuss right?," *Journal of the European Economic Association*, 6(4), 845–863.

ORLITZKY, M., F. L. SCHMIDT, AND S. L. RYNES (2003): "Corporate social and financial performance: A meta-analysis," *Organization studies*, 24(3), 403–441.

PERRINI, F., A. RUSSO, A. TENCATI, AND C. VURRO (2011): "Deconstructing the relationship between corporate social and financial performance," *Journal of Business Ethics*, 102(1), 59–76.

PETRENKO, O. V., F. AIME, J. RIDGE, AND A. HILL (2016): "Corporate social responsibility or CEO narcissism? CSR motivations and organizational performance," *Strategic Management Journal*, 37(2), 262–279.

Rego, S. O., and R. Wilson (2012): "Equity risk incentives and corporate tax aggressiveness," *Journal of Accounting Research*, 50(3), 775–810.

Servaes, H., and A. Tamayo (2013): "The impact of corporate social responsibility on firm value: The role of customer awareness," *Management Science*, 59(5), 1045–1061.

Tirole, J. (2006): "Incentives and prosocial behavior," *The American economic review*, 96(5), 1652–1678.

Vig, V. (2013): "Access to collateral and corporate debt structure: Evidence from a natural experiment," *The Journal of Finance*, 68(3), 881–928.

Waagstein, P. R. (2011): "The mandatory corporate social responsibility in Indonesia: Problems and implications," *Journal of Business Ethics*, 98(3), 455–466.

Figure 1: DISTRIBUTION OF CSR EXPENDITURE
This pie chart divides the sample firms into different buckets based on CSRRatio.
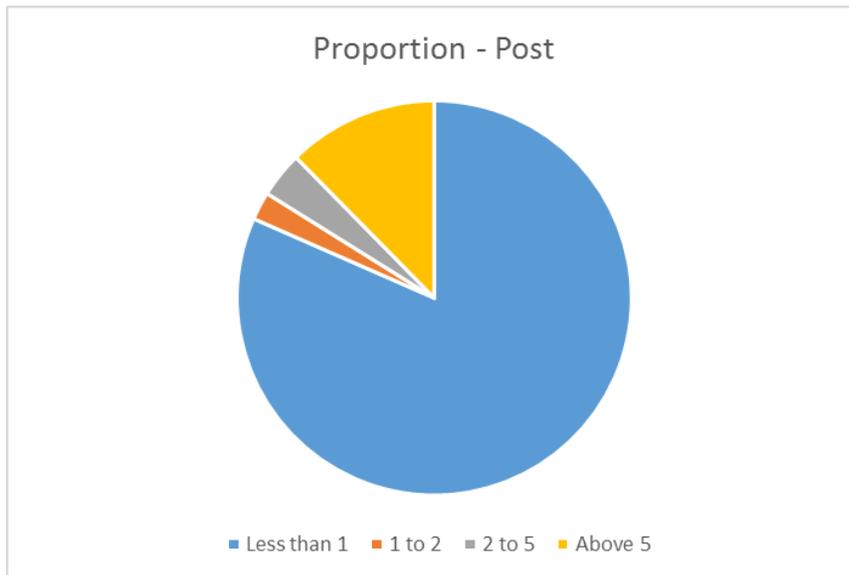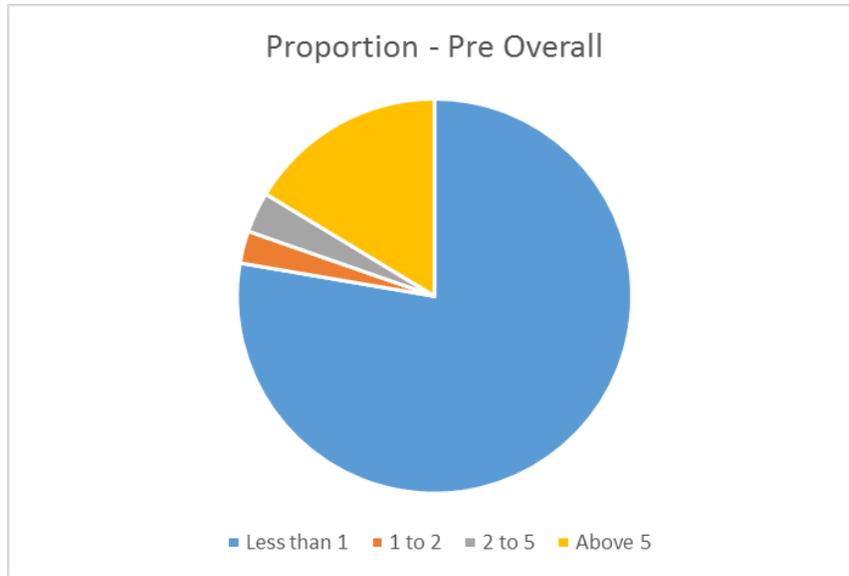
Figure 2: DISTRIBUTION OF CSR EXPENDITURE FOR TREATMENT FIRMS
This pie chart divides the treatment firms into different buckets based on CSRRatio.

Proportion - Pre-Treatment

■ Less than 1   ■ 1 to 2   ■ 2 to 5   ■ Above 5

Proportion - Post-Treatment
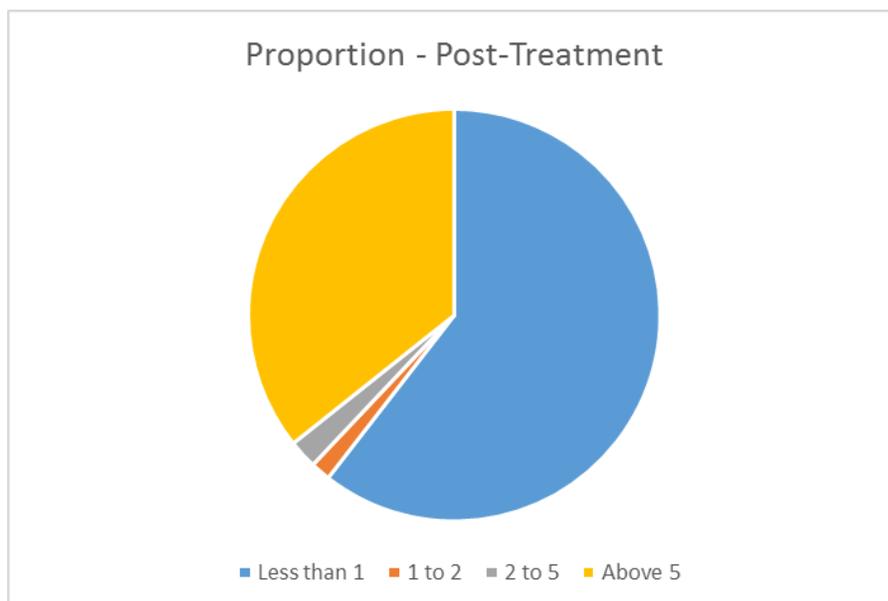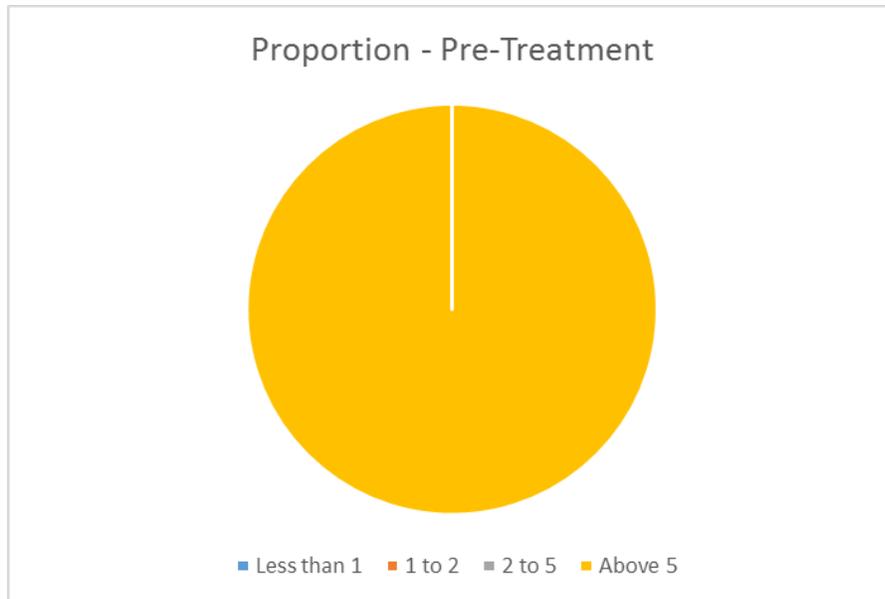
■ Less than 1   ■ 1 to 2   ■ 2 to 5   ■ Above 5

Figure 3: DISTRIBUTION OF CSR EXPENDITURE FOR CONTROL FIRMS
This pie chart divides the control firms into different buckets based on CSRRatio

Proportion - Pre-Treatment

Less than 1   ▪ 1 to 2   ▪ 2 to 5   ▪ Above 5

Proportion - Post-Control

Less than 1   ▪ 1 to 2   ▪ 2 to 5   ▪ Above 5
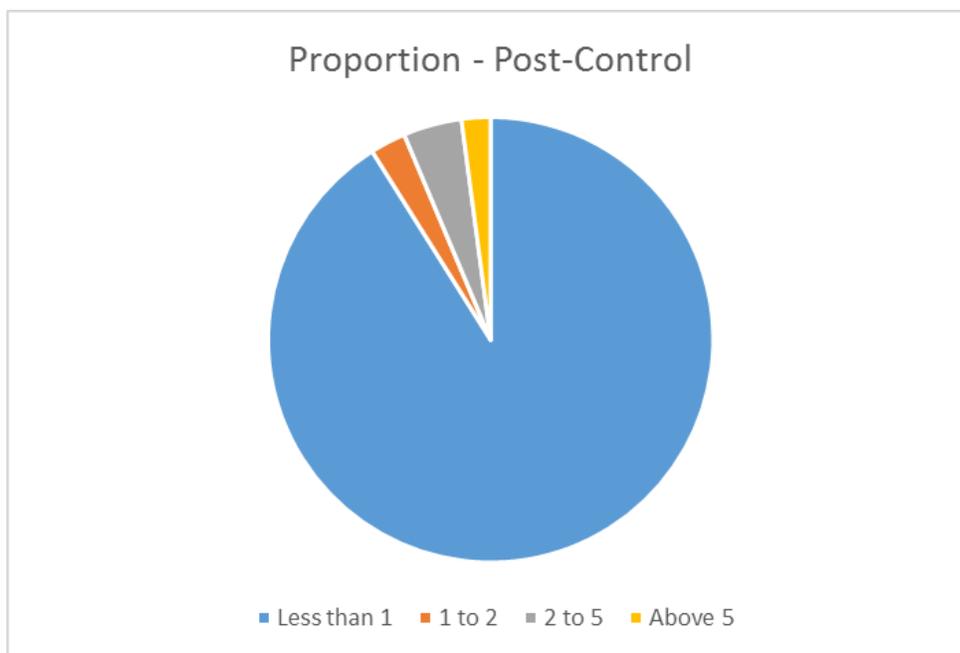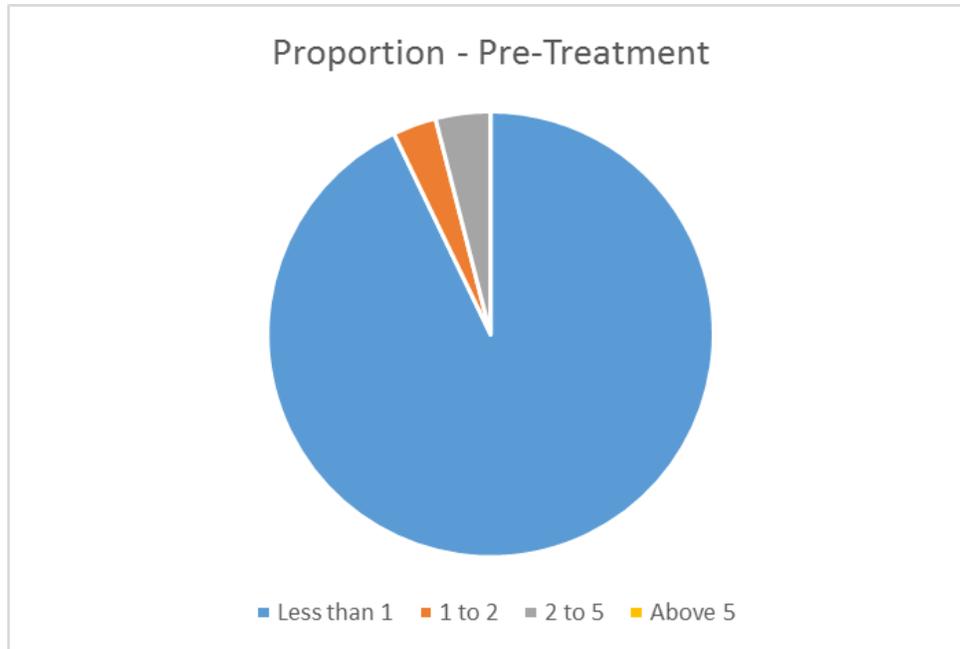
Figure 4: PRE- AND POST-TRENDS BETWEEN CONTROL AND TREATMENT GROUPS
This figure tracks the movement in CSRRatio between the treatment and control groups during the sample period. We plot the median of CSRRatio for each year for the two groups. The orange line represents the treatment group and the grey line represents the control group. Years 4 and 5 represent the post-regulation years of 2014–2015 and 20152016, respectively. Years 1, 2, and 3 represent the pre-regulation years of 2011–2012, 20122013, and 20132014, respectively.

TABLE 1: VARIABLE DEFINITION

In this table, we define the key variables.

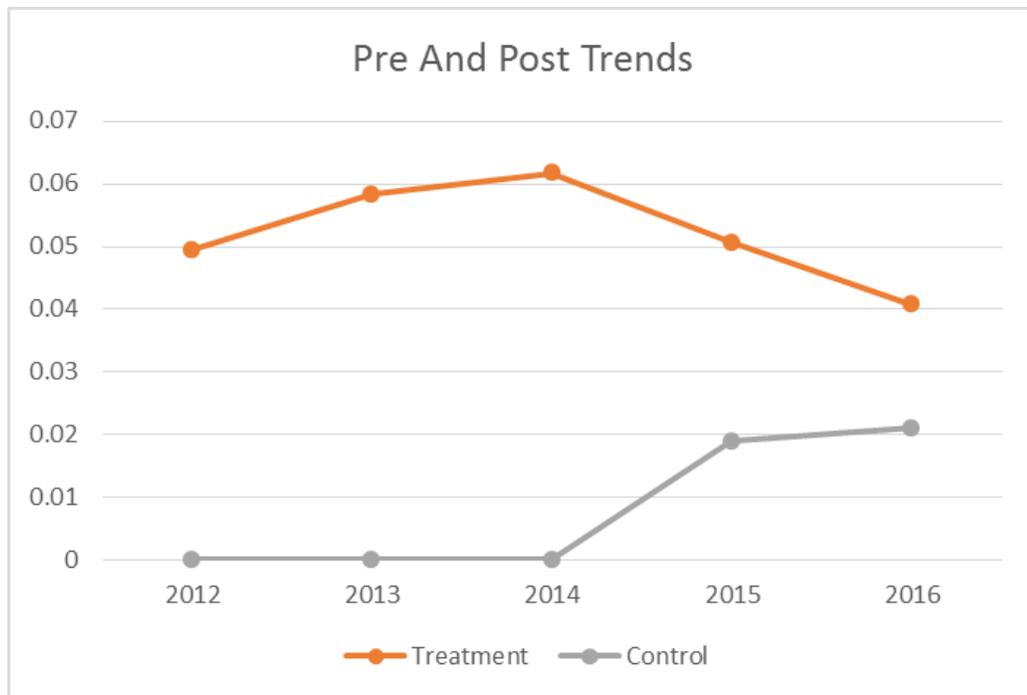| Variable	Definition
High CSR companies	Companies that spent more than a threshold in terms of CSR-to-profit ratio in the pre-regulation period.
Low CSR companies	Companies that spent less than a threshold in terms of CSR-to-profit ratio in the pre-regulation period.
Post-regulation period	Financial years 2014-2015 and 2015-2016
CSR-H	Pre-regulation period: data reported by Prowess; Post-regulation period: Ministry Data
CSR-T	Pre-regulation period: data reported by Prowess; Post-regulation period: Sum of Prowess and Ministry Data.
CSR Ratio	Ratio between CSR-H and average profit in the previous three years
CSRT Ratio	Ratio between CSR-T and average profit in the previous three years

TABLE 2: SAMPLE CONSTRUCTION

In this table, we report details about the sample used.

Variable	Values
Number of companies in Prowess database	33,841
Number of companies in Ministry database	10,164
Number of companies in the merged data set	1,828
Number of years	7
Number of observations for tests with only fixed effects	9,583
Number of observations for tests that use other control variables	9,578
Number of observations where profit is above INR 50 million in a firm-year	6,802
Number of companies with non-missing data	1,087

In this table, we compare high and low CSR firms in terms of observable characteristics in the pre-regulation period. We use the CSR-H measure for classification.

Variable	Low CSR	High CSR	Difference	T-stat
Pre-Period				
Sales (in million INR)	23273	17108	6165	1.21
Profit (in million INR)	1473	1716	-244	-0.77
Total assets (in million INR)	40,412	29,370	11,042*	1.66
Post-regulation period				
Sales (in million INR)	28,479	23,747	4,732	0.41
Profit (in million INR)	1831	1591	240	0.25
Total assets (in million INR)	69,432	44,445	24,987	0.96

TABLE 4: UNIVARIATE COMPARISON BETWEEN TREATMENT AND CONTROL FIRMS

In this table, we present univariate comparisons between the treatment and the control groups. In Panel A, we use the entire sample whereas in Panel B, we consider only those firms for whom we have data for all seven years. Firms are grouped based on their pre regulation spending on CSR. In column 1, we consider firms that spent zero on CSR. In column 2, we consider firms that spent between 0 to 1 percent of profits in the pre-regulation period. Similarly, in each column, we consider a progressively higher range. We compare the difference between pre-regulation and post regulation investment and also report the T-statistics. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	Groups Based On Pre-Period CSR To Profit Ratio Full Sample						
	0	0 to 1	1 to 2	2 to 4	4 to 6	6 to 8	8 to 10
Pre	0	0.001	0.015	0.027	0.048	0.071	0.089
Post	0.01	0.311	0.013	0.016	0	0.016	0.015
Difference (Post-Pre)	0.01	0.31	-0.002	-0.011	-0.048	-0.055	-0.074
T-Stat	1.69*	2.02**	-1.07	-3.33***	-4***	-4.62***	-3.35***
Pre Observations	3807	6019	586	580	278	108	57
Post Observations	1600	2487	245	234	111	45	24

	Firms with Data For All Seven Years						
	0	0 to 1	1 to 2	2 to 4	4 to 6	6 to 8	8 to 10
Pre	0	0.01	0.015	0.027	0.047	0.071	0.089
Post	0.01	0.041	0.014	0.017	0	0.017	0.018
Difference (Post-Pre)	0.01	0.031	-0.001	-0.01	-0.047	-0.054	-0.071
T-Stat	1.02	1.86*	-0.22	-2.45**	-3.39***	-3.6***	-2.88***
Pre Observations	2691	4389	484	485	210	90	50
Post Observations	1087	1767	186	186	84	36	20

In this table, we compare the CSR expenditure before and after the CSR mandate. Firms spending above a threshold in terms of proportion of previous three year's average profits are included in the sample. The threshold used is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. The sample is restricted to firms with a profit of more than INR 50 million per year. Each observation represents a firm-year. CSRratio (CSRRatiot) is the dependent variable in Panel A (Panel B). The explanatory variable of interest -Post- is a dummy variable, taking the value of one for years after the regulation change, and zero otherwise. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio
				Panel A				
Post	-0.08***	-0.16***	-0.20***	-0.25***	-0.07***	-0.14***	-0.18***	-0.23***
	[-4.49]	[-4.09]	[-3.79]	[-3.58]	[-3.98]	[-3.65]	[-3.29]	[-3.06]
Profits					-0.00	-0.00	-0.00	-0.00
					[-1.09]	[-1.41]	[-1.56]	[-1.45]
Total Assets					-0.00	-0.00	-0.00	-0.00
					[-1.32]	[-0.98]	[-0.91]	[-0.72]
Constant	0.09***	0.17***	0.21***	0.25***	0.13***	0.25***	0.34***	0.41***
	[35.04]	[28.56]	[25.64]	[24.55]	[5.07]	[4.72]	[3.70]	[3.29]
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	1,196	513	369	274	1,196	513	369	274
R-squared	0.33	0.31	0.30	0.29	0.34	0.32	0.32	0.31
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
				Panel B				
Post	-0.03	-0.08**	-0.11**	-0.14**	-0.01	-0.06*	-0.09*	-0.13*
	[-1.49]	[-2.23]	[-2.19]	[-2.10]	[-0.83]	[-1.70]	[-1.72]	[-1.65]
Profit					-0.00	-0.00	-0.00	-0.00
					[-1.26]	[-1.51]	[-1.59]	[-1.46]
Total Assets					-0.00	-0.00	-0.00	-0.00
					[-1.29]	[-0.99]	[-0.91]	[-0.72]
Constant	0.09***	0.17***	0.21***	0.25***	0.13***	0.25***	0.34***	0.41***
	[37.10]	[29.83]	[26.54]	[25.02]	[5.18]	[4.83]	[3.71]	[3.29]
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	1,196	513	369	274	1,196	513	369	274
R-squared	0.34	0.31	0.30	0.28	0.35	0.33	0.32	0.31

TABLE 6: Change in CSR for Control Firms

In this table, we compare the CSR expenditure before and after the CSR mandate. Firms investing below a threshold in terms of proportion of previous three year's average profits are included in the sample. The threshold used is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. The sample is restricted to firms with a profit of more than INR 50 million per year. Each observation represents a firm-year. CSRRatio (CSRRatiot) is the dependent variable in Panel A (Panel B). The explanatory variable of interest -Post- is a dummy variable, taking the value one for years after the regulation change, and zero otherwise. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio
				Panel A				
Post	0.00***	-0.00	-0.00	-0.00**	0.00***	-0.00	-0.00*	-0.00***
	[3.17]	[-0.14]	[-1.60]	[-2.54]	[2.97]	[-0.29]	[-1.68]	[-2.59]
Profits					0.00	-0.00	-0.00	-0.00
					[0.43]	[-0.98]	[-1.33]	[-1.44]
Total Assets					0.00***	0.00***	0.00***	0.00***
					[3.30]	[4.30]	[3.47]	[2.71]
Constant	0.00***	0.01***	0.01***	0.01***	0.00***	0.01***	0.01***	0.01***
	[25.64]	[51.51]	[58.76]	[62.50]	[23.81]	[44.32]	[34.90]	[37.19]
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	5,606	6,289	6,433	6,528	5,602	6,285	6,429	6,524
R-squared	0.18	0.32	0.37	0.37	0.18	0.32	0.37	0.37
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
Post	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***
	[10.89]	[11.14]	[10.75]	[10.25]	[10.65]	[10.93]	[10.58]	[10.11]
Profits					0.00	-0.00	-0.00	-0.00
					[0.78]	[-0.55]	[-1.11]	[-1.24]
Total Assets					0.00	0.00*	0.00	0.00
					[1.30]	[1.69]	[1.56]	[1.31]
Constant	0.00***	0.01***	0.01***	0.01***	0.00***	0.01***	0.01***	0.01***
	[12.03]	[26.80]	[32.75]	[36.91]	[10.99]	[25.66]	[26.56]	[29.06]
Observations	5,606	6,289	6,433	6,528	5,602	6,285	6,429	6,524
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
R-squared	0.46	0.46	0.48	0.47	0.46	0.46	0.48	0.47

TABLE 7: C**OMPARISON** B**ETWEEN** T**REATMENT** A**ND** C**ONTROL** F**IRMS**

In this table, we compare the CSR expenditure before and after the government mandated 2% spending levels between treatment and control firms. The sample is restricted to firms with a profit of more than INR 50 million per year. Each observation represents a firm-year. CSRRatio (CSRTRatio) is the dependent variable in Panel A (Panel B). Firms investing above a threshold in terms of proportion of previous three year's average profits are considered as treatment firms. The threshold used is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. Post is a dummy variable taking the value one for years after the regulation change, and zero otherwise. The explanatory variable of interest is the interaction between Post and Treatment variables. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio	CSRRatio
				Panel A				
Post X Treatment	-0.08***	-0.16***	-0.20***	-0.25***	-0.08***	-0.16***	-0.20***	-0.25***
	[-4.61]	[-4.08]	[-3.78]	[-3.59]	[-4.61]	[-4.08]	[-3.78]	[-3.59]
Profit					-0.00	-0.00	-0.00	-0.00
					[-1.06]	[-1.11]	[-1.18]	[-1.18]
Total Assets					0.00*	0.00**	0.00**	0.00**
					[1.91]	[2.11]	[2.16]	[2.19]
Constant	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***
	[6.20]	[6.25]	[6.26]	[6.28]	[6.13]	[6.17]	[6.17]	[6.19]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
R-squared	0.38	0.39	0.39	0.39	0.38	0.39	0.39	0.39
Observations	6802	6802	6802	6802	6798	6798	6798	6798

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
				Panel B				
Post X Treatment	-0.04**	-0.10***	-0.13**	-0.16**	-0.04**	-0.10***	-0.13**	-0.16**
	[-2.52]	[-2.70]	[-2.55]	[-2.36]	[-2.52]	[-2.70]	[-2.55]	[-2.37]
Profits					-0.00	-0.00	-0.00	-0.00
					[-1.10]	[-1.12]	[-1.17]	[-1.17]
Total Assets					0.00*	0.00*	0.00*	0.00**
					[1.91]	[1.94]	[1.96]	[1.98]
Constant	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	6,802	6,802	6,802	6,802	6,798	6,798	6,798	6,798
R-squared	0.40	0.40	0.40	0.41	0.40	0.40	0.40	0.41

TABLE 8: SENSITIVITY OF CSR EXPENDITURE TO PROFIT

In this table, we test the sensitivity of total CSR expenditure to profit in the pre- and post-regulation periods. Measures of expenditure on CSR, defined as in Table 1, are the dependent variables in different columns. Each observation represents a firm-year. Here, Post- is a dummy variable that takes the value of one for years after the regulation change, and zero otherwise. The main explanatory variable of interest is the interaction term between profit and the Post- dummy. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable	CSRF	CSRF	CSRT	CSRT
Post X Profit	0.01**	0.01**	0.03***	0.03***
	[2.43]	[2.43]	[3.54]	[3.56]
Profit	-0.00	-0.00	-0.01*	-0.01*
	[-1.09]	[-1.23]	[-1.84]	[-1.94]
Total Assets		0.00*		0.00
		[1.81]		[1.64]
Constant	20.22***	14.96***	24.81***	17.53**
	[4.65]	[2.72]	[4.99]	[2.53]
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Observations	9,426	9,426	9,426	9,426
R-squared	0.71	0.71	0.73	0.73

TABLE 9: SENSITIVITY OF CSR EXPENDITURE TO PROFIT AND LOSSES, SEPARATELY

In this table, we test the sensitivity of total CSR expenditure to negative and positive shocks separately. In columns 1 and 2 (5 and 6), the negative shock (positive shock) dummy takes the value of one if a firm reports a loss (profit) in a year, and zero otherwise. In columns 3 and 4 (7 and 8), the negative shock (positive shock) dummy takes the value of one if a firm reports at least a 50% decrease (increase) in profit from the previous year, and zero otherwise. Here, Post- is a dummy variable that takes the value of one for years after the regulation change, and zero otherwise. The main explanatory variable of interest is the interaction term between a shock and the Post- dummy. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRT	CSRT	CSRF	CSRF	CSRT	CSRT	CSRF	CSRF
Negative Shock X Post	-59.20***	-60.52***	-15.13**	-15.50*				
	[-3.97]	[-3.34]	[-2.13]	[-1.80]				
Postive Shock * Post					-3.29	-2.93	1.33	1.35
					[-0.15]	[-0.17]	[0.13]	[0.16]
Negative Shock	8.29***	4.77	1.36	-0.43				
	[3.70]	[0.52]	[1.24]	[-0.09]				
Postive Shock					-6.07*	-4.85	0.03	0.72
					[-1.67]	[-0.84]	[0.01]	[0.22]
Profits		-0.00		-0.00		-0.00		-0.00
		[-0.28]		[-0.24]		[-0.23]		[-0.23]
Total Assets		0.00*		0.00*		0.00*		0.00*
		[1.79]		[1.73]		[1.79]		[1.73]
Constant	15.46***	-0.08	16.87***	8.58	21.89***	4.60	17.01***	7.87
	[4.60]	[-0.01]	[5.21]	[1.26]	[5.90]	[0.45]	[5.04]	[1.18]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,506	9,426	9,506	9,426	9,506	9,426	9,506	9,426
R-squared	0.54	0.56	0.65	0.66	0.53	0.56	0.65	0.66

TABLE 10: C**HANGE IN** CSR C**OMPOSITION**

In this table, we compare the composition of CSR expenditure before and after the CSR mandate. Each observation represents a firm-year. Donpro refers to the ratio of donations to total CSR expenditure. Compro refers to the ratio between community related expenditure and total CSR expenditure. Epro refers to the ratio between environment related expenditure and total CSR expenditure. The sample consists of treatment group firms in columns 1, 2 and 3 and control group firms in columns 4, 5 and 6. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable	Donations	Community Expenses	Environment	Donations	Community Expenses	Environment
Post	-0.44***	0.60***	-0.04***	-0.58***	0.60***	-0.02*
	[-11.63]	[19.17]	[-2.79]	[-18.22]	[19.17]	[-1.93]
Constant	0.74***	0.16***	0.12***	0.81***	0.16***	0.04***
	[130.51]	[18.55]	[55.65]	[94.08]	[18.55]	[13.29]
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,080	2,159	1,080	2,159	2,159	2,159
R-squared	0.82	0.86	0.87	0.87	0.86	0.80

TABLE 11: D**IFFERENCE BASED ON** A**DVERTISING** E**XPENDITURE**

In this table, we compare the CSR expenditure of firms with a high advertising budget and firms with a low advertising budget, using a triple-difference framework. Treatment and Post- dummies have the same meaning assigned to them in previous tables. Here, we consider a threshold of 2% when defining the treatment. "High Ad" is a dummy variable that takes the value of one for firms that spent more than the average advertising-to-sales ratio in the pre-regulation period. Each observation represents a firm-year. CSRRatio is the dependent variable. Errors are clustered at firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
Post X Treatment X High Ad	-0.04	-0.10	-0.10	-0.17	-0.04	-0.10	-0.08	-0.15
	[-0.76]	[-0.84]	[-0.54]	[-0.82]	[-0.76]	[-0.84]	[-0.51]	[-0.80]
Treatment X Post	-0.02	-0.05	-0.09	-0.09	-0.02	-0.05	-0.10	-0.11
	[-0.41]	[-0.50]	[-0.52]	[-0.52]	[-0.41]	[-0.50]	[-0.65]	[-0.64]
Treatment X High Ad	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	[0.73]	[0.73]	[0.65]	[0.58]	[0.73]	[0.72]	[0.75]	[0.68]
Profit					0.00	0.00	0.00	0.00
					[0.12]	[0.08]	[0.38]	[0.44]
Total Assets					0.00	0.00	0.00	0.00
					[0.69]	[0.81]	[0.37]	[0.50]
Constant	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.04**	0.04**
	[2.31]	[2.31]	[2.31]	[2.31]	[2.30]	[2.30]	[2.45]	[2.45]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	6,314	6,314	6,314	6,314	6,314	6,314	5,750	5,750
R-squared	0.23	0.24	0.24	0.24	0.23	0.24	0.24	0.24

TABLE 12: D**IFFERENCE BETWEEN** P**OLLUTING AND** O**THER** F**IRMS**

In this table, we compare the CSR expenditure of highly polluting firms to that of other firms in a triple-difference framework. The Treatment and Post- dummies have the same meaning assigned to them in previous tables. Here, we consider a threshold of 2% when defining the treatment. Polluting is a dummy variable that takes the value of one for firms that belong to highly polluting industries. Each observation represents a firm-year. CSRRatio is the dependent variable. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
Post X Treatment X Polluting	-0.01	0.08	0.13	0.21	-0.01	0.08	0.13	0.21
	[-0.17]	[0.54]	[0.65]	[0.74]	[-0.17]	[0.53]	[0.65]	[0.74]
Post X Treatment	-0.10*	-0.25*	-0.35*	-0.48*	-0.10*	-0.25*	-0.35*	-0.48*
	[-1.92]	[-1.90]	[-1.90]	[-1.80]	[-1.92]	[-1.90]	[-1.91]	[-1.80]
Post X Polluting	-0.01	-0.01	-0.02	-0.02	-0.01	-0.01	-0.02	-0.02
	[-0.90]	[-1.01]	[-1.54]	[-1.46]	[-0.92]	[-1.03]	[-1.59]	[-1.50]
Profits					-0.00	-0.00	-0.00	-0.00
					[-1.40]	[-1.46]	[-1.42]	[-1.15]
Total Assets					0.00	0.00	0.00	0.00
					[0.53]	[0.68]	[0.51]	[0.52]
Constant	0.03**	0.03**	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***
	[2.56]	[2.57]	[2.58]	[2.59]	[2.64]	[2.65]	[2.67]	[2.67]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	9,416	9,416	9,416	9,416	9,412	9,412	9,412	9,412
R-squared	0.33	0.34	0.34	0.34	0.33	0.34	0.34	0.34

TABLE 13: IMPACT ON ADVERTISING EXPENDITURE

In this table, we test the impact of the regulation on total advertising expenditure. The amount spent on advertising (in INR), normalized by sales, is the dependent variable. The Treatment and Post- dummies have the same meaning assigned to them in Table 7. Each observation represents a firm-year. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable	Advertisement Expenditute			
Post X Treatment	-51.94	-69.40	-20.13	-19.30
	[-0.81]	[-0.90]	[-0.25]	[-0.19]
Sales	0.01**	0.01**	0.01**	0.01**
	[2.01]	[2.01]	[2.01]	[2.01]
Profit	-0.00	-0.00	-0.00	-0.00
	[-0.18]	[-0.19]	[-0.18]	[-0.18]
Total Assets	0.00	0.00	0.00	0.00
	[0.91]	[0.91]	[0.91]	[0.91]
Constant	172.17*	172.23*	172.25*	172.24*
	[1.86]	[1.86]	[1.86]	[1.86]
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%
Observations	7,972	7,972	7,972	7,972
R-squared	0.94	0.94	0.94	0.94

TABLE 14: Suggestive Evidence Relating To Motive

In this table, we present suggestive evidence relating to the motive behind phenomenon. ESG is a dummy variable that takes the value of 1 for firms which are a part of the Enviornment Social and Governance (ESG) Index of Bombay Stock Exchange (BSE) and zero otherwise. All the other terms have the same meaning as in 7. The overall sample is restricted to firms that are a part of BSE-100 index. In columns 1 and 2 (3 and 4), the sample is further restricted to firms that invested at least 2% of their profits in CSR activities. CSRRatio (CSRRatiot) is the dependent variable in columns 1 and 3 (2 and 4). Standard Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable	CSRRatio	CSRRatiot	CSRRatio	CSRRatiot
Highly X Governed	-0.02***	-0.01***	-0.00	-0.01
	[-2.9e+10]	[-7.81e+14]	[-0.79]	[-0.99]
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Constant	0.08***	0.08***	0.01***	0.01***
	[5.22]	[5.43]	[6.71]	[6.01]
Sample	High CSR Firms		Low CSR Firms	
Observations	46	46	286	286
R-squared	0.68	0.70	0.69	0.72

Online Appendix For Does Mandated Corporate Social Responsibility Reduce Intrinsic Motivation ? Evidence from India

7 observations from actual csr disclosures

We examine the change in reporting of CSR expenditure after the passage of the law. If, as hypothesized in this paper, companies view CSR as a mere compliance activity, we expect the reporting of CSR expenditure to follow a mechanical check-the-box approach in the post regulation period. To understand the change, if any, in reporting behavior, we examine the annual reports of four companies whose average CSR expenditure as a percentage of PAT (Profit After Tax) decreases in the period after the passage of the Companies Act of 2013. The purpose of this exercise is only to provide a few examples that may be useful in understanding the motivation of companies engaging in CSR before and after the regulation and not necessarily to draw any causal inferences.

7.1 Pre Period:

Prior to April 1st, 2014, companies in general enumerated a more detailed list of all the projects that they had executed during the financial year. In addition to this, the section of the annual report under which these projects were mentioned almost always started with a brief about the policy of the company towards social initiatives. For example, the annual report for financial year 2013-2014 of Lupin Limited, one of the largest pharmaceutical companies in India, states "LHWRF[18] was set up with the objective of creating a replicable and ever-evolving model for sustainable development with the simple goal of uplifting families.'The reports in this period also mention the reasons behind starting an initiative and describe the details of execution. The same report of Lupin Limited states "LHWRF operates in districts with a low HDI score . . . and elaborates further by stating . . . collaborated with numerous institutions, governments, individuals, visionaries and domain experts on multiple projects."In addition to this, the reports in the pre period specifically mention the impact of the project being taken up by the company. For example, Lupins report for FY 2012-2013 states, In FY 2013, LHWRF provided skill training to 4,478 persons and facilitated establishment of about 4,014 new self-enterprises. Overall, the tone of the text in the pre period suggests that the company cared for their initiatives potentially hinting at greater intrinisic motivation to "do good". Apart from text, companies use illustrative

---

[18]LHWRF stands for Lupin Human Welfare and Research Foundation

tools like pictures to highlight the various initiatives that have been undertaken by them. An example from Lupins report is given below:

Figure 5: PICTURES FROM ANNUAL REPORTS
This picture is from Lupin's Annual Report.

Poultry works for income generation

A rural youth engaged in gems polishing work

Provided tents for flood victim families

Rural women after eye surgical operation

7.2   Post Period:

The first visible change in the reporting of CSR initiatives after the government mandate effective April 1st, 2014 is that the amount of content explaining CSR initiatives reduces by two-thirds compared to the pre period. The tone of the description itself changes from a descriptive one in the pre period to a more mechanical tenor in the post period. Almost no mention of outcomes of initiatives undertaken is made in the report. For example, Lupins report for FY 2013-2014 (pre period) states, "In FY 2014, about 2.5 lakh[19] patients were treated through medical camps and our Mobile Medical Diagnostic Unit (MMDU)."In the following fiscal year's annual report (post period), for the same nature of activity, only the following statement is referenced as a bullet point, "The key areas of focus for the LHWRF program are: . . . Providing Quality Health Services in remote areas."

The third major change visible is the shift from outcome to outlays. This is not surprising as the legal mandate is based on outlays. As required by law, all companies present details of outlays in a standardized box. For example, in Dr. Reddys, another large pharmaceutical company, annual report for FY 2014-2015, only tables containing the breakdown of CSR expenditure is given. The company does not describe the context and progress of any of the activities they have undertaken as a part of CSR. These changes are more visible with each passing year in the post period. In addition, the number of pictures used also reduces. Overall, the tone of the presentation in the post period can be interpreted as a desire to comply with the law rather than out of intrinsic motivation for prosocial behavior.

8   Note on Reconciliation of Number of Observations:

As noted in Table 2, our main sample consists of 6,802 observations. These are firm years where profit is more than Rupees 50 million. Recall that in Table 5 (6), we consider only the treated (control) firms. The definition of treatment differs from column to column. For example; in column 1, we consider all firm-years where CSR spending is more than 2% of profits. Given that we have 6,802 observations, the sum of the number of observations in column 1 of Table 5 and column 1 of Table 6 should be 6,802. Using the same reasoning, the sum of every pair of columns from Table 5 and 6 that use the same CSR limit should be 6,802. We present the results in the below table.

Note that in the first four columns, we employ only time and firm fixed effects. In other words, we do not use any firm level characteristic as a control variable. As shown in the table, the sum of the number of observations in a column of Table 4 and the corresponding column of Table 5 that uses the same limit is 6,802. In columns 4 to 8, in addition to firm fixed effects, we also include firm level control variables. The data are missing for 4 firm years in the control sample. Therefore, the number of observations falls to 6,798 (four less than 6802).

In Table 7, we present the results of the difference-in-difference regression where we use the full sample above Rupees 50 million in CSR expenditure. In the first four columns, we employ only fixed effects. We expect the number of observations to be 6,802 and this is what we find. In columns 4 to 8, we employ firm level controls and hence, as explained before the

---
[19]a lakh is 100,000

number of observations falls by 4 to 6,798.

<center>TABLE 15: RECONCILING THE NUMBER OF OBSERVATIONS</center>

In this table,we reconcile the number of observations between Tables 5 and 6.

Regression Type	With Controls				Without Controls			
Expected sum of Observations in Table 5 and Table 6	6802	6802	6802	6802	6798	6798	6798	6798
Column Number	1	2	3	4	5	6	7	8
Column Definition	< 2% CSR	< 5% CSR	< 7.5% CSR	< 10% CSR	< 2% CSR	< 5% CSR	< 7.5% CSR	< 10% CSR
Number of Observations in Table 5 [Treatment Firms]	1196	513	369	274	1196	513	369	274
Number of Observations in Table 6 [Control Firms]	5606	6289	6433	6528	5602	6285	6429	6524
Actual sum of Observations in Table 5 and Table 6	6802	6802	6802	6802	6798	6798	6798	6798

TABLE 16: CHANGE IN CSR DIFFERENCE-IN-DIFFERENCES FOR FIRMS WITH COMPLETE DATA FOR SEVEN YEARS

In this table, we compare the CSR expenditure before and after the CSR mandate using a difference-in-differences framework. The sample is restricted to firms for which we have data for all seven years. Each observation represents a firm-year. CSRRatio (CSRRatiot) is the dependent variable in Panel A (Panel B). The threshold used to define the treatment is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. Here, Post- is a dummy variable that takes the value one for years after the regulation change, and zero otherwise. Treatment is a dummy variable that takes the value one for firms that invested above a threshold level in the pre-regulation period, and zero otherwise. Different threshold levels are considered in each column. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
Post X Treatment	-0.04**	-0.10**	-0.12**	-0.15*	-0.04**	-0.10**	-0.12**	-0.15*
	[-2.04]	[-2.15]	[-1.98]	[-1.86]	[-2.04]	[-2.15]	[-1.98]	[-1.87]
Profits					-0.00	-0.00	-0.00	-0.00
					[-1.09]	[-1.11]	[-1.15]	[-1.15]
Total Assets					0.00*	0.00*	0.00*	0.00*
					[1.78]	[1.81]	[1.82]	[1.84]
Constant	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***
	[5.93]	[5.94]	[5.94]	[5.95]	[5.88]	[5.89]	[5.88]	[5.89]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	5,166	5,166	5,166	5,166	5,162	5,162	5,162	5,162
R-squared	0.37	0.38	0.38	0.38	0.37	0.38	0.38	0.38

TABLE 17: CHANGE IN CSR DIFFERENCE-IN-DIFFERENCES WITHOUT CONSIDERING 2013–2014

In this table, we compare the CSR expenditure before and after the CSR mandate using a difference-in-differences framework. We omit the year 2013–2014 from the sample. Each observation represents a firm-year. CSRRatio (CSRTRatio) is the dependent variable in Panel A (Panel B). The threshold used to define the treatment is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. Here, Post- is a dummy variable that takes the value one for years after the regulation change, and zero otherwise. Treatment is a dummy variable that takes the value one for firms that invested above a threshold level in the pre-regulation period, and zero otherwise. Different threshold levels are considered in each column. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
Post X Treatment	-0.05**	-0.12**	-0.16**	-0.20**	-0.05**	-0.12**	-0.16**	-0.20**
	[-2.18]	[-2.29]	[-2.13]	[-1.97]	[-2.18]	[-2.29]	[-2.13]	[-1.98]
Profits					-0.00	-0.00	-0.00	-0.00
					[-1.04]	[-1.07]	[-1.13]	[-1.13]
Total Assets					0.00*	0.00*	0.00*	0.00*
					[1.74]	[1.78]	[1.80]	[1.83]
Constant	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***
	[6.33]	[6.34]	[6.34]	[6.36]	[6.20]	[6.20]	[6.19]	[6.21]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	5,465	5,465	5,465	5,465	5,461	5,461	5,461	5,461
R-squared	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45

TABLE 18: CHANGE IN CSR DIFFERENCE-IN-DIFFERENCE PLACEBO TEST

In this table, we compare the CSR expenditure before and after the CSR mandate using a difference-in-differences framework. Here, we consider years 2012–2013 and 2013–2014 as placebo treatment years. Each observation represents a firm-year. CSRRatio (CSRTRatio) is the dependent variable in Panel A (Panel B). The threshold used to define the treatment is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. Post-is a dummy variable that takes the value one for years after the regulation change, and zero otherwise. Treatment is a dummy variable that takes the value one for firms that invested above a threshold level in the pre-regulation period, and zero otherwise. Different threshold levels are considered in each column. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
Post X Treatment	-0.83	-1.39	-1.84	-2.29	-0.83	-1.39	-1.84	-2.29
	[-1.25]	[-1.24]	[-1.23]	[-1.22]	[-1.25]	[-1.24]	[-1.23]	[-1.22]
Profit					0.00	0.00	0.00	0.00
					[0.41]	[0.46]	[0.63]	[0.70]
Total Assets					0.00	0.00	0.00	0.00
					[1.05]	[1.03]	[1.01]	[1.00]
Constant	-32.38***	-32.38***	-32.37***	-32.36***	-33.17***	-33.17***	-33.16***	-33.16***
	[-272.15]	[-259.90]	[-251.03]	[-241.96]	[-280.76]	[-268.69]	[-260.01]	[-251.34]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	76,200	76,200	76,200	76,200	74,391	74,391	74,391	74,391
R-squared	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

TABLE 19: C**HANGE IN** CSR D**IFFERENCE**-I**N**-D**IFFERENCES WITH** I**NDUSTRY** X Y**EAR** F**IXED** E**FFECTS**

In this table, we compare the CSR expenditure before and after the CSR mandate using a difference-in-differences framework. Each observation represents a firm-year. CSRRatio (CSRTRatio) is the dependent variable in Panel A (Panel B). The threshold used to define the treatment is 2% in columns 1 and 5, 5% in columns 2 and 6, 7.5% in columns 3 and 7, and 10% in columns 4 and 8. Here, Post- is a dummy variable that takes the value one for years after the regulation change, and zero otherwise. Treatment is a dummy variable that takes the value one for firms that invested above a threshold level in the pre-regulation period, and zero otherwise. Different threshold levels are considered in each column. We include Industry X Year fixed effects in all specifications. Errors are clustered at the firm level and robust t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot	CSRRatiot
				Panel B				
Post X Treatment	-0.84	-1.41	-1.86	-2.32	-0.84	-1.41	-1.86	-2.32
	[-1.26]	[-1.24]	[-1.23]	[-1.23]	[-1.26]	[-1.25]	[-1.24]	[-1.23]
Profits					0.00	0.00	0.00	0.00
					[0.52]	[0.48]	[0.66]	[0.72]
Total Assets					0.00	0.00	0.00	0.00
					[1.08]	[1.08]	[1.06]	[1.05]
Constant	-32.38***	-32.37***	-32.37***	-32.36***	-33.17***	-33.17***	-33.16***	-33.15***
	[-272.13]	[-259.85]	[-251.00]	[-241.95]	[-280.76]	[-268.60]	[-260.01]	[-251.35]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Classification Threshold	2%	5%	7.50%	10%	2%	5%	7.50%	10%
Observations	76,205	76,205	76,205	76,205	74,396	74,396	74,396	74,396
R-squared	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

TABLE 20: C**OMPARISON BETWEEN** H**IGH AND** L**OW** CSR F**IRMS**

In this table, we compare high and low CSR firms in terms of observable characteristics in the pre-regulation period. Here, we restrict the sample to firms that have data for all seven years.

Dependent Variable	Low CSR	High CSR	High-Low	T-Stat
	Pre Preiod (In Millions)			
Profits	1993.057	1882.779	-110.278	-0.25
Sales	29805.59	17208.86	-12596.7	-1.92*
Assets	59518.9	26570.8	-32948.1	3.56***
	Post Period (In Millions)			
Profits	2237.38	1958.046	-279.334	-0.34
Sales	34656.61	20762.93	-13893.7	-1.32
Assets	87217.39	35865.72	-51351.7	-2.36***