The Effect of Mandatory CSR Disclosure on CSR-washing: Evidence from China

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ABSTRACT

CSR-washing, which refers to a firm overstating its corporate social responsibility (CSR) commitment relative to its actual CSR performance, is an important concern in CSR disclosure. We use a difference-in-differences research design that exploits China's 2008 mandate that firms to disclose CSR activities. We examine the effect of this mandate on CSR-washing. We find that firms affected by the mandate, relative to the unaffected ones, engage in more CSRwashing, which is consistent with mandatory CSR disclosure creates pressure that leads firms to overstate their CSR commitment. We also find that the positive effect is more pronounced when firms have more peer pressure to disclose, less external monitoring, or more financial constraints. We also show that the post-mandate increase in CSR-washing is concentrated among affected firms that increase their CSR disclosure, which is consistent with firms feeling pressured by the mandate to engage in CSR-washing. We also show that affected firms that engage in CSR-washing receive more CSR awards, reduce the cost of their debt, and have greater stock liquidity. These outcomes are consistent with the affected firms engaging in CSRwashing because of the expected benefits. Our study highlights that it is important for regulators and other users of CSR disclosures to understand that although CSR disclosure mandates will lead to more CSR disclosure, it can also lead to more CSR-washing.

Keywords: mandatory CSR disclosure; CSR-washing; China *JEL Classification*: M14; M48; Q56

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1. Introduction

In this paper, we study how mandatory corporate social responsibility (CSR) disclosure affects firms' CSR-washing. Many countries around the globe already enacted regulations that mandate CSR disclosures or they are in the process of doing so.¹ Countries typically require firms to provide CSR disclosure so that investors and other stakeholders might obtain useful information about a firm's CSR activities. These stakeholders can then use this information to help them decide how to interact with the firm.² While mandatory CSR disclosure regulations do not require firms to be socially responsible, they push firms to become so, or to at least to claim to as much. They also invite increased scrutiny of firms' CSR performance by regulators and other stakeholders (Christensen et al., 2021).³ An extensive literature examines the consequences of such regulation, typically focusing on the intended outcomes, broadly speaking, of incentivizing more CSR (e.g., Ioannou and Serafeim, 2017; Chen et al., 2018; Fiechter et al., 2022; Krueger et al., 2024). However, research is limited about CSR-washing as an unintended effect of such regulation, despite widespread concerns about CSR-washing. Our study aims to fill a gap in the literature.

¹ This type of disclosure is also commonly known as Environmental, Social, and Governance (ESG) or sustainability disclosure. While these three types of disclosures show nuanced differences (e.g., the importance of quantification), their intrinsic nature is the same: to inform stakeholders of a firm's concerns about various aspects of the broader society. In our study, we will use these terms interchangeably: CSR, ESG, and sustainability.

² For example, the IFRS Sustainability Disclosure Standards, issued by the International Sustainability Standards Board (ISSB) in June 2023 and effective from 1 January 2024, provide a set of disclosure requirements designed to enable companies to inform their investors about their sustainability-related risks and opportunities in the short, medium and long term. According to the IFRS Foundation, on 28 May 2024, jurisdictions that represent over half the global economy by gross domestic product announced the steps they will take to use the ISSB standards or to fully align their sustainability disclosure standards with the ISSB standards (IFRS, 2024).

³ It is possible that firms' later actions match their claims. CSR-washing occurs when firms do less in terms of social responsibility, compared with what they claimed they would do.

In our study, we define CSR-washing as the practice of a firm exaggerating its CSRrelated initiatives to create a positive public image. CSR-washing aims to mislead investors and other stakeholders that rely on the disclosures in their decision-making. For example, the firm can hide its true CSR performance via exaggerated qualitative disclosures that are difficult to verify or by selectively reporting positive CSR information (Marquis et al., 2016; Yu et al., 2020). As more jurisdictions enact regulation on mandatory CSR disclosure, attention to whether and how such regulation can deal with CSR-washing is increasing (Ducoulombier, 2024; Runyon, 2024). Mandated CSR disclosure regulation aims to address the deficiencies of voluntary CSR disclosure practices, namely: i) firm can choose whether and how to disclose, ii) the lack of consistency and comparability in the disclosures (across firms and time), and iii) CSR-washing (Bernow et al., 2019; Christensen et al., 2021). Mandated CSR disclosure regulation, by imposing a common standard to guide and regulate CSR disclosure, clearly alleviates the first two deficiencies. However, we posit that it is ex-ante ambiguous whether mandatory CSR disclosure regulation will lead to more or less CSR-washing.

For the former, regulators, practitioners, and academics express concerns that mandatory CSR disclosure might lead to more CSR-washing (e.g., Yu et al., 2020; Australian Securities and Investments Commission, 2024; Ducoulombier, 2024). Firms engage in CSR activities presumably because they expect a net benefit from doing so. Benefits include attracting ESG-related financing from equity and debt providers investors (Simpson et al., 2021) and appeasing other stakeholders (e.g., Homburg et al., 2013; Park et al., 2014). Costs include foregoing shareholder-value-maximizing business opportunities and incurring additional CSRrelated expenditures (Manchiraju and Rajgopal, 2017). Without mandatory CSR disclosure, some firms can choose to voluntarily disclose their CSR initiatives and implement the initiatives accordingly. Other firms can simply withhold disclosure and not take any actions.⁴ However, with mandatory CSR disclosure, firms that previously either did not disclose or that disclosed little are now compelled to disclose more. In such cases, CSR-washing is clearly an option. The disclosed CSR information is not audited and is usually costly, if not impossible, for investors to verify and then to take action against the firm for misleading CSR claims. Therefore, the cost of making false claims is likely to be small.⁵ In addition, with more peer firms making CSR disclosures and potentially engaging in CSR-washing, a firm might also feel peer pressure to inflate its own CSR disclosure. Hence, mandated CSR disclosure regulation is expected to lead to more CSR-washing by the affected firms.

Alternately, CSR disclosure standards can play a role in reducing CSR-washing by prescribing what and how firms must disclose (Christensen et al., 2021). Guided by these standards and equipped with the ability to compare the CSR disclosures of the firm and its peers, stakeholders can now better scrutinize the firm's CSR disclosures and performance. Runyon (2024) notes that CSR disclosure mandates heighten CSR-related litigation, because litigants will have access to more public information that they can scrutinize for potential

⁴ Non-disclosure might invite stakeholders to infer that the firm engages minimally, if at all, in CSR initiatives. For example, theory demonstrates that when managers do not disclose non-proprietary information, investors will be uncertain about whether the information does not exist or if it simply contains adverse content (Dye, 1985; Jung and Kwon, 1988). Such an inference might not be applied to voluntary CSR disclosure, for several reasons. First, CSR disclosures might contain a substantial proprietary component (Verrecchia, 1983). Second, it is not clear that managers actually have the relevant CSR information that users demand (Dye, 1985). Third and perhaps most important, stakeholders, particularly investors, share no consensus that either CSR initiatives or CSR disclosures (both of which can be costly) are value maximizing for the firm (Christensen et al., 2021).

⁵ It can be difficult for stakeholders to see through CSR-washing due to the difficulty in comparing a firm's disclosed CSR initiatives with its actual CSR performance, especially if the initiatives and performance are described qualitatively.

claims.⁶ If CSR disclosure standards increase transparency about firms' CSR activities, theory predicts that higher transparency can incentivize socially responsible firms to increase their CSR investment, which would thus reduce CSR-washing (Wu et al., 2020). Hence, assuming that investors and regulators can verify the accuracy of CSR disclosure and to litigate false claims, we might expect mandatory CSR disclosure to lead to less CSR-washing.

In sum, our hypothesis is both interesting and important to study for two reasons. First, there are growing concerns about CSR-washing, especially in light of the evolving global movement towards enacting CSR disclosure regulation. Second, we can explore the inherent tension in the hypothesis on how mandated CSR disclosure can affect CSR-washing, as well as the intriguing heterogeneity in the relation.

To identify the effect of mandatory CSR disclosure regulation, we follow Chen et al. (2018) and rely on the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange's (SZSE) 2008 mandate that a subset of listed firms describe their corporate social responsibility activities (e.g., workers' rights protections, environmental protections, etc.), their social responsibility problems (e.g., environmental and safety accidents), and corrective action plans. The exchanges are government-owned and directly supervised by the China Securities Regulatory Commission. Hence, their mandatory CSR disclosure can be viewed as required by the Chinese government (for a subset of firms). The objective of the mandate is to ensure that firms are transparent about their corporate social responsibility.

We follow Tashman et al. (2019) in measuring the extent of a firm's CSR-washing as

⁶ For example, litigation against climate-washing is growing. In 2023, as many as 47 new climate-washing cases were filed against companies and governments internationally. Around 70% of the cases that concluded between 2016 and 2023 ended in the claimants' favor (The Straits Times, 2024).

the degree of misalignment between the firm's CSR reporting and its actual CSR performance, i.e., the standardized difference between the CSR performance that the firm discloses and its CSR performance as it is assessed by a third-party rating agency. Following Baker et al. (2024), we also define a dummy variable in which we identify a firm as a CSR-washer if the decile for its CSR disclosure score is higher than its CSR performance score decile.

The mandatory CSR disclosure regulation requires only a subset of firms to disclose their CSR information. For the SSE, only firms listed in the SSE's "Corporate Governance Sector", those with overseas-listed shares, and financial companies must release an annual CSR report. The SZSE requires CSR reports from firms included in the Shenzhen 100 Index. In consequence, we are able to use a difference-in-differences (DID) research design to estimate the effect of mandatory CSR disclosure on CSR-washing. We find that after CSR disclosure regulation goes into effect, firms that are required to disclose significantly increase their CSR-washing. Economically, the firms affected by the disclosure mandate are 7.3% more likely to become CSR-washers compared to unaffected firms. We provide two validation tests of this finding. First, we employ the parallel trend assumption to show that before the regulation, the treated and control groups do not have no significant differences in terms of their CSR-washing. Second, we show that firms' CSR disclosure indeed significantly increases after the CSR disclosure mandate, which suggests the regulation's effectiveness.

Our main finding holds for a variety of robustness tests. First, our main result is robust to the inclusion of industry fixed effects, as in Chen et al. (2018). It is also robust to a series of alternative samples: i) a more balanced sample that requires a firm to be in our sample at least one year in the pre-period and one year in the post-period; ii) a modified sample that restricts the controls firms to be similar in size as the treated firms; and iii) a propensity score matched sample that allows us to further control for the differences between the treated and control firms. Second, our main result is robust to controlling for additional variables including financial reporting quality and ROE volatility. Last, our main result is also robust to alternative measures of CSR-washing.

Next, we examine three heterogeneous variations in the effect of mandatory CSR disclosure on CSR-washing. First, many firms disclose CSR information in order to keep up with their peers. To the extent that the pressure to disclose information about a firm's CSR performance leads to CSR-washing, the effect should be stronger when the peer pressure to disclose is also stronger. Indeed, we find that the effect of mandatory CSR disclosure on CSR-washing is stronger when the firm's disclosure performance lags behind that of its industry or city peers. Second, while the cost of CSR-washing appears to be small, public scrutiny could still detect firms' false CSR disclosure. If so, the effect of CSR disclosure regulation on CSR-washing should be weaker. Indeed, we find this to be the case when the firm is in a polluting industry or when it attracts more media attention. Finally, CSR activities are costly. When a firm's financial constraints prevent it from committing to CSR activities, but it still wants to have a good CSR profile, it will have a stronger incentive to CSR-wash. Indeed, we find that the effect of mandatory CSR disclosure on CSR-washing is stronger when the firm has low CSR spending or when it is more financially constrained.

Finally, we conduct two supplementary analyses that further validate our main finding. First, we show that the increase in CSR-washing after mandated CSR disclosure is concentrated among affected firms that increase their post-mandate CSR disclosure. This outcome is consistent with the mandate imposing disclosure-related pressure on firms to engage in CSRwashing. Second, we also show that affected firms that engage in CSR-washing receive more CSR awards, and they have a reduced cost of debt and greater stock liquidity, consistent with the affected firms engaging in CSR-washing because of the expected benefits.

Our study makes several contributions. First, we contribute to the literature on the economic consequences of mandatory CSR disclosure regulation. The issue of mandating CSR disclosure is undoubtedly an important and contemporary one that attracts significant attention from policymakers, practitioners, and academics. The literature that examines the consequences of such regulation typically focuses on the intended consequences, broadly speaking, of incentivizing more CSR (e.g., Ioannou and Serafeim, 2017; Chen et al., 2018; Fiechter et al., 2022; Krueger et al., 2024). For example, Ioannou and Serafeim (2017) compare firms from four countries with CSR disclosure mandates prior to 2011 (i.e., China, Denmark, Malaysia, and South Africa) to propensity matched benchmark firms. They find that after the mandate, the treated firms significantly increase the volume and quality of their CSR disclosure. Chen et al. (2018) find that mandatory CSR disclosure alters firms' behavior and generates positive externalities to the society. Fiechter et al. (2022) document that firms within the scope of the EU directive respond by increasing their CSR activities. Krueger et al. (2024) document a positive effect of CSR disclosure mandates on firm-level stock liquidity, suggesting that CSR disclosure regulation improves the information environment and has beneficial capital market effects. Our own research complements and contrasts with these studies because we examine an unintended consequence of mandatory CSR disclosure regulation, CSR-washing. Both policymakers and practitioners highlight this issue as an important concern, especially as

evolving global efforts to mandate CSR disclosure lead to more firms providing such disclosures.

Second, we contribute to the literature that offers interesting and important insights into CSR-washing (e.g., Marquis et al., 2016; Tashman et al., 2019) or into specific types of CSRwashing such as greenwashing (e.g., Kim and Yoon, 2021; Basu et al., 2022; Raghunandan and Rajgopal, 2022) and diversity-washing (Baker et al., 2024). To the best of our knowledge, even though regulators and practitioners highlight their concerns about firms exaggerating their CSR performance in disclosures, research is limited on how mandatory CSR disclosure affects CSRwashing. This may be because in many jurisdictions, mandatory CSR disclosure regulations are still in the process of being enacted. One exception is a concurrent working paper by Giannetti et al. (2024). Giannetti et al. (2024) find that banks that emphasize the sustainability of their lending policies in their disclosures do not exhibit a reduced environmental impact. If anything, the banks extend a higher volume of credit to brown borrowers, without charging higher interest rates or shortening the debt maturity. Our study extends the CSR-washing literature by exploiting China's 2008 mandate, which requires firms to disclose CSR activities. This mandate offers early large-sample evidence of whether and how firms respond to pressure induced by mandated CSR disclosure regulation. Our main finding highlights that these regulations, although intended to promote accountability for firms' CSR activities, can have the unintended consequence of encouraging firms to engage in CSR-washing. Our other findings emphasize the heterogeneity in firms' engagement in CSR-washing in response to mandated CSR disclosure when peer pressure, external monitoring, or financial constraints are present.

2. Background of the 2008 China's Mandated CSR Disclosure

Since 2006, the Chinese government has been actively promoting CSR for public firms. According to Marquis and Qian (2014), many observers believe that an important shift in China's economic development occurred in 2006 when the Hu Jintao administration announced the 11th Five-Year Plan for National Economic and Social Development. This plan articulated a national vision based on the principles of a harmonious society and scientific development, which was widely viewed as a signal that the government was shifting from a policy of pursuing economic growth at all costs to one that balanced economic growth with addressing pressing social and environmental problems.

To enhance the transparency about firms' CSR practices, from December 2008, both the SSE and the SZSE began to mandate CSR disclosure for a subset of the firms listed on their exchanges. Specifically, on December 30, 2008, the SSE announced that firms listed in its "Corporate Governance Sector", firms with overseas-listed shares, and financial companies were required to include a CSR report in their annual report, starting from the 2008 reporting period.⁷ On the following day, December 31, 2008, the SZSE made a similar announcement, mandating CSR reporting for all firms listed on its "Shenzhen 100 Index".⁸ Because the SSE and SZSE are fully government-owned and directly supervised by the China Securities Regulatory Commission, this mandate is essentially a government requirement.

For brevity, we refer interested readers to Chen et al. (2018) for more background

⁷ As of the end of 2008, the SSE Corporate Governance Index comprised 230 companies that had the strongest governance practices.

⁸ As of the end of 2008, the SZSE 100 Index included the top 100 A-share listed companies (out of 724 companies) based on their total market capitalization, free-float market capitalization, and share turnover.

information of the mandate. In particular, the three panels in their Appendix A provides information about i) mandatory CSR disclosure announcements, ii) excerpts of the SZSE "Notice on listed companies' preparation for the 2008 annual reports", and iii) summary and excerpts of a sample CSR report.

3. Research Design

3.1. Data and Sample

We construct our sample from the China Security Market and Accounting Research (CSMAR) database, which covers financial statement information for all Chinese listed firms. Our sample period is from 2007 to 2011, with 2007–2008 as the pre-treatment period and 2009–2011 as the post-treatment period. Following Chen et al. (2018), we exclude financial firms from our sample, because these firms are subject to different regulations and market trading mechanisms. We also exclude observations with missing values for the data that we used to construct our dependent variable and the control variables used in the baseline regression.⁹ Our final sample consists of 2,971 firm-year observations from 749 firms from 2007 to 2011. Of the 749 firms, 418 are listed on SSE and 331 are listed on SZSE. The treatment group includes 1,263 observations and the control group 1,708 observations. Table 1 summarizes the sample construction procedures.

3.2. Measurement of CSR-washing

We define CSR-washing as a firm's disclosures overstating its CSR commitment relative to its actual CSR performance. Following Tashman et al. (2019), we measure the extent

⁹ There is a significant drop in observations at this step because the Bloomberg database from which we obtain our CSR disclosure score does not cover many China-listed companies.

of a firm's CSR-washing as the degree of misalignment between its CSR reporting and performance, i.e., the standardized difference between the firm-disclosed CSR performance and the firm's objectively assessed CSR performance by a third-party rating agency. A higher value for this measure suggests a greater degree of misalignment between the firm's disclosure efforts and its actual performance and indicates a higher level of CSR-washing. The intuition underlying this measure is similar to those used in studies that examine different types of CSR-washing. For example, Baker et al.'s (2024) study on diversity-washing measures a firm's diversity-washing by comparing the extent of the diversity, equity, and inclusion indicated in the firm's disclosures with the firm's actual gender and racial diversity of its employees.

To measure the extent of a firm's CSR disclosure, we rely on the CSR disclosure scores developed by Bloomberg. This score measures the extensiveness of a firm's CSR reporting on a scale of 0.1 to 100, which reflects the quantity of the CSR information the firm discloses to the public. To calculate the score, Bloomberg researchers assess the completeness of firms' CSR reporting based on their disclosure through public sources, including annual reports, sustainability reports, third-party research, direct contact, press releases, and media news. Bloomberg groups the CSR disclosures into 120 (qualitative and quantitative) CSR indicators such as carbon emissions, the climate change effect, pollution, waste disposal, renewable energy, resource depletion, the supply chain, political contributions, discrimination, diversity, community relations, human rights, cumulative voting, executive compensation, shareholders' rights, takeover defense, staggered boards, and independent directors. Almost all the data points are traceable back to the original source in the firm's documentation (Ioannou and Serafeim, 2017). Bloomberg then weights each data point by its importance and takes the characteristics

of different industry sectors into account in constructing the scores. By this means, each firm is only evaluated using the data that is relevant to it. For example, "total power generated" is only counts in the disclosure scores of utility companies. The more information the firm discloses, the higher its disclosure score will be. Hence, the score captures the level of transparency of the firm's CSR information, not its actual CSR performance.¹⁰

To measure a firm's actual CSR performance, we use the CSR rating score from the Chinese Research Data Services Platform (CNRDS). The CNRDS offers a CSR rating system that is tailored to Chinese enterprises and that covers all Chinese listed firms since 2007. Based on international CSR disclosure standards such as ISO 26000, GRI Standards, and SASB Standards, CNRDS integrates the construction ideas from well-known CSR databases both at home and abroad, while closely integrating with China's unique CSR information disclosure policy environment. Through detailed data analysis, integration, and the processing of information sourced from firms' annual reports, ESG/CSR reports, public announcements, public news, and other CNRDS databases, CNRDS offers rich and reliable CSR rating data about Chinese listed firms (Zeng et al., 2024).

We then measure the extent of a firm's CSR-washing as the standardized difference between a normalized measure of the its CSR disclosure score relative to that of its industry peers and a normalized measure of its CSR performance score relative to that of its peers, using the following equation:

¹⁰ Bloomberg's CSR disclosure score covers over 10,000 common stocks around the world. Many prior studies use this measure (e.g., Ioannou and Serafeim, 2012, 2017; Li et al., 2018; Christensen et al., 2022; Huang et al., 2022; Long et al., 2024).

$$CSR-washing_{i,t} = \left(\frac{CSR \ Disclosure_{i,t} - \overline{CSR \ Disclosure_{j,t}}}{\sigma_{CSR \ Disclosure_{j,t}}}\right) - \left(\frac{CSR \ Performance_{i,t} - \overline{CSR \ Performance_{j,t}}}{\sigma_{CSR \ Performance_{j,t}}}\right), \quad (1)$$

where *i*, *j*, and *t* index the firm, industry, and year, respectively. *CSR-washing*_{*i*,*t*} is the extent of firm *i*'s CSR-washing in year *t*. *CSR Disclosure*_{*i*,*t*} and *CSR Performance*_{*i*,*t*} are, respectively, the CSR disclosure score and CSR performance score of firm *i* in year *t*. $\overline{CSR Disclosure}_{j,t}$ and $\overline{CSR Performance}_{j,t}$ respectively represent the average of the firm's peers' CSR disclosure scores and CSR performance scores in industry *j* in year *t*. $\sigma CSR Disclosure_{j,t}$ and σCSR *Performance*_{*j*,*t*} are the respective standard deviations of the firm's peers' CSR disclosure scores and CSR performance score in industry *j* in year *t*.

In addition, to facilitate our interpretation of the economic significance of our results, we follow Baker et al. (2024) and construct a dummy variable that captures firms' CSR-washing. Baker at al. (2024) first construct a measure of diversity-washing based on the difference between the percentile of diversity, equity and inclusion to which a firm commits in its disclosure and its actual diversity percentile. They assume that the amount of discussion should be proportional to the firm's underlying diversity and that any deviation from the average relation across firms in a given year suggests that a firm may be misrepresenting its diversity. This approach is essentially similar to the assumption of our CSR-washing measure. They then construct a binary variable that equals one if a firm's disclosure percentile is higher than its diversity percentile, and zero otherwise.¹¹ In the spirit of this binary measure, we define *CSR-washer* as a dummy variable that equals one if a firm's industry-year CSR disclosure score decile is higher than its industry-year CSR performance score decile, and zero

¹¹ Baker et al. (2024) state that this binary measure simplifies the discussion of the economic magnitude, because its effect is the difference between the average diversity-washer and a non-diversity-washing firm.

otherwise.

3.3. Regression Specification

To examine the effect of mandatory CSR disclosure on CSR-washing, we employ the following DID model specification, which compares the change in the treatment firms' CSR-washing with the control firms' change in CSR-washing during our sample period:

$$CSR-washing/CSR-washer_{i,t} = \beta_0 + \beta_1 \operatorname{Treat}_{i,t} + \beta_2 \operatorname{Post}_{i,t} + \beta_3 \operatorname{Treat}_{\operatorname{Post}_{i,t}} + Controls_{i,t-1} + Firm FE + Year FE + \varepsilon_{i,t-1}, \qquad (2)$$

where *i* and *t* index the firm and the year, respectively. *CSR-washing*_{*i*,*t*} and *CSR-washer*_{*i*,*t*}, which we define in Section 3.2., capture a firm's CSR-washing behavior. *Treat* is a dummy variable that equals one if the firm is in the treatment group, i.e., it is required to issue CSR reports, zero otherwise. Post is a dummy variable that equals one if a firm-year observation falls into the post-adoption period (i.e., 2009–2011), and zero otherwise. Treat Post is an interaction term between Treat and Post. We control for a series of firm characteristics that might affect firms' CSR-washing, including firm size (Ln(MV)), firm age (Ln(age)), leverage (Leverage), ROA (ROA), Tobin's Q (Tobin's Q), a dummy variable indicating whether the firm is a state-owned enterprise (SOE), the number of analysts following the firm (Analysts), and a dummy variable indicating whether the firm is audited by a Big4 auditing firm (*Big4*). Appendix A presents detailed variable definitions. To mitigate the effect of outliers, we winsorize all continuous variables at the 1st and 99th percentiles. We also include firm and year fixed effects to alleviate the concern that characteristics that are invariant across firms and years might confound our inferences. We adopt heteroscedasticity-robust standard errors clustered at the firm level. The coefficient β_3 on *Treat Post* is the coefficient of interest; it captures the effect of mandatory

CSR disclosure on firms' CSR-washing.

Table 2 presents the descriptive statistics for the variables used in the baseline regression for the full, treatment, and control samples. Panel A reports the descriptive statistics for the full sample. The mean value of *CSR-washing* is -0.014, indicating that on average, firms in our sample do not engage in CSR-washing; the mean value of *CSR-washer* is 0.420, suggesting that 42% of firm-years in our sample CSR-wash to some extent. In addition, firms in our sample on average have 17.62 billion RMB market value, 13.69 years of age, 0.497 of leverage, 0.055 of return on assets, and 2.011 of Tobin's Q. The mean value of *SOE* is 0.659, suggesting that about 65.9% of the firms are state-owned. The average number of analysts following the firm is 1.946. 11.4% of the firms are audited by Big4 audit firms. Panel B reports the descriptive statistics for the treatment and control samples separately. In general, the treatment and control firms show some significant differences in terms of their CSR disclosure and performance and in various firm characteristics. In a robustness check, we employ a propensity score matching method to alleviate concerns about fundamental differences between the treatment and control firms.

4. Empirical Results

4.1. Mandatory CSR Disclosure and CSR-washing

Table 3 reports the regression results about the effect of mandatory CSR disclosure on firms' CSR-washing. Columns (1)–(3) report the results using *CSR-washing* as the dependent variable. In Column (1), which does not include any control variables, we find that the coefficient on *Treat_Post* is positive and statistically significant at the 1% level. In Column (2), we include control variables that relate to firm characteristics and find that the coefficient on

Treat_Post is still positive and statistically significant at the 5% level. Finally, in Column (3), we further control for firm and year fixed effects. We find that the coefficient on *Treat_Post* remains positive and statistically significant at the 5% level. In Columns (4)–(6), we replicate Columns (1)–(3) but use *CSR-washer* as the dependent variable. We find that the coefficients on *Treat_Post* across all three columns are positive and statistically significant at the 5%, 5%, and 10% levels, respectively. In terms of the economic significance, the magnitude of the coefficient on *Treat_Post* in Column (6) indicates that after the mandated CSR disclosure, the likelihood of the treatment group's CSR-washing increases by 7.3% relative to the control group. This change is considerable and amounts to around 17.38% of the average likelihood of CSR-washing in our sample. Taken together, the results in Table 3 suggest that firms that are required to report their CSR information increase their CSR-washing after the CSR disclosure mandate.

4.2. Parallel Trend Assumption Test

The basic identifying assumption underlying the DID estimation is that in the absence of a treatment event, the treatment and control groups would exhibit parallel trends in the dependent variable. Although this assumption is not directly testable, we can offer some basic assurance by investigating whether divergence existed prior to the treatment. We replace *Treat*, *Post*, and *Treat_Post* with a series of dummy variables, *Treat2007*, *Treat2008*, *Treat2009*, *Treat2010*, and *Treat2011*, which respectively equal one for the observations of mandated-disclosure firms in the years 2007, 2008, 2009, 2010, and 2011, and zero otherwise. The coefficients on these dummy variables track the difference between the treatment and control groups' CSR-washing from the pre- to post-CSR disclosure mandate adoption periods.

Table 4 reports the results of the parallel trend assumption test. Columns (1)–(3) report the results using CSR-washing as the dependent variable. In Column (1), we include only firm and year fixed effects as controls and we use the year that mandatory CSR disclosure is adopted as the benchmark year. We find that the coefficient on *Treat*₂₀₀₇ is statistically insignificant, suggesting that during the pre-adoption period, the difference in CSR-washing for the treatment and control groups does not differ statistically from the difference for the benchmark year. This result indicates that the increase in CSR-washing does not occur prior to mandated CSR disclosure, which lends support to the parallel trend assumption. In contrast, the coefficients on *Treat₂₀₁₀* and *Treat₂₀₁₁* are significantly positive, reflecting the post-adoption rise in the treatment firms' CSR-washing. In Column (2), we further include firm characteristics variables as controls; we find similar results as those in Column (1). In Column (3), we include all the controls and use the first year after CSR disclosure is mandated as the benchmark year. We find that the coefficients on Treat2007 and Treat2008 are statistically insignificant, while the coefficients on *Treat₂₀₁₀* and *Treat₂₀₁₁* are significantly positive, which is again in support of the parallel trend assumption. In Columns (4)-(6), we replicate Columns (1)-(3) but with CSRwasher as the dependent variable. Our results are similar to those documented in Columns (1)-(3).

To better visualize the trend, Figure 1 plots the coefficients that indicate the difference in CSR-washing for the treatment and control firms over time with 95% confidence intervals based on robust standard errors clustered by firm. Consistent with the parallel trend assumption, we observe that the coefficients significantly increase only after mandatory CSR disclosure adoption. Taken together, the results in Table 4 and Figure 1 suggest that the parallel trend assumption holds in our setting.

4.3.Robustness Tests

In this section, we conduct a variety of robustness tests to further validate our main result. First, we test whether our main result is robust to including industry fixed effects, as in Chen et al. (2018), and to a series of alternative samples including; i) a balanced sample that requires a firm to appear at least one year in the pre-period and one year in the post-period; ii) a modified sample that restricts the controls firms to be similar in size as the treated firms; and iii) a propensity score matched sample to further control for the differences between the treated and control firms. Second, we examine whether our main result is robust to controlling for additional variables, including financial reporting quality and ROE volatility. Last, we test whether our main result is robust to alternative measures of *CSR-washer*.

4.3.1. Alternative regression specifications

We begin by reporting results using alternative regression specifications. As we have two dependent variables, we report the results using two panels. Table 5, Panels A and B report the results using *CSR-washing* and *CSR-washer*, respectively, as the dependent variable. In all the columns, the coefficient of interest is that on *Treat_Post*. For our first alternative regression specification, we follow Chen et al. (2018) to control for industry fixed effects only in the regression; for the test, we drop the firm and year fixed effects that we use in our baseline regression specification. In Column (1) in both Panels A and B, we continue to document positive and statistically significant coefficients on *Treat_Post*.

Second, we examine the robustness of our main result using a more balanced sample that requires a firm to appear at least one year in the pre-period and one year in the post-period.

In our baseline sample, the number of pre-period and post-period observations are 1,008 and 1,963, respectively. In the more balanced sample, the numbers are 1005 and 1647 for pre-period and post-period, respectively. In Column (2) in both Panels A and B, we continue to document positive and statistically significant coefficients on *Treat Post*.

Third, we adopt another modified sample that restricts the treatment and control firms to be similar in size. The size of treated firms, measured by the book value of assets of the firms, ranges from 0.38 billion RMB to 1917.53 billion RMB, and the size of control firms ranges from 0.093 billion RMB to 1130.05 billion RMB. Therefore, we keep the firms whose sizes are in the range of 0.38 billion RMB to 1130.05 billion RMB for treated and control firms. In Column (3) in both Panels A and B, the coefficients on *Treat_Post* are positive and statistically significant.

Finally, to mitigate the concern that our treatment and control samples are inherently different, we use the propensity score matching approach to construct a more comparable sample. First, we use a logit regression model to estimate the probability that the firm is a treatment firm using the pre-treatment period data in 2008 or in 2007 if the data in 2008 is not available. We include four sets of variables in this regression: i) the market value (Ln(MV)), the firm's age (Ln(age)), the annual stock returns (Return), and the return on equity (ROE) to capture the characteristics of the firms included in either the SSE Corporate Governance Index or the SZSE 100 Index; ii) the percentage of shares owned by the government (*State ownership*), which captures a firm's governance characteristics and political/social strategies; iii) the number of analysts following (Analysts) and whether the firm is audited by the Big Four accounting firms (Big4), which captures the firm's relationship with financial intermediaries;

and iv) a dummy variable indicating whether the firm is in a high-pollution industry (*Polluting firm*), which captures the likelihood that the firm is a polluter. We also include industry and year fixed effects. Based on this probit estimation, we can derive a propensity score for each observation in our sample. We match each treated firm with the control firm with the closest propensity score. After propensity score matching, we end up with 1,694 observations: 1,165 treatment firm-years from 243 firms and 529 control firm-years from 111 firms. Table 5, Panel A (B), Column (4) reports the results using *CSR-washing (CSR-washer)* as the dependent variable. We find that the coefficients on *Treat_Post* are still positive and statistically significant. Taken together, these results suggest that our main finding is robust to a variety of alternative samples.

4.3.2. Additional control variables

We next test whether our main result is robust to controlling for additional variables that might affect firms' CSR-washing. We include two more variables as controls: i) *Financial reporting quality*, which is the absolute value of firms' discretionary accruals calculated using the modified Jones Model (Dechow et al., 1995), and ii) *ROE volatility*, which is the standard deviation of the ratio of a firm's net income to its total equity over the past three years. Table 5, Panel C reports the results. Columns (1) and (2) use *CSR-washing* as the dependent variable, while the dependent variable in Columns (3) and (4) is *CSR-washer*. Columns (1) and (3) control for *Financial reporting quality*. Columns (2) and (4) do so for *ROE volatility*. We find that the coefficients on *Treat_Post* are positive and statistically significant across all four columns, and their magnitude is larger than our baseline result. These results suggest that mandatory CSR disclosure's effect on CSR-washing is not driven by either financial reporting

quality or ROE volatility.

4.3.3. Alternative measures of CSR-washer

For our final robustness test, we adopt three alternative measures of *CSR-washer*. The measures are: i) *CSR-washer2*, a dummy variable that equals one if a firm's industry-year CSR disclosure score percentile is higher than its industry-year CSR performance score percentile, zero otherwise; ii) *CSR-washer3*, a dummy variable that equals one if a firm's within-year CSR disclosure score decile is higher than its within-year CSR performance score decile, zero otherwise; and iii) *CSR-washer4*, a dummy variable that equals one if a firm's within-year CSR disclosure score quartile is higher than its within-year CSR performance score decile, zero otherwise; and iii) *CSR-washer4*, a dummy variable that equals one if a firm's within-year CSR disclosure score quartile is higher than its within-year CSR performance score quartile, zero otherwise. Table 5, Panel D, Columns (1)–(3) report the respective results for the three alternative measures. Across all three columns, we observe positive and statistically significant coefficients on *Treat_Post*. These outcomes indicate that our main result continues to hold for alternative measures of *CSR-washer*. Notably, in column (1), where we define a CSR-washer as a firm that has a CSR disclosure score percentile that is higher than its CSR performance score score percentile, affected firms are 12% more likely than unaffected firms to become CSR-washers.

4.4. Cross-sectional Analyses

In addition to examining the overall effect of mandatory CSR disclosure on firms' CSRwashing, we explore the cross-sectional variation in this effect under three conditions: i) peer pressure on the firm to disclosure about CSR; ii) external monitoring of the firm; and iii) financial constraints of the firm. The regression specification used in our cross-sectional tests extends Equation (2) as follows: CSR-washing/CSR-washer_{i,t} = $\beta_0 + \beta_1$ Treat_Post × Moderator_{i,t} + β_2 Treat_Post_{i,t}

+ Controls_{*i*,*t*-1} + Firm
$$FE$$
 + Year FE + $\varepsilon_{i,t-1}$, (3)

where *i* and *t* index the firm and the year, respectively. *Moderator* is a variable that we posit moderates the mandated CSR disclosure's effect on CSR-washing. A potential concern with cross-sectional tests that pertain to the initiation of an event is that the event may affect firm characteristics, leading to inconsistent estimates of the treatment effect (Gormley and Matsa, 2014). To mitigate this concern, we use ex-ante firm characteristics measured during the pretreatment period to construct the moderating variables for the cross-sectional analyses. Because the proxies remain constant for each firm during the sample period, the main effect of the proxies is subsumed when we add firm fixed effects. The other variables are as defined in Equation (2).

4.4.1. Peer pressure in the disclosure of CSR

Peer pressure plays an important role in corporate decisions. Reasons for a focal firm to consider the actions of peers when deciding how to act includes competition for capital and competition in the product market. Gao and Zhang (2019) demonstrate theoretically that peer managers' manipulation decisions are strategic complements: one manager manipulates more if he believes that reports of peer firms are more likely to be manipulated. Empirically, there is evidence in the extensive earnings management literature that greater peer pressure is positively associated with the focal firm's earnings management (e.g., Kedia et al., 2015; Du and Shen, 2018). Kedia et al. (2015) label that peer effect on a firm's earnings management decisions as a contagion. Our baseline result indicates that mandated CSR disclosure leads to more CSR-washing for the affected firms, suggesting that the mandate, on average, puts pressure on affected firms to exaggerate their CSR disclosures. To the extent that there is a contagion because the focal firm observes peer firms' exaggeration of their CSR disclosures and feels the pressure to mimic such behavior, one might expect that the positive effect of the mandate on CSR-washing to be more pronounced when the firm faces greater peer pressure in its disclosure about its CSR.

We employ two measures to capture firms' exposure to peer pressure on CSR disclosure. First, we define *High peer pressure (industry)* as a dummy variable that equals one when the pressure to disclose in a firm's industry is above the sample median, zero otherwise. The firm's industry-level CSR disclosure pressure is calculated as the average CSR disclosure score (excluding the firm) for firms in the same industry minus the firm's CSR disclosure score. Our second measure is *High peer pressure (city)*, which we define as a dummy variable that equals one when the pressure to disclose in a firm's city is above the sample median, zero otherwise. The city-level CSR disclosure pressure is calculated as the average CSR disclosure score (excluding the firm) for firms in that city minus the firm's CSR disclosure score.

We then estimate Equation (3) with *Moderator* representing each of the above proxies in turn. Table 6 reports the results. For Columns (1) and (2), we use *CSR-washing* as the dependent variable. In Columns (3) and (4), *CSR-washer* is the dependent variable. The moderating variable in Columns (1) and (3) is *High peer pressure (industry)*. For Columns (2) and (4), it is *High peer pressure (city)*. We find that the coefficients on *Treat_Post* × *High peer pressure (industry)* and *Treat_Post* × *High peer pressure (city)* are positive and statistically significant, consistent with the notion that mandated CSR disclosure plays a more significant role in the treatment firms' CSR-washing when they experience more pressure to disclose CSR- related information.

4.4.2. External monitoring of the firm

Monitoring of the firm is important in reducing agency problems (Fama, 1980). From a CSR perspective, the managers of the firm can be viewed as the agent of various stakeholders that are interested in knowing the "true" CSR performance of the firm. Prior research generally documented the expected result that more external monitoring of the firm would lead to higher quality disclosures (e.g., Irani and Oesch, 2013). In the context of CSR-related disclosure, Rupley et al. (2012) find that the quality of voluntary environmental disclosure is positively associated with media coverage about environmental concerns. Our baseline result indicates that mandated CSR disclosure leads to more CSR-washing for the affected firms, suggesting that the mandate, on average, puts pressure on affected firms to exaggerate their CSR disclosures. However, one might expect that when a firm faces greater pressure to engage in CSR-washing, its willingness and ability to do so would be constrained by greater external monitoring. Hence, we conjecture that the positive effect of mandated CSR disclosure on CSRwashing is less pronounced for firms that are more closely monitored.

We use two measures to proxy for the external monitoring of the firm. First, we assume that firms that are classified by the government as being in a polluting industry is more likely to subject to greater monitoring not just by the government but also by other stakeholders (Cheng and Liu, 2018; He et al., 2022). We define *Polluting industry* as a dummy variable that equals one if a firm is in a polluting industry. Polluting industries, as classified by the Environmental Protection Administration in China, include the: (1) metallurgical, (2) chemical, (3) petrochemical, (4) coal, (5) thermal power, (6) building materials, (7) paper, (8) brewing, (9) pharmaceutical, (10) fermentation, (11) textiles, (12) leather, and (13) mining industries. Second, an extensive prior literature on the role of media has emphasized that the media serves a watchdog that can curtailing corporate misbehavior. For example, in the context of pollution in China, Wang and Zhang (2021) document that media coverage of a firm's pollution incident has a significantly positive effect on the likelihood of the firm's subsequent green acquisition (i.e., acquisitions that are aimed at acquiring clean production technology and energy-saving emission reduction technology to achieve sustainable development). Hence, we define *High media attention* as a dummy variable that equals one if the number of financial media articles about a firm is above the sample median, and zero otherwise.

We then estimate Equation (3) with *Moderator* representing each of the above proxies in turn. Table 7 reports the results. Columns (1) and (2) employ *CSR-washing* as the dependent variable. In Columns (3) and (4), the dependent variable is *CSR-washer*. Columns (1) and (3) use *Polluting industry* as the moderating variable. In Columns (2) and (4), *High media attention* is the moderating variable. We find that the coefficients on *Treat_Post* × *Polluting industry* and *Treat_Post* × *High media attention* are negative and statistically significant, consistent with our prediction that the treated firms are less likely to engage in CSR-washing if they receive extensive external monitoring.

4.4.3. Financial constraints of the firm

CSR activities can be costly. Financial constraints may force firms to limit their CSR investments since CSR efforts can be costly in the short term but firms may only be able to reap the benefits, if any, in the long run. Hong et al. (2012) find that relaxing financial constraints can temporarily increase firms' willingness to be good corporate citizens. Attig

(2024) finds that anti-recharacterization laws, which ease financial constraints, lead to higher CSR. Our baseline result indicates that mandated CSR disclosure leads to more CSR-washing for the affected firms, suggesting that the mandate, on average, puts pressure on affected firms to exaggerate their CSR disclosures. However, heterogeneity in firm financial constraints would mean that firms that are more financially constrained, compared to those that are less financially constrained, are more likely to end up exaggerating due to the lack of financial resources to enact what their CSR disclosure promises. Hence, we conjecture that the positive effect of mandated CSR disclosure on CSR-washing is more pronounced for firms that are more financially constrained.¹²

We use three measures to proxy for a firm's financial constraints. First, we define *High KZ index* as a dummy variable that equals one if a firm's KZ index is above the sample median, and zero otherwise. The calculation of the KZ index follows Kaplan and Zingales (2000). Second, we define *High WW index* as a dummy variable equal to one if a firm's WW index is above the sample median, and zero otherwise. We calculate the WW index following Whited and Wu (2006). Third, we define *Low CSR spending* as a firm's CSR spending divided by the book value of its equity multiplied by minus one.

We estimate Equation (3) with *Moderator* representing each of the above proxies in turn. Table 8 reports the results. The dependent variable in Columns (1)–(3) is *CSR-washing*. For Columns (4)–(6), *CSR-washer* is the dependent variable. Columns (1) and (4) use *High KZ index* as the moderating variable and in Columns (2) and (5), it is *High WW index*. The

¹² An underlying assumption of this hypothesis is that even if financially constrained firms promise less CSR actions due to their financial constraints, they would face difficulties in promising a lower amount that would commensurate with their financial resources due to peer pressure.

moderating variable in Columns (3) and (6) is *Low CSR spending*. We find that the coefficients on *Treat_Post* × *High KZ index*, *Treat_Post* × *High WW index*, and *Treat_Post* × *Low CSR spending* are all positive and statistically significant, consistent with our conjecture that the effect of mandatory CSR disclosure on CSR-washing is stronger for more financially constrained firms.

5. Supplementary Analyses

5.1. Further Evidence of Mandated Disclosure Pressure

A natural outcome from the disclosure regulation and the premise for our results is that after CSR disclosure becomes mandatory, firms' disclosure increases. Moreover, if the pressure to disclose more about CSR is indeed the driver for the CSR-washing, the mandate's effect on CSR-washing should be stronger for those affected firms that increase their CSR disclosure more after the mandate. We now empirically test these assumptions.

First, we examine whether the mandated CSR disclosure increases the CSR disclosure for the firms in our setting. We employ two measures to capture the level of a firm's CSR disclosure: i) *CSR disclosure*, a firm's CSR disclosure score from Bloomberg, which we use to construct our main dependent variable and ii) *CSR reporting*, which is a dummy variable that equals one if the firm issues a CSR report, and zero otherwise. We then estimate Equation (2) by respectively replacing the dependent variable with *CSR disclosure* and *CSR reporting*. Table 9, Columns (1) and (2) present the results. We find that in both columns, the coefficients on *Treat_Post* are positive and statistically significant. These results suggest that after the CSR disclosure mandate, both the level of CSR disclosure and the likelihood of issuing a CSR report increases for the treatment firms. This outcome lends support to the effectiveness of the CSR disclosure mandate.

We further examine whether the increase in firms' CSR disclosure serves as a channel through which mandatory CSR disclosure increases firms' CSR-washing. Specifically, we examine whether the impact of mandated CSR disclosure on firms' CSR-washing most affects those treatment firms that disclose more CSR information after the mandate. Following the recent literature that conducts channel tests within a DID research design (e.g., Ahmed et al., 2020; Ye et al., 2023; Chen et al., 2024), we employ the following regression model to test our channel:

$$CSR-washing/CSR-washer_{i,t} = \beta_0 + \beta_1 Treat_Post \times More increase in CSR disclosure_{i,t} + \beta_2 Treat_Post \times Less increase in CSR disclosure_{i,t}$$

+
$$Controls_{i,t-1}$$
 + $Firm FE$ + $Year FE$ + $\varepsilon_{i,t-1}$, (4)

where *i* and *t* index the firm and year, respectively. *More (Less) increase in CSR disclosure* is a dummy variable that equals one when a treatment firm's average post-mandate CSR disclosure score minus its pre-mandate score is above (below) the sample median, and zero otherwise. The other variables are defined in Equation (2). If mandated CSR disclosure increases a firm's CSR-washing, we expect the coefficient β_1 to be positive and statistically significant.

Table 9, Columns (3) and (4) report the results with *CSR-washing* and *CSR-washer* as the respective dependent variables. In both columns, we find that the coefficients on *Treat_Post* \times *More increase in CSR disclosure* are positive and statistically significant, whereas the coefficients on *Treat_Post* \times *Less increase in CSR disclosure* are negative and statistically significant. The *F*-test of the difference between the coefficients on *Treat_Post* \times *More increase* *in CSR disclosure* and *Treat_Post* × *Less increase in CSR disclosure* shows that the difference is statistically significant at the 1% level. These results suggest that compared to the control firms, those treatment firms that have a greater increase in their CSR disclosure after mandated CSR disclosure experience a significant increase in their CSR-washing. In contrast, the treatment firms that have a smaller increase in their CSR disclosure experience a significant decrease in their CSR-washing after the mandate. These results suggest that the CSR disclosure mandate's positive impact on CSR-washing is driven by certain firms that disclose more after the mandate.

To test our channel, we also construct a dummy variable, *Initiate CSR reporting*, that equals one if a treated firm switch from not providing a CSR report before the mandate to doing so afterward, and zero otherwise. We estimate Equation (3) with *Moderator* representing *Initiate CSR reporting*. Table 9, Columns (5) and (6) report the results using *CSR-washing* and *CSR-washer* as the respective dependent variables. In both columns, we find that the coefficients on *Treat_Post* × *Initiate CSR reporting* are positive and statistically significant. These results suggest that the effect of the CSR disclosure mandate on CSR-washing is concentrated among those affected firms that initiate CSR reporting because of the mandate. Overall, the results in Table 9 suggest that the CSR disclosure mandate increases firms' CSR disclosure and that the mandate's effect on firms' CSR-washing is driven by the increased disclosure.

5.2. Further Evidence of the Benefits of CSR-washing

To the extent that firms increase their CSR-washing after the CSR disclosure mandate, doing so should benefit them. Prior literature documents that when firms portray a positive image of their CSR commitment, they are more likely to receive more awards, obtain lower cost bank loans, and attract more investors (Raimo et al., 2021). In this section, we examine these potential benefits of CSR-washing. To do so, we construct three measures that capture the benefits: i) *CSR award*, which is a dummy variable that equals one if a firm receives a CSR award, and zero otherwise, ii) *Cost of debt*, which is interest expenses divided by the total liabilities, and iii) *Share turnover*, which is the number of shares traded divided by the number of outstanding shares. We obtain information about CSR awards from the CNRDS ESG database, which covers information on firms' charitable activities, corporate governance, diversity, relationship with its employees, etc. We classify a firm as receiving a CSR award if it is given an environment-related award or a product-related award.

We estimate Equation (3) using each of the above measures in turn as the dependent variable and *CSR-washer* as the proxy for *Moderator*. Table 10 reports the results. In Columns (1)–(3), we find that the coefficients on *Treat_Post* \times *CSR-washer* are, respectively, statistically positive, negative, and positive. These results suggest that for firms that engage in CSR-washing, the CSR disclosure mandate results in a higher chance of receiving a CSR award, and of having a lower cost of debt and higher stock liquidity.

6. Conclusion

Market participants, regulators, and academics increasingly emphasize the significance of using mandatory CSR disclosure as a means of pressuring firms to be more socially responsible. However, there are growing concerns that these requirements may unintentionally foster CSR-washing, in which firms exaggerate how socially responsible they are. In this paper, we investigate the impact of mandatory CSR disclosure on firms' propensity to engage in CSR- washing. We find that firms subject to mandatory CSR disclosure are more likely to engage in the practice compared to firms not under such a mandate. This finding suggests that the requirement to disclose CSR information can create pressure for firms, leading them to present a more favorable image of their CSR performance than what their real actions warrant. We also find that the positive effect is more pronounced for firms that experience more pressure to disclose from peers, and that have less external monitoring or more financial constraints. In addition, we show that the increase in CSR-washing after the mandate is concentrated among those firms that also increase their CSR disclosure after the mandate. This finding is consistent with the mandate's disclosure-related pressure inducing firms to engage in CSR-washing. We also show that affected firms that engage in CSR-washing receive more CSR awards, and they have a reduced cost of debt and greater stock liquidity, all of which are consistent with the affected firms engaging in CSR-washing because they expect to benefit from doing so.

We note two caveats to our study. First, some caution is necessary in generalizing our study's particular mandated CSR disclosure setting to other mandatory CSR disclosure settings. Our paper is best viewed as offering early large-sample, as opposed to anecdotal, evidence of whether and how firms respond to the pressure from the mandated CSR disclosure requirements. The nature of disclosure mandates, as well as their assurance requirements, is evolving. It is possible that more recent disclosure standards better address the issue of CSR-washing. For example, several jurisdictions moved or are moving towards requiring external independent assurance of firms' mandated sustainability disclosure (IFRS, 2024; SEC, 2024), and such assurance would most likely mitigate CSR-washing. Second, despite our best efforts in dealing with endogeneity (e.g., using alternative regression specifications, additional

controls, and alternative CSR-washing measures), endogeneity remains a present concern. However, China's 2008 mandated CSR disclosure is not completely exogeneous: it is part of a series of efforts by China's government to enhance firms' CSR commitment. The treatment and control firms used in the DID analysis are also not randomly selected; they tend to be larger firms, which face both greater pressure to exaggerate their CSR performance and greater scrutiny by stakeholders about potential CSR-washing.

Overall, our study provides new and important insight into the ongoing debate around mandatory CSR disclosure regulations from the perspective of CSR-washing. Specifically, we highlight how mandating CSR disclosure for firms, despite being intended to promote accountability for firms' CSR activities, can have unintended consequences. Rather than leading to a genuine improvement in firms' CSR performance, these mandates may incentivize firms to exaggerate their CSR profile. Our findings highlight the complexities and potential pitfalls of regulatory approaches that rely on firm disclosure, emphasizing the need for more careful consideration of how these policies are designed and enforced.

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Variable	Definition	Source
Dependent variab	bles	
CSR-washing	The degree of misalignment between a firm's CSR reporting and	Bloomberg
	performance, i.e., the standardized difference between the CSR	CNRDS
	disclosure score from Bloomberg and the CSR performance score	
	from CNRDS.	
CSR-washer	Dummy variable that equals one if a firm's industry-year CSR	Bloomberg
	disclosure score decile is higher than its industry-year CSR	CNRDS
	performance score decile, and zero otherwise.	
CSR-washer2	Dummy variable that equals one if a firm's industry-year CSR	Bloomberg
	disclosure score percentile is higher than its industry-year CSR	CNRDS
	performance score percentile, and zero otherwise.	
CSR-washer3	Dummy variable that equals one if a firm's within-year CSR	Bloomberg
	disclosure score decile is higher than its within-year CSR	CNRDS
	performance score decile, and zero otherwise.	
CSR-washer4	Dummy variable that equals one if a firm's within-year CSR	Bloomberg
	disclosure score quartile is higher than its within-year CSR	CNRDS
	performance score quartile, and zero otherwise.	
CSR disclosure	A firm's CSR disclosure score from Bloomberg.	Bloomberg
CSR reporting	Dummy variable that equals one if a firm issues a CSR report, and	CSMAR
	zero otherwise.	
CSR award	Dummy variable that equals one if a firm receives a CSR award,	CSMAR
	and zero otherwise.	
Cost of debt	A firm's interest expenses divided by its total liabilities.	CSMAR
Share turnover	The number of shares traded divided by the number of outstanding	CSMAR
	shares.	
Independent vari	ables	
Treat	Dummy variable that equals one if a firm is in the treatment	SSE &
	group, i.e., is required to issue CSR reports, and zero otherwise.	SZSE
		websites
Post	Dummy variable that equals one if a firm-year observation falls in	CSMAR
	the post-adoption period (i.e., 2009–2011), and zero otherwise.	
Treat_Post	An interaction term between Treat and Post.	SSE &
		SZSE
		websites
		CSMAR
Treat ₂₀₀₇	Dummy variable that equals one for the observations of firms	SSE &
	required to disclose CSR information in the year 2007.	SZSE
		websites
Treat ₂₀₀₈	Dummy variable that equals one for the observations of firms	SSE &
	required to disclose CSR information in the year 2008.	SZSE
		websites

Appendix A: Variable Definitions and Sources

Treat ₂₀₀₉	Dummy variable that equals one for the observations of firms	SSE &
	required to disclose CSR information in the year 2009.	SZSE
		websites
Treat ₂₀₁₀	Dummy variable that equals one for the observations of firms	SSE &
	required to disclose CSR information in the year 2010.	SZSE
		websites
Treat ₂₀₁₁	Dummy variable that equals one for the observations of firms	SSE &
	required to disclose CSR information in the year 2011.	SZSE
		websites
Ln(MV)	Natural logarithm of the market value of a firm's equity plus the	CSMAR
	book value of its debt.	
Ln(age)	Natural logarithm of the number of years up to a firm's	CSMAR
	establishment year.	
Leverage	The book value of a firm's total debt divided by the book value of	CSMAR
	its total assets.	
ROA	A firm's net income divided by the book value of its total assets.	CSMAR
Tobin's Q	The market value of a firm's equity plus the book value of its	CSMAR
	debt, divided by the book value of its total assets.	
SOE	Dummy variable for state-owned enterprise that is equal to one if	CSMAR
	a firm's ultimate controlling owner is either the central or local	
	government, and zero otherwise.	
Analysts	Natural logarithm of one plus the number of analysts following a	CSMAR
	firm.	
Big4	Dummy variable that equals one if a firm is audited by the Big	CSMAR
	Four accounting firms, and zero otherwise.	
Financial	The absolute value of a firm's discretionary accruals calculated	CSMAR
reporting	using the modified Jones Model (Dechow et al., 1995).	
quality		
ROE volatility	The standard deviation of the ratio of a firm's net income to its	CSMAR
	total equity over the past three years.	
High peer	Dummy variable that equals one when the CSR disclosure	Bloomberg
pressure	pressure in a firm's industry is above the sample median, and zero	CNRDS
(industry)	otherwise.	
High peer	Dummy variable that equals one when the CSR disclosure	Bloomberg
pressure (city)	pressure in a firm's city is above the sample median, and zero otherwise.	CNRDS
Polluting	Dummy variable that equals one if a firm is in a polluting	Ministry of
industry	industry. Polluting industries, as classified by the Environmental	Ecology
	Protection Administration in China, include: (1) metallurgical, (2)	and
	chemical, (3) petrochemical, (4) coal, (5) thermal power, (6)	Environme
	building materials, (7) paper, (8) brewing, (9) pharmaceutical,	nt of
	(10) fermentation, (11) textiles, (12) leather, and (13) mining	China's
	industries.	website
High media	Dummy variable that equals one if the number of financial articles	CNRDS

attention	related to a firm is above the sample median, and zero otherwise.	
High KZ index	Dummy variable that equals one if a firm's KZ index is above the	CSMAR
	sample median, and zero otherwise. The calculation of the KZ	
	index follows Kaplan and Zingales (2000).	
High WW index	Dummy variable that equals one if a firm's WW index is above	CSMAR
	the sample median, and zero otherwise. The calculation of WW	
	index follows Whited and Wu (2006).	
Low CSR	A firm's CSR spending divided by the book value of its equity	CSMAR
spending	multiplied by minus one.	
More (Less)	Dummy variable that equals one when a firm's average post-	Bloomberg
increase in CSR	mandate CSR disclosure score minus its pre- mandate CSR	
disclosure	disclosure score is above (below) the sample median, and zero	
	otherwise.	
Initiate CSR	Dummy variable that equals one if a treated firm switch from not	CSMAR
reporting	providing a CSR report before the mandate to providing it	
	afterward, and zero otherwise.	

Figure 1. Parallel Trend Graphs



Figure 1A: Dependent variable: CSR-washing, Benchmark year: 2008













Figures 1A and 1B show the coefficients that indicate the difference in *CSR-washing* for the treatment and control firms over time, using 2008 and 2009 as the respective benchmark years. Figures 1C and 1D show the coefficients that indicate the difference in *CSR-washer* for the treatment and control firms over time, using 2008 and 2009 as the respective benchmark years. The coefficients are plotted using 95% confidence intervals based on robust standard errors clustered by firms.

Table 1. Sample Construction

This table presents the procedures of our sample construction. Our final sample consists of 2,971 firmyear observations from 749 firms from 2007 to 2011.

Steps	Firms	Observations
All Chinese listed firms in CSMAR from 2007 to 2011	2,269	8,930
After removing financial firms	-37	-161
After removing observations with missing values for the CSR	-1,430	-5,461
disclosure score from Bloomberg and the CSR performance		
score from CNRDS		
After removing observations with missing values for the other	-53	-337
variables used in the baseline regression		
Final sample	749	2,971

Table 2. Descriptive Statistics

This table presents the descriptive statistics for the variables used in the baseline regression for the full, treatment, and control samples. Panel A reports the descriptive statistics for the full sample, which consists of 2,971 firm-year observations from 749 firms from 2007 to 2011. Panel B reports the descriptive statistics for the treatment and control samples separately. The treatment sample includes 1,263 firm-year observations from 272 firms; the control sample consists of 1,708 firm-year observations from 477 firms. We also report the results of a *t*-test of the difference between the variables for the treatment and control groups. See Appendix A for the variable definitions.

Variable	Mean	S.D.	Min	P25	Median	P75	Max
CSR-washing	-0.014	1.212	-2.859	-0.857	0.000	0.850	2.735
CSR-washer	0.420	0.494	0.000	0.000	0.000	1.000	1.000
CSR Disclosure	18.429	4.922	9.909	14.888	18.238	21.135	32.884
CSR Performance	22.273	9.977	5.855	15.201	20.246	27.830	52.793
Treat_Post	0.267	0.443	0.000	0.000	0.000	1.000	1.000
MV(Billion RMB)	17.623	33.982	0.650	3.360	7.138	16.383	240.993
Ln(MV)	22.776	1.199	20.292	21.935	22.689	23.520	26.208
Age	13.686	4.526	4.000	10.000	13.000	17.000	27.000
Ln(age)	2.560	0.345	1.386	2.303	2.565	2.833	3.296
Leverage	0.497	0.196	0.057	0.355	0.513	0.646	0.925
ROA	0.055	0.055	-0.150	0.025	0.049	0.082	0.230
Tobin's Q	2.011	1.266	0.968	1.226	1.604	2.256	8.366
SOE	0.659	0.474	0.000	0.000	1.000	1.000	1.000
Analysts	1.946	1.102	0.000	1.099	2.079	2.833	3.784
Big4	0.114	0.318	0.000	0.000	0.000	0.000	1.000

Panel A: Descriptive statistics for the full sample

Panel B: Descriptive statistics for the treatment and control samples

Variable	Tre	atment san	nple	Co	ontrol samp	ole	Di	ff.
	Mean	Median	SD	Mean	Median	SD	Diff. in	<i>t</i> -value
	Wiedii	Wiedlah	5.D.	Ivicali	Wiedian	5.D.	means	<i>i</i> -value
CSR-washing	-0.011	0.000	1.229	-0.016	0.000	1.199	0.005	0.126
CSR-washer	0.427	0.000	0.495	0.416	0.000	0.493	0.011	0.604
CSR Disclosure	19.551	19.113	4.990	17.600	17.614	4.704	1.951	10.888
CSR Performance	24.005	22.405	10.266	20.992	18.991	9.561	3.013	8.229
MV(Billion RMB)	25.277	11.338	41.313	11.964	5.283	25.923	13.313	10.758
Ln(MV)	23.203	23.151	1.181	22.461	22.388	1.111	0.742	17.514
Age	13.655	13.000	4.582	13.710	14.000	4.486	-0.055	0.326
Ln(age)	2.560	2.565	0.330	2.560	2.639	0.356	0.000	0.042
Leverage	0.506	0.514	0.174	0.490	0.510	0.210	0.016	2.088
ROA	0.060	0.050	0.053	0.051	0.048	0.056	0.009	4.386
Tobin's Q	1.946	1.584	1.167	2.059	1.623	1.333	-0.113	2.390
SOE	0.782	1.000	0.413	0.567	1.000	0.496	0.215	12.529
Analysts	2.219	2.398	1.031	1.744	1.946	1.110	0.475	11.860
Big4	0.156	0.000	0.363	0.084	0.000	0.277	0.072	6.153

Table 3. Mandatory CSR Disclosure and CSR-washing

This table presents the regression results about the impact of mandatory CSR disclosure regulation on firms' CSR-washing. Columns (1)–(3) report the results using *CSR-washing* as the dependent variable. *CSR-washing* is the standardized difference between the CSR disclosure score from Bloomberg and the CSR performance score from CNRDS. Columns (4)–(6) report the results using *CSR-washer* as the dependent variable. *CSR-washer* is a dummy variable that equals one if a firm's industry-year CSR disclosure score decile is higher than its industry-year CSR performance score decile, and zero otherwise. For each dependent variable, we respectively report the results with no controls included, with the control variables that relate to firm characteristics included, and with a full set of controls included. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =		CSR-washing			CSR-washer	
	(1)	(2)	(3)	(4)	(5)	(6)
Treat_Post	0.251***	0.243**	0.192**	0.082**	0.080**	0.073*
	(0.096)	(0.097)	(0.095)	(0.038)	(0.038)	(0.039)
Treat	-0.155	-0.204**		-0.041	-0.054	
	(0.096)	(0.097)		(0.036)	(0.037)	
Post	-0.044	-0.089		-0.011	-0.028	
	(0.066)	(0.071)		(0.025)	(0.028)	
$Ln(MV)_{t-1}$		0.093**	0.018		0.014	-0.019
		(0.039)	(0.084)		(0.015)	(0.034)
Ln(age) _{t-1}		0.239**	0.155		0.074*	-0.125
		(0.106)	(0.626)		(0.038)	(0.256)
Leverage _{t-1}		-0.262	-0.347		-0.070	-0.023
		(0.205)	(0.300)		(0.073)	(0.134)
ROA_{t-1}		-0.801	-0.458		-0.277	-0.438
		(0.649)	(0.616)		(0.252)	(0.269)
$Tobinq_{t-1}$		0.027	0.019		0.011	0.020
		(0.021)	(0.028)		(0.009)	(0.013)
SOE_{t-1}		-0.036	-0.309		0.003	-0.106
		(0.076)	(0.217)		(0.029)	(0.100)
Analysts _{t-1}		-0.057	-0.034		-0.004	0.026
		(0.037)	(0.042)		(0.014)	(0.018)
$Big4_{t-1}$		0.435***	0.094		0.116**	0.080
		(0.135)	(0.215)		(0.047)	(0.076)
Firm FE	No	No	Yes	No	No	Yes
Year FE	No	No	Yes	No	No	Yes
Observations	2,971	2,971	2,971	2,971	2,971	2,971
Adjusted R ²	0.002	0.028	0.443	0.001	0.010	0.289

Table 4. Validation Test of the Parallel Trend Assumption

This table presents the results of the parallel trend assumption test. Columns (1)–(3) report the results using *CSR-washing* as the dependent variable. Columns (4)–(6) report the results using *CSR-washer* as the dependent variable. To test the parallel trend assumption, we replace *Treat*, *Post*, and *Treat_Post* with a series of dummy variables, *Treat₂₀₀₇*, *Treat₂₀₀₈*, *Treat₂₀₀₉*, *Treat₂₀₁₀*, and *Treat₂₀₁₁*, that equals one for the observations of firms required to disclose CSR information in the years 2007, 2008, 2009, 2010, and 2011, respectively, and zero otherwise. For each dependent variable, we report the results in the following ways: with firm and year fixed effects included and with 2008 as the benchmark year, including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and using 2008 as the benchmark year, and including a full set of controls and with 2009 as the benchmark year. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =		CSR-washing			CSR-washer	
	(1)	(2)	(3)	(4)	(5)	(6)
Treat ₂₀₀₇	0.157	0.158	0.047	0.054	0.053	0.046
	(0.109)	(0.110)	(0.123)	(0.051)	(0.051)	(0.052)
Treat ₂₀₀₈			-0.111			-0.007
			(0.093)			(0.045)
<i>Treat</i> ₂₀₀₉	0.099	0.111		0.005	0.007	
	(0.092)	(0.093)		(0.045)	(0.045)	
<i>Treat</i> ₂₀₁₀	0.280**	0.291**	0.179*	0.130**	0.136**	0.129***
	(0.119)	(0.121)	(0.093)	(0.053)	(0.053)	(0.047)
<i>Treat</i> ₂₀₁₁	0.384***	0.403***	0.292***	0.147***	0.157***	0.150***
	(0.129)	(0.132)	(0.109)	(0.057)	(0.058)	(0.051)
$Ln(MV)_{t-1}$		0.032	0.032		-0.013	-0.013
		(0.084)	(0.084)		(0.034)	(0.034)
$Ln(age)_{t-1}$		0.134	0.134		-0.138	-0.138
		(0.625)	(0.625)		(0.256)	(0.256)
Leverage _{t-1}		-0.382	-0.382		-0.039	-0.039
		(0.301)	(0.301)		(0.134)	(0.134)
ROA_{t-1}		-0.455	-0.455		-0.431	-0.431
		(0.615)	(0.615)		(0.268)	(0.268)
<i>Tobinq</i> _{t-1}		0.023	0.023		0.022*	0.022*
		(0.028)	(0.028)		(0.013)	(0.013)
SOE_{t-1}		-0.287	-0.287		-0.094	-0.094
		(0.213)	(0.213)		(0.097)	(0.097)
Analysts _{t-1}		-0.030	-0.030		0.029	0.029
		(0.042)	(0.042)		(0.018)	(0.018)
$Big4_{t-1}$		0.089	0.089		0.077	0.077
		(0.215)	(0.215)		(0.076)	(0.076)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Adjusted R ² 0.445 0.445 0.292 0.292 0.292	Observations	2,971	2,971	2,971	2,971	2,971	2,971
	Adjusted R ²	0.445	0.445	0.445	0.292	0.292	0.292

Table 5. Robustness Tests

This table presents the results of the robustness tests. Panels A and B report the results of the tests that use alternative regression specifications with *CSR-washing* and *CSR-washer* as the respective dependent variables. Panel C reports the results of the tests with additional control variables. Panel D reports the results of the tests using alternative measures of *CSR-washer*. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =	CSR-washing				
	(1)	(2)	(3)	(4)	
	Inductory fixed	Delenced	Restricting treatment		
	affacta	Gammla	and control firms	PSM sample	
	effects	sample	to the same size range		
Treat_Post	0.245**	0.190**	0.191**	0.317**	
	(0.097)	(0.095)	(0.095)	(0.124)	
Treat	-0.083				
	(0.072)				
Post	-0.209**				
	(0.098)				
$Ln(MV)_{t-1}$	0.116***	0.030	0.017	0.239*	
	(0.042)	(0.087)	(0.084)	(0.137)	
Ln(age) _{t-1}	0.237**	0.279	0.156	0.308	
	(0.112)	(0.654)	(0.626)	(0.785)	
Leverage _{t-1}	-0.288	-0.346	-0.346	-0.083	
	(0.215)	(0.309)	(0.300)	(0.427)	
ROA_{t-1}	-0.744	-0.623	-0.457	-0.799	
	(0.669)	(0.645)	(0.616)	(0.899)	
$Tobinq_{t-1}$	0.023	0.018	0.019	-0.019	
	(0.022)	(0.029)	(0.028)	(0.049)	
SOE_{t-1}	-0.035	-0.314	-0.309	-0.354	
	(0.081)	(0.217)	(0.217)	(0.324)	
Analysts _{t-1}	-0.073*	-0.039	-0.034	-0.079	
	(0.038)	(0.043)	(0.042)	(0.063)	
$Big4_{t-1}$	0.449***	0.101	0.094	-0.017	
	(0.138)	(0.218)	(0.215)	(0.264)	
Industry FE	Yes	No	No	No	
Firm FE	No	Yes	Yes	Yes	
Year FE	No	Yes	Yes	Yes	
Observations	2,971	2,652	2,967	1,694	
Adjusted R ²	0.018	0.414	0.443	0.407	

Panel A: Alternative regression specifications (Dep. Var. = CSR-washing)

Dep. Var. =	CSR-washer						
	(1)	(2)	(3)	(4)			
	Industry fixed	Dalamaad	Restricting the treatment				
	affects	Dalaliceu	and control firms	PSM sample			
	effects	sample	to the same size range				
Treat_Post	0.086**	0.071*	0.073*	0.137**			
	(0.039)	(0.039)	(0.039)	(0.054)			
Treat	-0.027						
	(0.028)						
Post	-0.060						
	(0.037)						
$Ln(MV)_{t-1}$	0.016	-0.022	-0.021	0.094*			
	(0.015)	(0.035)	(0.034)	(0.056)			
$Ln(age)_{t-1}$	0.059	-0.044	-0.124	-0.064			
	(0.040)	(0.265)	(0.256)	(0.333)			
Leverage _{t-1}	-0.107	-0.026	-0.021	-0.061			
	(0.076)	(0.138)	(0.134)	(0.201)			
ROA_{t-1}	-0.312	-0.505*	-0.436	-0.539			
	(0.259)	(0.285)	(0.269)	(0.353)			
<i>Tobinq</i> _{t-1}	0.017*	0.018	0.020	-0.011			
	(0.010)	(0.013)	(0.013)	(0.021)			
SOE_{t-1}	0.001	-0.108	-0.106	-0.088			
	(0.031)	(0.100)	(0.100)	(0.126)			
Analysts _{t-1}	-0.007	0.025	0.026	-0.002			
	(0.014)	(0.019)	(0.018)	(0.028)			
$Big4_{t-1}$	0.121**	0.081	0.080	0.042			
	(0.047)	(0.077)	(0.076)	(0.092)			
Industry FE	Yes	No	No	No			
Firm FE	No	Yes	Yes	Yes			
Year FE	No	Yes	Yes	Yes			
Observations	2,971	2,652	2,967	1,694			
Adjusted R ²	0.010	0.283	0.289	0.250			

Panel B: Alternative regression specifications (Dep. Var. = CSR-washer)

Dep. Var. =	CSR-w	vashing	CSR-washer		
	(1)	(2)	(3)	(4)	
Treat_Post	0.198*	0.194**	0.086**	0.084**	
	(0.109)	(0.098)	(0.044)	(0.040)	
Financial reporting quality t-1	0.143		0.144		
	(0.346)		(0.147)		
ROE volatility t-1		0.023		-0.008	
		(0.018)		(0.007)	
$Ln(MV)_{t-1}$	0.107	0.014	-0.0002	-0.025	
	(0.108)	(0.087)	(0.044)	(0.036)	
$Ln(age)_{t-1}$	1.046	0.373	0.244	-0.057	
	(0.829)	(0.693)	(0.331)	(0.293)	
Leverage _{t-1}	-0.315	-0.248	0.061	0.055	
	(0.369)	(0.312)	(0.166)	(0.140)	
ROA _{t-1}	-0.359	-0.268	-0.262	-0.368	
	(0.771)	(0.653)	(0.317)	(0.279)	
<i>Tobinq</i> _{t-1}	-0.005	0.018	0.011	0.020	
	(0.035)	(0.028)	(0.015)	(0.013)	
SOE _{t-1}	-0.175	-0.319	-0.004	-0.110	
	(0.269)	(0.218)	(0.113)	(0.099)	
Analysts _{t-1}	-0.031	-0.031	0.033	0.033*	
	(0.050)	(0.045)	(0.021)	(0.020)	
Big4 _{t-1}	0.234	0.090	0.135*	0.082	
	(0.233)	(0.220)	(0.080)	(0.077)	
Firm FE	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	
Observations	2,402	2,778	2,402	2,778	
Adjusted R^2	0.417	0.425	0.288	0.287	

Panel C: Additional control variables

Panel D: Alternative meast	ures of CSR-washer
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Dep. Var. =	CSR-washer2	CSR-washer3	CSR-washer4
	(1)	(2)	(3)
Treat_Post	0.120***	0.121***	0.075**
	(0.036)	(0.036)	(0.035)
$Ln(MV)_{t-1}$	-0.007	0.012	-0.003
	(0.034)	(0.033)	(0.031)
Ln(age) _{t-1}	-0.049	-0.144	-0.084
	(0.253)	(0.262)	(0.249)
Leverage _{t-1}	-0.008	0.009	-0.121
	(0.108)	(0.110)	(0.121)
ROA_{t-1}	-0.316	-0.527**	-0.273
	(0.246)	(0.246)	(0.246)
$Tobinq_{t-1}$	0.001	-0.001	0.003
	(0.013)	(0.012)	(0.012)
SOE_{t-1}	-0.092	-0.086	-0.029
	(0.069)	(0.074)	(0.072)
Analysts _{t-1}	0.024	0.027*	0.023
	(0.016)	(0.016)	(0.017)
Big4 _{t-1}	0.071	0.118	0.091
	(0.071)	(0.072)	(0.069)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	2,971	2,971	2,971
Adjusted R ²	0.420	0.409	0.345

Table 6. Moderating Effect of Peer Pressure in the Firm's Disclosure about its CSR

This table presents the results of the analysis of how peer pressure in the firm's disclosure about its CSR moderates the effect of mandated CSR disclosure on CSR-washing. Columns (1)–(2) report the results using *CSR-washing* as the dependent variable. Columns (3)–(4) report the results using *CSR-washer* as the dependent variable. Columns (1) and (3) report the results with *High peer pressure (industry)* as the moderating variable. *High peer pressure (industry)* is a dummy variable that equals one when the CSR disclosure pressure in a firm's industry is above the sample median, and zero otherwise. In Columns (2) and (4), the moderating variable is *High peer pressure (city)*, which is a dummy variable that equals one when the CSR disclosure pressure in a firm's city is above the sample median, and zero otherwise. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =	CSR-	washing	CSR-washer		
-	(1)	(2)	(3)	(4)	
 Moderator =	High peer pressure (industry)	High peer pressure (city)	High peer pressure (industry)	High peer pressure (city)	
<i>Treat_Post</i> × <i>Moderator</i>	0.588***	0.496***	0.183***	0.189***	
	(0.136)	(0.141)	(0.056)	(0.055)	
Treat_Post	-0.049	0.013	-0.003	0.004	
	(0.109)	(0.106)	(0.046)	(0.045)	
$Ln(MV)_{t-1}$	0.024	0.027	-0.023	-0.022	
	(0.086)	(0.086)	(0.035)	(0.035)	
$Ln(age)_{t-1}$	0.237	0.251	-0.057	-0.055	
	(0.647)	(0.646)	(0.264)	(0.263)	
Leverage _{t-1}	-0.402	-0.319	-0.044	-0.016	
	(0.306)	(0.307)	(0.138)	(0.138)	
ROA_{t-1}	-0.601	-0.546	-0.498*	-0.476*	
	(0.642)	(0.647)	(0.285)	(0.285)	
Tobinq _{t-1}	0.018	0.020	0.018	0.019	
	(0.029)	(0.029)	(0.013)	(0.013)	
SOE_{t-1}	-0.286	-0.280	-0.099	-0.095	
	(0.218)	(0.215)	(0.102)	(0.101)	
Analysts _{t-1}	-0.041	-0.043	0.025	0.024	
	(0.043)	(0.043)	(0.019)	(0.019)	
$Big4_{t-1}$	0.080	0.118	0.074	0.087	
	(0.220)	(0.222)	(0.078)	(0.078)	
Firm FE	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	
Observations	2,655	2,655	2,655	2,655	
Adjusted R ²	0.422	0.419	0.287	0.287	

Table 7. Moderating Effect of External Monitoring of the Firm

This table presents the results of the analysis of how external monitoring of the firm moderates the effect of mandated CSR disclosure on CSR-washing. Columns (1)–(2) report the results using *CSR-washing* as the dependent variable. Columns (3)–(4) do so using *CSR-washer* as the dependent variable. Columns (1) and (3) use *Polluting industry* as the moderating variable. *Polluting industry* is a dummy variable that equals one if a firm is in a polluting industry, as classified by the Environmental Protection Administration in China. In Columns (2) and (4), the moderating variable is *High media attention*, which is a dummy variable that equals one if the number of financial articles related to a firm is above the sample median, and zero otherwise. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =	CSR-washing		CSR-washer		
	(1)	(2)	(3)	(4)	
Madauatau	Polluting	High media	Polluting	High media	
Moderator –	industry	attention	industry	attention	
<i>Treat_Post</i> × <i>Moderator</i>	-0.244*	-0.288**	-0.126**	-0.109*	
	(0.140)	(0.136)	(0.059)	(0.057)	
Treat_Post	0.291***	0.362***	0.123***	0.136***	
	(0.111)	(0.118)	(0.044)	(0.051)	
$Ln(MV)_{t-1}$	0.031	0.038	-0.021	-0.018	
	(0.087)	(0.087)	(0.035)	(0.035)	
$Ln(age)_{t-1}$	0.335	0.221	-0.015	-0.066	
	(0.659)	(0.651)	(0.266)	(0.265)	
Leverage _{t-1}	-0.366	-0.318	-0.037	-0.016	
	(0.309)	(0.308)	(0.138)	(0.138)	
ROA_{t-1}	-0.730	-0.597	-0.560*	-0.495*	
	(0.649)	(0.643)	(0.288)	(0.284)	
<i>Tobinq</i> _{t-1}	0.019	0.013	0.019	0.017	
	(0.029)	(0.029)	(0.013)	(0.013)	
SOE_{t-1}	-0.292	-0.334	-0.096	-0.115	
	(0.216)	(0.221)	(0.100)	(0.101)	
Analysts _{t-1}	-0.034	-0.035	0.028	0.027	
	(0.044)	(0.043)	(0.019)	(0.019)	
Big4 _{t-1}	0.110	0.105	0.085	0.082	
	(0.216)	(0.219)	(0.077)	(0.078)	
Firm FE	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	
Observations	2,655	2,655	2,655	2,655	
Adjusted R ²	0.415	0.416	0.285	0.284	

Table 8. Moderating Effect of Financial Constraints of the Firm

This table presents the results of the analysis of how the financial constraints of the firm moderates the effect of mandated CSR disclosure on CSR-washing. Columns (1)–(3) use *CSR-washing* as the dependent variable. In Columns (4)–(6), *CSR-washer* is the dependent variable. Columns (1) and (4) report the results with *High KZ index* as the moderating variable. *High KZ index* is a dummy variable that equals one if a firm's KZ index is above the sample median, and zero otherwise. In Columns (2) and (5), the moderating variable is *High WW index*, which is a dummy variable that equals one if a firm's WW index is above the sample median, and zero otherwise. Columns (3) and (6) use *Low CSR spending* as the moderating variable. *Low CSR spending* is a firm's CSR spending divided by the book value of its equity multiplied by minus one. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =		CSR-washing			CSR-washer	
	(1)	(2)	(3)	(4)	(5)	(6)
Madamatan	High KZ	High WW	Low CSR	High KZ	High WW	Low CSR
Moderator –	index	index	spending	index	index	spending
<i>Treat_Post</i> ×	0.358**	0.273*	8.037**	0.129**	0.161***	3.220*
Moderator	(0.139)	(0.142)	(3.183	(0.058)	(0.058)	(1.787)
Treat_Post	-0.009	0.080	0.200**	0.006	0.006	0.075*
	(0.116)	(0.111)	(0.096)	(0.048)	(0.046)	(0.039)
$Ln(MV)_{t-1}$	0.103	0.026	0.028	0.004	-0.021	-0.022
	(0.093)	(0.087)	(0.087)	(0.038)	(0.036)	(0.035)
$Ln(age)_{t-1}$	0.304	0.345	0.274	0.021	-0.014	-0.046
	(0.667)	(0.652)	(0.653)	(0.276)	(0.265)	(0.265)
Leverage _{t-1}	-0.595*	-0.334	-0.349	-0.118	-0.021	-0.027
	(0.323)	(0.308)	(0.308)	(0.146)	(0.136)	(0.138)
ROA_{t-1}	-0.704	-0.626	-0.630	-0.558**	-0.518*	-0.508*
	(0.642)	(0.640)	(0.646)	(0.284)	(0.284)	(0.286)
$Tobinq_{t-1}$	-0.007	0.013	0.018	0.011	0.016	0.018
	(0.032)	(0.029)	(0.029)	(0.014)	(0.013)	(0.013)
SOE_{t-1}	-0.426*	-0.301	-0.313	-0.148	-0.101	-0.107
	(0.248)	(0.211)	(0.217)	(0.114)	(0.098)	(0.100)
Analysts _{t-1}	-0.037	-0.037	-0.036	0.024	0.026	0.026
	(0.045)	(0.043)	(0.043)	(0.019)	(0.019)	(0.019)
$Big4_{t-1}$	0.065	0.123	0.100	0.068	0.093	0.080
	(0.210)	(0.219)	(0.218)	(0.075)	(0.078)	(0.077)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,558	2,650	2,655	2,558	2,650	2,655
Adjusted R ²	0.421	0.414	0.414	0.288	0.285	0.283

Table 9. Supplementary Analysis: Further Evidence of Mandated Disclosure Pressure

This table presents the results of the supplementary analysis that provides further evidence of mandated disclosure pressure. In Column (1), the dependent variable is *CSR disclosure*, which is a firm's CSR disclosure score from Bloomberg. Column (2) reports the results with *CSR reporting* as the dependent variable. *CSR reporting* is a dummy variable that equals one if a firm issues a CSR report, and zero otherwise. Columns (3)–(4) employ *CSR-washing* as the dependent variable, while *CSR-washer* is the dependent variable in Columns (5)–(6). *More (Less) increase in CSR disclosure* is a dummy variable that equals one when a firm's average post-mandate CSR disclosure score, minus its pre-mandate score, is above (below) the sample median, and zero otherwise. *Initiate CSR reporting* is a dummy variable that equals one if a treated firm switch from not providing a CSR report before the mandate to providing it afterwards, and zero otherwise. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =	CSR	CSR	CSR-	CSR-	CSR-	CSR-
	disclosure	reporting	washing	washer	washing	washer
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Treat_Post</i> × <i>More increase</i>			0.682***	0.237***		
in CSR disclosure (β_1)			(0.112)	(0.047)		
<i>Treat_Post</i> × <i>Less increase</i>			-0.318***	-0.097**		
in CSR disclosure (β_2)			(0.105)	(0.044)		
<i>Treat_Post</i> × <i>Initiate</i> CSR					0.579***	0.199***
reporting					(0.141)	(0.060)
Treat_Post	0.846***	1.837***			-0.215	-0.068
	(0.259)	(0.707)			(0.131)	(0.057)
$Ln(MV)_{t-1}$	-0.015	1.192	-0.005	-0.029	0.036	-0.020
	(0.258)	(1.131)	(0.081)	(0.034)	(0.086)	(0.035)
$Ln(age)_{t-1}$	0.368	-5.667	0.220	-0.093	0.094	-0.107
	(1.832)	(7.867)	(0.607)	(0.250)	(0.647)	(0.263)
Leverage _{t-1}	0.184	2.057	-0.299	-0.002	-0.312	-0.014
	(0.810)	(3.148)	(0.296)	(0.133)	(0.306)	(0.136)
ROA_{t-1}	0.294	-0.361	-0.461	-0.400	-0.633	-0.508*
	(1.694)	(4.581)	(0.613)	(0.272)	(0.643)	(0.281)
Tobinq _{t-1}	0.033	-0.228	0.027	0.022*	0.010	0.016
	(0.094)	(0.427)	(0.028)	(0.013)	(0.029)	(0.013)
SOE_{t-1}	-0.709	2.014	-0.232	-0.080	-0.341	-0.117
	(0.494)	(1.437)	(0.211)	(0.100)	(0.211)	(0.099)
Analysts _{t-1}	-0.001	0.763	-0.037	0.026	-0.042	0.024
	(0.120)	(0.485)	(0.042)	(0.018)	(0.043)	(0.019)
$Big4_{t-1}$	0.624	1.416	0.072	0.072	0.108	0.083
	(0.565)	(2.316)	(0.198)	(0.072)	(0.216)	(0.076)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Observations	2,971	1,738	2,943	2,943	2,652	2,652
Adjusted R ²	0.725	0.740	0.465	0.304	0.421	0.287
$\beta_1 = \beta_2 (F\text{-test})$			66.10***	40.03***		

Table 10. Supplementary Analysis: Further Evidence of the Benefits of CSR-washing

This table presents the results of the supplementary analysis that provides further evidence of the benefits of CSR-washing. In Column (1), the dependent variable is *CSR award*, which is a dummy variable that equals one if a firm receives a CSR award, and zero otherwise. Column (2) uses *Cost of debt* as the dependent variable. *Cost of debt* is the interest expenses divided by total liabilities. For Column (3), the dependent variable, *Share turnover*, is the number of shares traded divided by the number of outstanding shares. Robust standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for the variable definitions.

Dep. Var. =	$CSR award_{t+1}$	Cost of $debt_{t+1}$	Share turnover _{t+1}
	(1)	(2)	(3)
<i>Treat_Post</i> × <i>CSR-washer</i>	0.086**	-0.002**	0.416**
	(0.037)	(0.001)	(0.181)
Treat_Post	-0.093***	-0.000	0.139
	(0.034)	(0.001)	(0.186)
CSR-washer	-0.001	0.002**	0.024
	(0.020)	(0.001)	(0.125)
$Ln(MV)_{t-1}$	0.043*	0.003**	-0.126
	(0.026)	(0.001)	(0.160)
$Ln(age)_{t-1}$	-0.217	0.022***	-2.091*
	(0.221)	(0.008)	(1.229)
Leverage _{t-1}	-0.053	0.005	-0.525
	(0.094)	(0.004)	(0.606)
ROA_{t-1}	0.260	-0.007	1.555
	(0.228)	(0.008)	(1.378)
$Tobinq_{t-1}$	-0.013	-0.001**	0.108*
	(0.009)	(0.000)	(0.064)
SOE_{t-1}	0.119**	-0.001	-0.447
	(0.060)	(0.002)	(0.428)
Analysts _{t-1}	0.034**	-0.001	0.105
	(0.014)	(0.001)	(0.100)
Big4 _{t-1}	0.069	-0.002	0.351
	(0.065)	(0.001)	(0.341)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	2,971	2,971	2,964
Adjusted R ²	0.487	0.583	0.639