# Does Enhanced Disclosure Curb CEO Pay?
# Evidence from a Modern Information Technology Improvement [*]

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**ABSTRACT**

We provide evidence that enhanced disclosure curbs CEO pay. Using a difference-in-differences design around the staggered implementation of the SEC EDGAR system from 1993 to 1996, we find that media coverage of executive pay increases following EDGAR implementation and that total CEO pay drops by 7-10%. The effect on pay is stronger for CEOs in the upper tail of the compensation distribution and concentrates in equity-based pay, resulting in weaker CEO compensation incentives (delta and vega). Our results suggest that disclosure-related changes in CEO incentives have negative implications for firm value. Finally, we find higher CEO turnover following EDGAR implementation.

*Keywords*: Executive compensation, disclosure, information asymmetry, compensation incentives, CEO turnover

*JEL codes*: G30, G32

# Conflict-of-Interest Disclosure Statement

Ilona Babenko

    I have nothing to disclose.

Benjamin Bennett

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# I. Introduction

The high level of CEO pay in the United States has attracted the attention of media, regulators, investors, and the general public, fueling repeated calls for more regulation and disclosure.[1] Yet, from a theory perspective, there are conflicting predictions regarding the effect of mandated disclosure on CEO pay (see, e.g., Hermalin and Weisbach (2012), Bebchuk and Fried (2004)). For example, Hermalin and Weisbach (2012) develop a theory showing that, although greater disclosure improves investor monitoring, it also imposes additional costs on executives and, in equilibrium, increases their pay. Similarly, Murphy (2013) and Murphy and Jensen (2018) argue that disclosure regulations over the past century (e.g., the 1930s' disclosure rules, Section 162(m) of the IRS Code, and the CEO-employee pay ratio disclosure) have done little to reduce CEO pay. In contrast, others suggest that greater disclosure can reduce managerial rent extraction via "stealth" pay or provoke public shaming of CEOs, presumably lowering their pay (see, e.g., Bebchuk and Fried (2003), Bebchuk, Fried, and Walker (2002), Gopalan (2007), Morse, Nanda, and Seru (2011) and Djankov, La Porta, Lopez de Silanes, and Shleifer (2008)).[2] Given that enhanced disclosure may impose significant compliance costs and often has unintended consequences, it appears essential to understand how it affects one of its touted targets—CEO pay. In this paper, we study how better access to disclosure and a resulting reduction in disclosure processing costs affect CEO pay.[3]

To empirically identify the effect of a reduction in disclosure processing costs on CEO pay, we use the staggered implementation of modern information dissemination technologies by the U.S. Securities and Exchange Commission (SEC). We focus on

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[1]For example, in SEC Release 2022-149 on the disclosure of the relationships between the executive compensation actually paid and performance measures (Item 402(v), Regulation S-K), SEC Chair Gary Gensler said that "The Commission has long recognized the value to investors of information on executive compensation."

[2]Lower CEO pay as a result of public shaming may come at a cost of lower firm performance (Dyck, Manoel, and Morse (2022)). For example, in a survey of directors, Edmans, Gosling, and Jenter (2022) find that 67% of directors would sacrifice shareholder value to avoid controversy on CEO pay.

[3]Blankespoor, deHaan, and Marinovic (2020) define disclosure processing costs as "costs of monitoring for, acquiring, and analyzing firm disclosures."

the introduction of the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) platform that facilitated investor access to corporate filings in the electronic form. Before EDGAR, it was possible but usually costly and impractical for investors to access firms' filings (e.g., 10-K, 10-Q, 8-K, and DEF 14A), because investors had to either subscribe to services of commercial data providers or physically visit one of the SEC's reference rooms in Chicago, New York, or Washington, D.C. (Rider (2001)).[4] To reduce costs of accessing firm filings, in 1993 the SEC announced a plan to require all public U.S. firms to file their mandatory disclosures electronically through the EDGAR system, with firms joining EDGAR in 10 separate waves between April 1993 and May 1996. Owing to modern information technologies, the implementation of EDGAR significantly reduced costs of accessing timely firm-specific information for a broad range of investors and had a profound effect on information production by market participants (see, e.g., Gao and Huang (2020), Chang, Hsiao, Ljungqvist, and Tseng (2022), Goldstein, Yang, and Zuo (2023)), making it an appealing setting for studying how a reduction in disclosure processing costs affects CEO pay.

Using both staggered and stacked difference-in-differences designs (see, e.g., Cengiz, Dube, Lindner, and Zipperer (2019), Baker, Larcker, and Wang (2022)) around the implementation of SEC EDGAR from 1993 to 1996, we find evidence that better access to corporate disclosure curbs CEO pay. Specifically, we estimate that firms that are required to post their filings on the EDGAR platform, subsequently report 7–10% lower total CEO pay. One interpretation of these results is that modern information technologies allow shareholders to revise their beliefs about firms' pay-setting processes and the level of executive pay,[5] resulting in a more informed decision-making process, pressure on boards, and a lower level of pay. Alternatively, it is possible that better access to disclosure galvanizes labor unions, employees, consumer groups, or the media,

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[4]The fact that investors were willing to pay providers for disclosure data likely indicates that acquisition costs were substantial in practice (Blankespoor, deHaan, and Marinovic (2020)).

[5]Studies find that firm employees and the general public tend to significantly underestimate how much CEOs actually earn (Cullen and Perez-Truglia (2022), Larcker, Donatiello, and Tayan (2016)).

who publicly shame highly-paid CEOs and pressure firms to lower CEO pay even if it is to the detriment of their shareholders. Indeed, we find greater scrutiny of executive compensation by the media following EDGAR implementation. Specifically, there are significantly more executive compensation articles on firms covered by EDGAR that are published in the *Wall Street Journal*, the *New York Times*, the *Financial Times*, or *USA Today*, and these articles also become more detailed and have a more negative tone following the introduction of EDGAR.

Consistent with the idea that disclosure of exceptionally large compensation packages provokes public shaming of CEOs, we also find that the effect of disclosure is muted for well-performing firms and monotonically increases with the level of reported pay. For example, for CEOs in the top quartile of compensation distribution, the pay drops by approximately 17–20% after the implementation of EDGAR, whereas for CEOs in the bottom quartile, there is no effect. Further, we find that the pay of executives other than CEOs is largely unaffected by the introduction of EDGAR, except for executives in the top quartile of compensation distribution, whose pay declines by 11–13%. These results may reflect the fact that lower-ranked executives lack the celebrity status of CEOs, with their compensation being of less interest to the public and the media.

While evidence that firms tend to lower CEO compensation in response to better access to corporate disclosure may be consistent with the narrative of better decision-making by firm shareholders, it is also consistent with politicization of pay and, in particular, it is silent on how disclosure affects the incentives of CEOs to increase firm value or take calculated risks, which are important for shareholder value creation. For example, Jensen and Murphy (1990) argue that political forces may often limit firms' ability to use contracts with high pay-performance sensitivity, and prior research finds that the negative press coverage of CEO pay packages tends to focus disproportionally on incentive-based awards, such as stock options (Core, Guay, and Larcker (2008), Kuhnen and Niessen (2012)). We therefore also study how the mix of CEO compensa-

tion, as well as the observed CEO pay-performance sensitivities (delta) and risk-taking incentives (vega), change after the implementation of EDGAR. Indeed, we find that CEO salary and cash incentive pay are unaffected by EDGAR implementation, but there is a sharp decline in equity-based incentive pay. These results provide support for the theory by Xiong and Jiang (2022), who show that mandatory disclosure shifts managerial compensation towards contracts with less long-term incentives and induces managerial myopia. As expected, we also find that the observed changes in CEO compensation mix are reflected in lower-powered incentives, measured by compensation delta and vega (Core and Guay (2002), Coles, Daniel, and Naveen (2006)).

Finally, we investigate whether changes in CEO compensation triggered by EDGAR implementation have implications for firm value. These tests help us distinguish between the two alternative explanations for why CEO pay decreases after the introduction of EDGAR, which are better-decision making by firm shareholders due to expanded access to information and politicization of CEO pay by the media or other parties. To this end, we first document that enhanced corporate disclosure has a likely-unintended effect on CEO turnover. Specifically, CEO turnover increases by approximately 4-5% following EDGAR introduction when the average annual CEO turnover is 10%, and this increase is driven by voluntary CEO turnover. These results lend support to the theoretical predictions by Hermalin and Weisbach (2012), who show that if it is politically infeasible for firms to increase executive compensation, greater disclosure can lead to increases in CEO turnover rates. The evidence may also suggest that enhanced disclosure makes it easier for CEOs to search for jobs at other firms or motivates them to move to private firms, where the disclosure requirements are less strict.

Speaking to the issue of pay efficacy after the introduction of EDGAR, we find that firm value, as measured by either equity market-to-book ratios or firm's total q (Peters and Taylor (2017)), is negatively related to the EDGAR-induced decreases in CEO compensation incentives. These results suggest that although greater disclosure

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can facilitate access to information and help reining in CEO pay, there may be negative consequences for firm shareholders. Overall, our evidence is more consistent with greater politicization of CEO pay and media sensationalism facilitated by enhanced disclosure and with the arguments by Murphy and Jensen (2018) and Hermalin and Weisbach (2012) that disclosure regulations can reduce the efficacy of CEO pay, increase CEO turnover, and decrease firm value.

Our paper contributes to the literature linking corporate disclosure and executive compensation. Prior studies in this literature often find that enhanced disclosure does not curb CEO pay and may even stimulate pay increases. For example, Chang, Dambra, Schonberger, and Suk (2023) find that there are no changes in total CEO compensation in response to the mandated CEO-employee pay ratio disclosure in 2018, despite lower abnormal returns for firms disclosing higher pay ratios (Pan, Pikulina, Siegel, and Wang (2022)). In another paper, Mas (2016) finds that the mandated pay disclosure requirements in 1934 had an upward "ratcheting" effect, whereby lower-paid CEOs experienced gains, while well-paid CEOs were unaffected.

Two studies by Rose and Wolfram (2002) and Perry and Zenner (2001) examine changes in executive compensation in response to the 1992 disclosure rules and legislation in 1993 that capped tax deductibility of management compensation not qualified as "performance-based" to $1 million (Section 162(m) of the IRS Code). They find that the affected firms lowered CEO salaries in response to these regulations, but did not change the level of total CEO pay. Although EDGAR implementation we examine mostly took place after this period and our identification relies on different groups of firms being treated at each point of time, we also take care to verify that our results are not driven by the 1992 disclosure rules or Section 162(m). For example, our results are unaffected if we examine the period after the 1992 disclosure rules had already been implemented for all firms or if we exclude firms paying CEO salaries close to $1 million prior to Section 162(m).

Several authors also examine CEO pay changes around the enhanced disclosure in the Compensation Discussion and Analysis (CD&A) in 2006. For example, Gipper (2021) finds an 11% increase in CEO pay and attributes it to lower boards' flexibility in using soft information and greater tendency to use formulaic plans. Similarly, Bloomfield (2021) finds that enhanced disclosures in CD&A increase revenue-based pay of CEOs and Faulkender and Yang (2013) document more opportunistic selection of firm peers, while Robinson, Xue, and Yu (2011) find no evidence that the disclosure defects identified by the SEC after the adoption of CD&A disclosures reduce CEO compensation. In contrast to these prior studies, we focus on a shock to modern information dissemination technologies that significantly improved investor access to information, but at the same time did not require firms to change what is being reported in their filings. Further, we present novel evidence that although enhanced disclosure helps curb CEO pay, it may have negative implications for firm shareholders, thereby informing the debate on whether more disclosure is optimal.

The rest of this paper is organized as follows. Section II describes the setting and research design. Section III describes data sources and presents summary statistics. Section IV reports our main empirical results. Section V concludes.

## II. Setting and Research Design

Our identification relies on the staggered implementation of the EDGAR system, which was announced by the SEC on February 23, 1993 and implemented between 1993 and 1996. Prior to EDGAR, all publicly registered U.S. firms had to send paper copies of their mandatory filings to the SEC's office, and investors or other interested parties could then access these filings by either subscribing for a fee to the services of commercial data vendors, such as Mead Data Central, or by visiting one of the three SEC's reference rooms in the country.[6] For example, a *New York Times* article describes the problems

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[6]In principle, the registered shareholders also were receiving the information about CEO pay from the mailed proxy statements. However, the mailed proxy statements were not available to other interested parties

associated with quickly retrieving the needed information from the SEC's reference rooms as "files are often misplaced or even stolen," "there is the constant noise," and users of the reference room "are left to fend for themselves,"[7] which is consistent with the argument by Blankespoor, deHaan, and Marinovic (2020) that there are significant disclosure processing costs in practice. Gomez (2023) argues that the implementation of EDGAR affected information dissemination in two main ways: (i) it decreased the cost of accessing information for at least some investors and (ii) it allowed for faster access to firm filings.[8] Consistent with investors having limited access to firms' SEC filings prior to EDGAR, Engelberg and Parsons (2011) find using the retail trading data from the 1990s that investors often learned the information about firm's earnings announcements from the local newspapers and traded in response to this information.

With the introduction of EDGAR, the SEC required all registered firms to transmit their filings to the SEC's office electronically and assigned firms to one of ten implementation waves. The staggered mandatory implementation of the EDGAR system is helpful for identification purposes because it leaves less scope for omitted firm- or industry-level shocks affecting our results. Table 1 presents the finalized phase-in dates for the ten implementation waves, with the first wave taking place on April 26, 1993 and the last on May 6, 1996. For illustrative purposes, Figure 1 also shows the number of firms in the sample covered by EDGAR over time (blue dashed line), as well as the average CEO pay (red solid bars) for firms joining EDGAR in the year of their joining. The first two waves of firms had a somewhat higher CEO pay, averaging $3.1 and $2.7 million, respectively, while eight other waves had similar CEO pay across waves, averaging $1.4 million per year.[9]

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(e.g., the media or security analysts) and did not allow the shareholders to benchmark CEO pay to that in other firms.

[7]See "S.E.C. Data: Difficult Hunt," the *New York Times*, May 19, 1982.

[8]Gomez (2023) also finds that because of costs of filtering and interpreting information, EDGAR benefitted some investors at the expense of others.

[9]Our results are robust to removing from the sample firms that joined EDGAR in the first two implementation waves.

To investigate the effect of enhanced disclosure on CEO compensation, we first perform a staggered difference-in-differences (DiD) analysis using the specified phase-in dates for groups of firms joining EDGAR and the following two-way fixed effect (TWFE) specification

$$Y_{it} = \gamma_i + \delta_t + \beta \cdot EDGAR_{it} + X'\Gamma + \varepsilon_{it}, \qquad (1)$$

where $Y_{it}$ is the dependent variable of interest (e.g., log of total CEO pay), $i$ indexes firms, $t$ indexes years, $EDGAR_{it}$ is an indicator for a treated firm $i$ that becomes a mandatory EDGAR filer in year $t$, $X$ is a vector of control variables, $\Gamma$ is the vector of corresponding coefficients, $\gamma_i$ is the firm fixed effects, $\delta_t$ is the year fixed effects, and $\epsilon_{it}$ is the error term.

To account for the possibility of dynamic treatment effects and to avoid biases from bad controls highlighted by Goodman-Bacon (2021), we also perform the stacked DiD analysis, as advocated by Baker, Larcker, and Wang (2022) and implemented, for example, by Cengiz, Dube, Lindner, and Zipperer (2019). The main specification of the stacked DiD analysis is as follows:

$$Y_{its} = \gamma_{is} + \delta_{ts} + \beta \cdot Treated_{is} \times Post_{ts} + X'\Gamma + \varepsilon_{its}, \qquad (2)$$

where $Y_{its}$ is the dependent variable of interest (e.g., log of total CEO pay), $i$ indexes firms, $t$ indexes years, and $s$ indexes sub-experiments (in 1993, 1995, and 1996). $Treated_{is}$ is an indicator variable equal to one if a firm is treated in sub-experiment $s$ (i.e., becomes a mandatory EDGAR filer), $Post_{ts}$ is an indicator variable equal to one if the period $t$ is the post-period in sub-experiment $s$, $X$ is a vector of control variables, $\Gamma$ is the vector of corresponding coefficients, $\gamma_{is}$ is the firm-by-stack fixed effects, $\delta_{ts}$ is the year-by-stack fixed effects, and $\epsilon_{its}$ is the error term. In tables, we use the shorthand notation, $EDGAR$, to denote $Treated_{is} \times Post_{ts}$.

The ten waves in EDGAR introduction correspond to three sub-experiments or stacks: 1993 (4 waves), 1995 (5 waves), and 1996 (1 wave). For each sub-experiment,

we define a maximum window of two years before and two years after the treatment. Firms added to the EDGAR system in the event window are defined as treated firms. Control firms are those not added to the EDGAR system in the event window. In some further tests, we also investigate the cross-sectional heterogeneity in the treatment effect by adding the interaction effects with the measures of firm heterogeneity before EDGAR inclusion (e.g., information asymmetry measures).

## III. Data and Summary Statistics

We obtain executive compensation data from Execucomp for the period 1992-1999, firm accounting data from Compustat, and stock return data from the Center for Research in Security Prices (CRSP). CEO turnover data are from the contributed data on WRDS (Jenter and Kanaan (2015)). To measure the media coverage of executive compensation, we download all articles about executive compensation from major U.S. national newspapers that include the *Wall Street Journal*, *New York Times*, *Financial Times*, and *USA Today*. The information on firms included in each of the ten phase-in waves for the EDGAR introduction and the finalized phase-in dates of implementation come from SEC Releases 33-6977 and 33-7122 and from the Federal Register (Rules and Regulations) published on March 18, 1993.

Summary statistics of main variables in our sample are reported in Table 2, and variable definitions are provided in Appendix A. The median CEO earns an annual compensation of $1.52 million during our sample period, out of which approximately $0.50 million comes in the form of fixed salary, $0.30 million in the form of cash incentive pay, and $0.53 in the form of equity-based incentive pay. Consistent with prior studies, the CEO compensation is positively skewed in our sample, with the average CEO pay of $2.74 million being higher than the median. The median and average annual pay of named executive officers other than CEO is considerably lower than that of CEOs, at $0.60 and $1.1 million, respectively. The annual CEO turnover rate is 10.4%

in the sample, out of which 2.6% is the forced CEO turnover rate (see Peters and Wagner (2014) and Jenter and Kanaan (2015) for the construction of this variable) and 7.8% is the voluntary CEO turnover rate. Table 2 also reports on other firm-level characteristics. Owing to the requirement of Execucomp coverage, firms that comprise our sample tend to be large and profitable, with the average book value of assets close to $5.8 billion, ROA of 3.8%, and the annual stock return of 17.8%. Approximately 12.2% of firms are located close to one of the SEC's reference rooms, as indicated by the first three digits of their zip code.

## IV. Empirical Results

### A. Media Coverage of Executive Compensation

Before turning to the analysis of executive compensation, we examine whether and how the implementation of EDGAR affects the information production by the media with respect to executive pay, i.e., the extent and tone of the media coverage of executive pay. Presumably, it is easier for the journalists to obtain detailed firm-specific information from the free electronic filings without leaving the comfort of their offices rather than from the hard copies of firm filings available only in three reference rooms in the country. Given lower disclosure-processing costs, it is plausible then that the media generates more executive compensation articles and that these articles help to further disseminate the information about executive pay to firm investors and stakeholders.

To investigate the effect of EDGAR implementation on media coverage, we follow Kuhnen and Niessen (2012) and download all articles from major U.S. national newspapers (the *Wall Street Journal*, the *New York Times*, the *Financial Times*, and *USA Today*) that contain at least one of the following keywords: "CEO compensation," "CEO salary," "CEO pay," "executive compensation," "executive salary," or "executive pay." This procedure yields a total of 28,101 of compensation-related articles. We then identify firms in our sample that these articles mention and count the total number

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of article words for each firm-year. We also count the number of positive and negative compensation articles, whereby we define an article as a negative compensation article if the number of negative words from the financial dictionary by Loughran and McDonald (2011) is greater than the number of positive words from the same dictionary.

Table 3 provides descriptive statistics on the number of executive compensation articles published in major U.S. newspapers, as well as their length and tone. Panel A shows that by far the most common source of executive compensation articles is the *Wall Street Journal*, consistent with its primary focus on business and finance, and that the number of published compensation articles is somewhat higher during the years of EDGAR implementation. Panel B shows that, on average, there are approximately two compensation-related articles published per firm-year. Notably, media coverage is unevenly spread across firms, and, conditional on coverage, the average number of compensation-related articles per firm-year increases to ten. The total number of words in compensation articles averages 13,247 per firm-year, and this variable is positively skewed, with the median number of words of 6,802 being lower than the mean. Consistent with the prior literature highlighting the negative media bias (e.g., Core, Guay, and Larcker (2008), Loughran and McDonald (2011), and Kuhnen and Niessen (2012)), we also observe that there are more negative compensation articles published in national newspapers than positive ones. Conditional on coverage, there is, on average, one positive compensation article published for each firm-year and five negative ones. Panel C lists the ten most commonly used positive and negative words in compensation articles, as classified by the financial dictionary of Loughran and McDonald (2011).

To test whether a reduction in disclosure processing costs facilitated by the introduction of EDGAR prompts greater scrutiny of executive compensation by the media, we perform a DiD analysis. Specifically, we examine how the number of executive compensation articles published in U.S. national newspapers, as well as the length and tone of these articles, change following the introduction of EDGAR.

Consistent with our expectations, we find that there is greater media coverage of executive compensation for firms joining EDGAR. Specifically, Panel A of Table 4 shows that there is approximately one more executive compensation article appearing in major news outlets for every four to five additional firms covered by EDGAR. Given that the media coverage, on average, tends to be negative (see, e.g., Panel B of Table 3), this evidence suggests that groups, such as labor unions, consumers, and employees, likely have more negative information available to them about executive pay in their firms following the introduction of EDGAR, which can potentially increase their attention to executive compensation.

In addition to the expanded media coverage of executive compensation, we also find that the published articles become longer or more detailed and tend to have a more negative tone following the introduction of EDGAR, as reported in Panel B of Table 4. For example, based on specification 2, the length of published compensation articles (measured by the logarithm of the number of words) increases by approximately 3.4% (=0.297/8.650), conditional on coverage, which corresponds to approximately 450 more words. Further, conditional on coverage, there is approximately one additional negative compensation article written per firm following the introduction of EDGAR, whereas the number of positive compensation articles does not change in a significant way. Overall, these results suggest that the introduction of EDGAR increases scrutiny from the media of executive compensation and that the media tends to cover executive compensation in a more negative tone.

## B. Total CEO Pay

We now turn to our main analysis of the relation between a reduction in disclosure processing costs after the implementation of EDGAR and total CEO pay. As EDGAR adoption allowed for a free and timely access to the electronic firm filings and, in particular, allowed for a broader access to the information about the level and structure

of CEO pay, both firm investors and other stakeholders could pay more attention to executive pay and potentially revise their beliefs about it. The increase in attention to executive compensation could also be facilitated by greater media coverage and its more negative tone, as documented in the previous section. For example, Tetlock (2007) presents evidence consistent with market participants paying more attention to negative media coverage. In turn, corporate boards are expected to face higher pressure to curb CEO pay, be it from the media, firm shareholders, or other stakeholders.

Table 5 reports the results of the DiD analysis around EDGAR implementation, where the dependent variable is the log of total annual CEO pay. We use the staggered DiD estimation in specifications 1 to 4. We include firm or firm-CEO fixed effects to account for any possible time-invariant heterogeneity across firms or CEOs, and we include year or industry-year fixed effects to account for the general or industry-specific time trends in CEO pay. We also include a list of control variables common to the literature, such as Tobin's Q to proxy for growth opportunities, ROA and stock returns to proxy for firm profitability, as well as return volatility, leverage, asset tangibility (measured by the ratio of PP&E to assets), CEO tenure, and firm size. To capture any possible nonlinearities in relation of CEO pay and firm size (see, e.g., Gabaix and Landier (2008)), we include both the logarithm of firm book value of assets as well as its square in all specifications.

The results show that better access to corporate disclosure can effectively curb CEO pay. When we use the staggered DiD design with firm fixed effects in specifications 1 and 2, we find that the total CEO pay in treated firms is 10.2% to 10.3% lower following EDGAR introduction compared to that in control firms. Figure 2 illustrates these results year by year and provides supportive evidence for the parallel trends assumption being satisfied in our sample. The observed magnitude of the effect of EDGAR on CEO pay is slightly smaller at 6.9% to 7.4% when we include firm-CEO fixed effects in specifications 3 and 4, indicating that some firms decrease CEO pay

at the time of CEO turnover (e.g., if CEOs are more likely to depart following pay cuts or if firms are more likely to offer lower compensation to new CEOs). A further investigation in the appendix (see Table B.1) shows that the likelihood of a *cut* in total CEO pay or a *cut* in equity-based pay is approximately 4.8% to 6.7% higher following the introduction of EDGAR. These results suggest that the lower CEO pay following the introduction of EDGAR materializes not only because of a lower growth in CEO pay in treated firms relative to that in control firms, but also because of a higher probability of CEO pay cuts in treated firms.

In specifications 5 and 6, we run robustness tests using the stacked DiD estimator proposed by Baker, Larcker, and Wang (2022), which addresses a potential concern that heterogeneous or dynamic treatment effects could bias the results. Our findings are robust to the stacked DiD estimator. In addition, we run robustness tests using a propensity score matched sample, in which only firms that are never required to report through the EDGAR system are used as control firms (Chang, Hsiao, Ljungqvist, and Tseng (2022)). The results are robust and relevant details are reported in a later section focusing on robustness tests.

## C. Cross-Sectional Heterogeneity: Compensation Distribution for CEOs and Other Executives

So far, we have documented that the implementation of modern information dissemination technologies lowers the conditional mean of total CEO pay. One potential drawback of this approach, however, is that it assumes a homogenous conditional distribution, while in practice the effect of EDGAR introduction may be heterogenous and vary with the level of reported pay. This could be particularly true in our setting because better access to disclosure may provoke public shaming of highest-paid CEOs but not necessarily of lowest-paid CEOs.

We therefore next use quantile regressions to investigate heterogeneity in CEO pay-disclosure relation. The additional benefit of quantile regressions is their robustness to

the presence of outliers in the sample, the importance of which has been highlighted by prior compensation research (Guthrie, Sokolowsky, and Wan (2012)). In particular, we would expect the CEO pay in the upper part of compensation distribution to be more negatively affected by better access to disclosure, while the CEO pay in the lower part of the compensation distribution may be less affected or not affected at all.

Results reported in Table 6 reveal that the introduction of EDGAR reduces the median CEO pay by approximately 10%, which is similar to the magnitudes documented in Table 5. Interestingly, EDGAR introduction has no significant effect on the pay of CEOs in the bottom quartile of the compensation distribution. These results suggest that investors and other parties respond differentially to disclosure depending on the level of reported CEO pay. In contrast, we find a much bigger effect of EDGAR introduction for CEOs in the top quartile of the compensation distribution, whose pay drops by 17 to 20% following EDGAR adoption. Overall, these results are consistent with the narrative of public shaming of CEOs and media sensationalism in response to more information being available about CEOs' lavish compensation packages.

Besides the effect on CEO pay, we also investigate the impact of a reduction in disclosure processing costs on the pay of non-CEO executives, who are usually paid less than CEOs of the same firms. Table 7 reports the relevant results. Interestingly, we find that the introduction of EDGAR has virtually no effect on the conditional mean (specifications 1 and 2) or median (specifications 5 and 6) compensation of named executive officers other than the CEO. These results may reflect the fact that lower-ranked executives typically lack the celebrity status of CEOs, with their pay generally being of less interest to the media and the public. Further, lower-ranked executives are often paid considerably less than CEOs (their average pay is 2.6 times smaller), and their decisions are less salient to firm outsiders, so that firms may feel less pressure from activists, the media, and the general public to lower the pay of firm executives other than the CEO following better access to corporate disclosure. Consistent with

the argument that the level of pay matters for the effect of disclosure, we find that executives in the top quartile of the compensation distribution see their pay decline by 11-13% following EDGAR introduction (specifications 7 and 8), whereas executives in the bottom quartile of compensation distribution actually see their pay increase by 5-6% (specifications 3 and 4).

## D. Cross-Sectional Heterogeneity: Information Asymmetry and Firm Performance

We next study the cross-sectional heterogeneity in the effect of EDGAR implementation on CEO pay along the dimensions of information asymmetry and firm performance. The idea is that the effect of EDGAR on executive compensation roots in better access to information. Therefore, we expect the effect to be weaker for firms with lower information asymmetry prior to EDGAR. Furthermore, when firms have better recent performance, investors tend to be more tolerant of high CEO compensation and are generally less likely to engage in activism and do governance research on firms (see, e.g., Iliev, Kalodimos, and Lowry (2021)). We therefore also expect the effect of EDGAR introduction on CEO compensation to be weaker for firms with better recent performance.

Specifically, in CEO pay regressions we include an interaction between *EDGAR* and the relevant firm characteristics, along with stand-alone items.[10] We use two measures of information asymmetry. The first is the geographical proximity of a firm to the closest SEC's reference room. The intuition is that a substantial fraction of a firm's investor base is typically local (see, e.g., Coval and Moskowitz (1999), Grinblatt and Keloharju (2001), and Huberman (2001)), and it is less costly for local investors to access hard copies of firm filings prior to EDGAR adoption if an SEC reference room is near the firm. Therefore, the greater the geographical proximity, the lower the information asymmetry and the weaker the expected treatment effect of EDGAR adoption on compensation.

To measure the geographical proximity, we create an indicator variable, *SEC Office*

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[10]Pre-EDGAR firm characteristics are not time-varying and are absorbed by firm fixed effects.

*Proximity*, which is equal to one if the first three digits of a firm's zip code are the same as the first three digits of a zip code of the closest the SEC's reference rooms (where firm filings could be accessed prior to EDGAR).[11] Table 8 reports the results. Specifications 1 and 2 include firm and year or firm and industry-year fixed effects, respectively. The results show that the coefficients on *EDGAR* remain significantly negative, while the coefficients on the interaction *SEC Office Proximity* × *EDGAR* are positive and statistically significant at the 5% level or 10% level, which indicates an attenuation effect. The evidence shows that the effect of EDGAR introduction on CEO pay is substantially weaker (and close to zero) for firms headquartered close to one of the three SEC's reference rooms.

The second measure of information asymmetry is firm size in the year before EDGAR introduction, measured by the logarithm of total assets. Larger firms are expected to have a lower level of information asymmetry because they are more likely to get covered by security analysts and the media and because investor monitoring is disproportionately focused on larger firms (Iliev, Kalodimos, and Lowry (2021)). We thus expect the treatment effect of EDGAR implementation on total pay to be weaker for larger firms. Specifications 3 and 4 report the relevant results, in which the coefficients on the interaction *Pre-EDGAR Firm Size×EDGAR* are positive and statistically significant at the 1% and 5% level, respectively. These results indicate that the introduction of EDGAR had a smaller effect on CEO pay in larger firms that presumably are subject to lower information asymmetry. In sum, the results in specifications 1 to 4 are consistent with the hypothesis that a lower level of information asymmetry is associated with a weaker treatment effect of EDGAR introduction on total CEO pay.

Finally, to investigate the role of firm performance, we use a firm's recent stock return as the measure of performance. Specifications 5 and 6 show that the coefficients on the interaction *Stock Return×EDGAR* are positive and statistically significant at

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[11]We obtain similar results if instead we use the first two digits of a zip code or the same county indicator.

the 1% level. For example, the result in Column 6 shows that a one standard deviation increase in recent stock return weakens the treatment effect by 7.0%. These results are consistent with the idea that investors are more tolerant of high CEO pay and less sensitive to disclosure when their firms perform well, or with the notion that CEOs in poorly-performing firms are more likely to be covered by the media and that this coverage often has a negative tone (Core, Guay, and Larcker (2008)).

## E. Components of CEO Pay and Compensation Incentives

Having examined how the total CEO compensation changes after the implementation of EDGAR, we next turn our attention to CEO compensation mix and compensation incentives. Specifically, we investigate how better access to corporate disclosure via EDGAR affects different components of CEO pay, such as salary, cash incentive pay, and equity incentive pay.

Table 9 reports the results evaluating the effect of EDGAR introduction on components of CEO pay. Firm and year (industry-year) fixed effects are included in the odd (even) columns. The results show that EDGAR introduction has no significant effect on CEO salary and cash incentive pay (bonus and non-equity incentive pay). This evidence could perhaps be explained by overall wage stickiness, use of employment contracts, lower monetary value of cash incentive pay and its formulaic nature, and less media attention to these types of pay (Kuhnen and Niessen (2012)). In contrast, we find an economically and statistically significant effect of EDGAR introduction on CEO equity incentive pay, which includes stock and option awards. For example, results in specification 6 show that CEO equity incentive pay is approximately 15% lower after EDGAR introduction. This evidence is consistent with the notion that the public and the media tend to focus on large realized incentive-based pay of executives, such as proceeds from stock option exercises (see, e.g., Core, Guay, and Larcker (2008), Kuhnen and Niessen (2012)), and that a reduction in disclosure processing costs makes it

easier for investors, the media, or other stakeholders to observe and publicly criticize such awards. Overall, the results in this table suggest that the introduction of EDGAR has a negative effect on equity-based incentive pay of CEOs, but not on other components of their pay, implying that EDGAR also changes CEO compensation mix. These results bring to the fore concerns about a potential negative effect of EDGAR on CEO compensation incentives, which in turn can affect firm policies and firm value.[12]

We therefore next study how CEO compensation incentives, i.e., delta and vega, change after the implementation of the EDGAR platform. Delta measures the relation between the firm-related wealth of CEOs and their firms' stock returns, with higher delta implying a stronger alignment of the economic interests of managers and shareholders and a greater incentive for the CEO to increase firm value. Vega measures the CEO risk-taking incentives associated with compensation or the sensitivity of the value of CEO compensation to changes in the firm's stock return volatility. We calculate delta and vega following Coles, Daniel, and Naveen (2006). Given the negative effect of EDGAR implementation on CEO equity incentive pay, we expect the incentives provided by the compensation contract to be weakened as well.

Table 10 reports the results, where specifications 1 and 2 are for CEO compensation delta and specifications 3 and 4 are for CEO compensation vega. The coefficients on *EDGAR* are negative and statistically significant in all specifications, which means that both delta and vega of CEO compensation contracts in treated firms decrease significantly following the introduction of EDGAR compared with those in control firms. Put differently, CEO compensation incentives to increase firm value and take risk are significantly weakened. The decrease in CEO incentives also appears to be economically

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[12]Most of the literature that examines the relation between compensation vega and managerial risk-taking finds evidence consistent with a positive relation (see, e.g., Guay (1999), Coles, Daniel, and Naveen (2006), Chava and Purnanandam (2010), Armstrong and Vashishtha (2012), Liu and Mauer (2011), Gormley, Matsa, and Milbourn (2013), and Shue and Townsend (2017)). In contrast, Hayes, Lemmon, and Qiu (2012) find little evidence that the decline in compensation vega after the adoption of FAS 123R has been accompanied by a decline in firm risk-taking. Mehran (1995) finds that firm performance is positively related to the percentage of managers' compensation that is equity-based.

significant. For example, specifications 2 and 4 show that CEO compensation delta and vega decrease by 13.6% and 11.4%, respectively, after the introduction of EDGAR. Weaker CEO incentives following better access to disclosure are consistent with the arguments by Murphy and Jensen (2018) that disclosure can increase politicization of CEO pay and may prompt concerns about a potential negative effect on firm value, which we examine this question in a later part of the paper.

## F. CEO Turnover

We next study whether a reduction in disclosure processing costs via EDGAR has any effect on CEO turnover. There are several potential reasons to expect a relation. First, Hermalin and Weisbach (2012) argue using theory that if firms cannot easily increase executive compensation (and better access to corporate disclosure could make it less politically feasible), greater disclosure can lead to increases in CEO turnover rates. Second, the introduction of EDGAR can reduce the information asymmetry in the labor market for CEOs, making it easier for them to observe how much other firms are paying to their CEOs and to search for comparable jobs. For example, better access to corporate disclosure by other firms can allow CEOs to better evaluate what strategies other firms are pursuing and determine whether their talent type is a good fit for jobs at these firms. Third, because the introduction of EDGAR lowered CEO pay by 7-10%, with particularly large pay cuts for highly-paid CEOs, it is possible that some of these disgruntled executives decide to move to other public firms to increase their pay, switch to private firms to enjoy relatively lax disclosure requirements, or take an early retirement altogether. Finally, enhanced disclosure could improve investor access to information about firm performance and motivate investors to exert pressure on boards to replace their CEOs whenever firm performance is subpar, in which case enhanced disclosure could also affect forced CEO turnover.

Table 11 reports the results of OLS regressions, where the dependent variables are

the total CEO turnover, forced CEO turnover, and voluntary CEO turnover. Specifications 1 and 2 show the effect of EDGAR introduction on total CEO turnover. The coefficients on EDGAR are positive and statistically significant at the 1% level. The economic impact is also significant. For example, specification 2 shows that the likelihood of CEO turnover increases by 4.4 percentage points, which is more than 40% of its sample mean. To better understand why CEOs are more likely to depart following the introduction of EDGAR, we further split CEO turnover into two categories, forced turnover and voluntary turnover. The identification of forced turnover follows Peters and Wagner (2014) and Jenter and Kanaan (2015).

Interestingly, we find that the implementation of EDGAR does not have a measurable effect on forced CEO turnover (specifications 3 and 4). These results do not appear to support the conjecture that lower disclosure processing costs allow investors to better evaluate firm performance and push compliant boards to more readily oust underperforming CEOs.[13] In contrast, results in specifications 5 and 6 demonstrate that the introduction of EDGAR has a positive and statistically significant effect on voluntary CEO turnover, which increases by 3.4% to 3.5% after the implementation of EDGAR. The fact that the increase in CEO turnover concentrates mostly in voluntary CEO turnover is consistent with the hypothesis that CEOs facing a lower pay are more likely to voluntarily move to other firms following the introduction of EDGAR.

Further corroborating the hypothesis that enhanced disclosure changes the labor market for CEOs, we also find in Appendix Table B.2 that the compensation packages for CEOs working in the same industry become more similar following the introduction of EDGAR. Specifically, we use the cosine similarity measure of Cabezon (2020), who calculates the similarity of executive compensation packages based on the way firms distribute total compensation across different components of pay (salary, bonus, stock awards, option awards, non-equity incentives, pensions, and perquisites). We find that

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[13]In unreported results, we also find that CEO turnover does not become more sensitive to firm performance following the introduction of EDGAR.

this measure of similarity increases significantly for CEOs following the introduction of EDGAR, indicating a more integrated labor market for CEOs.

Overall, our results suggest that the implementation of EDGAR may have had an unintended effect on voluntary CEO turnover.

## G. Weaker CEO Incentives, Higher CEO Turnover, and Firm Value

Weaker CEO incentives in compensation contracts and higher voluntary CEO turnover are generally unlikely to benefit firm shareholders. For example, prior research finds that higher CEO vega encourages prudent risk-taking by managers and affects firm investment mix, positively contributing to shareholder value creation (see, e.g., Coles, Daniel, and Naveen (2006), Low (2009)). Higher CEO turnover could also be suboptimal if CEOs have accumulated significant firm-specific human capital and cannot be easily replaced by outsiders or if they can harm the firm by working for its competitors. On the other hand, higher CEO turnover could potentially improve the quality of firm-CEO matches, and lower compensation incentives could benefit firms if there are concerns about manipulation or managerial short-termism (see, e.g., Yermack (1997), Heron and Lie (2007), Bernile and Jarrell (2009), Bergstresser and Philippon (2006), Burns and Kedia (2006), Peng and Röell (2008), and Edmans, Goncalves-Pinto, Groen-Xu, and Wang (2018)).

We therefore next investigate whether the introduction of EDGAR has any implications for firm value through its effects on CEO compensation. We measure firm value by equity market-to-book ratio and total $q$ that also accounts for intangible capital (Peters and Taylor (2017)).

We examine the effect of EDGAR introduction on firm value through the change in CEO incentives measured by either compensation delta or compensation vega. Specifically, we use a two-stage procedure. In the first stage, CEO delta (natural logarithm) is regressed on $EDGAR$, as well as other control variables, to calculate the fitted values of

delta. This procedure essentially extracts the changes in compensation delta associated with the EDGAR implementation. In the second stage, firm value (measured by either market-to-book ratio or total $q$) is regressed on the fitted value of CEO delta from the first stage. Therefore, the coefficients on the fitted CEO delta in the second-stage regressions capture the effect of EDGAR on firm value through compensation delta.

Specifications 1 to 4 in Table 12 report the results for market-to-book ratio as the dependent variable, and specifications 5 to 8 report the results for total $q$. The odd and even columns show, respectively, the estimation results for the first- and second-stage regressions. As expected and in line with the results in Table 10, the first-stage results show that the introduction of EDGAR lowers the pay-performance sensitivity of CEO compensation contracts.[14] The second-stage results show, however, that the lower pay-performance sensitivity of CEO compensation contract translates in lower firm value (as indicated by the positive coefficients on the fitted CEO delta), which suggests that EDGAR-related changes in CEO delta are to the detriment of firm shareholders.

These findings generally do not support the hypothesis that a reduction in disclosure processing costs helps firm shareholders to make more informed decisions regarding CEO pay. At the same time, these findings are consistent with changes in CEO pay and compensation incentives being at least partially politically motivated, in line with the argument by Murphy and Jensen (2018). They also lend support to the hypothesis that better access to corporate disclosure facilitates media sensationalism and public shaming of highly-paid CEOs, creating pressure on boards to avoid controversy on CEO pay and to change compensation in ways that do not necessarily benefit firm shareholders (see, e.g., Edmans, Gosling, and Jenter (2022) for director preferences regarding the tradeoff between controversy of CEO pay and firm value creation).

Overall, our results suggest that although enhanced disclosure can lower CEO pay, there may be negative consequences for shareholders that stem from weaker compen-

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[14]Here the number of observations is slightly smaller than that in Table 10 because we can only include the observations with non-missing values for both steps.

sation incentives given to CEOs and higher voluntary CEO turnover. At the same time, it is worth to point out that these results do not imply that the introduction of EDGAR has an overall negative effect on firm value, and therefore they are not at odds with findings by Goldstein, Yang, and Zuo (2023), who document that EDGAR implementation leads to an increase in a firm's stock liquidity.

## H. Robustness Tests

In this section, we report results of robustness tests for our main analysis, which include tests using a propensity score matched sample, tests addressing the potential effects of the compensation disclosure rules in 1992 and Section 162(m) in 1993 (capping tax deductibility of management compensation not qualified as "performance-based" to $1 million), and tests related to the availability of online access to EDGAR filings. Here we provide a brief discussion of these additional tests, with the relevant results being delegated to Appendix B.

### H.1. Matched Sample

As highlighted by Chang, Hsiao, Ljungqvist, and Tseng (2022), the assignment of firms into different EDGAR implementation waves was random, conditional only on firm size. Relatedly, Figure 1 shows that the average CEO pay is higher for firms that join EDGAR in the first two implementation waves, which is likely a result of larger firm size. As mentioned previously, our results are robust to excluding from the sample those firms that implement EDGAR in the first two waves. Nevertheless, we also use an alternative approach to address the issue of firm size imbalance by constructing a propensity score matched (PSM) sample following Chang, Hsiao, Ljungqvist, and Tseng (2022). Specifically, to have a clean control group, we require the matched control firms not to experience the shock of EDGAR introduction. This restricts the test sample to end in 1995 because after the last wave in 1996 all firms have been treated. In this setting, the treated firms are those experiencing the EDGAR requirement in 1993, and

control firms are those not experiencing the EDGAR introduction any time before 1996. Then the sample period is 1992 to 1995. We match treated firms to control firms in 1992, the year before the EDGAR requirement, based on firm size (total assets) and industry, defined either by two-digit SIC codes or Fama-French 12 industry classification.

Appendix Table B.3 reports the relevant results. Panel A presents statistics on the match quality prior to EDGAR introduction and shows, in particular, that the differences in total assets (natural logarithm) between treated firms and matched control firms are not statistically significant at the conventional level. Panel B presents the corresponding DiD results using the PSM sample. Specification 1 reports the results based on the Fama-French 12 industries, whereas specification 2 reports the results based on the industries defined by two-digit SIC codes. In both specifications, the estimated coefficients on $EDGAR$ are negative and statistically significant, consistent with our baseline results reported in Table 5. For example, the result in specification 2 shows that CEO pay drops by approximately 13.7% following EDGAR introduction. Therefore, our results are robust to using a matched sample.

## H.2. Other Regulations: The 1992 Disclosure Rules and Section 162(m)

Another potential concern about our finding that the introduction of EDGAR lowers CEO pay is related to confounding events that occur during the same time period. In particular, there were two relevant pieces of regulations in 1992 and 1993 that could have affected CEO pay. First, in 1993 the Congress enacted a revision in Internal Revenue Code (IRC) as part of the Omnibus Budget Reconciliation Act and, in particular, added Section 162(m). This section of the tax code limited tax deductibility of CEO compensation not considered "performance-based" to one million dollars. Second, in February of 1992 the SEC announced and later in the year adopted new executive compensation disclosure rules (see Lo (2003) for the chronology of events during the year). Under the new rules, the firm had to disclose its stock returns compared to

an index, present a summary compensation table for the highest paid executives, list executive stock options, stock appreciation rights, and long-term incentive awards, and present a compensation committee report disclosing committee member names and affiliations and highlighting the criteria used in the compensation decisions.

Notably, both the 1993 Section 162(m) of the IRS Code and the 1992 compensation disclosure rules applied to all public firms, while our identification relies on the staggered implementation of EDGAR, with 10 different groups of firms joining the system at different points in time between April 1993 and May 1996. Further, Rose and Wolfram (2002) and Perry and Zenner (2001) find little evidence that the 1992-1993 regulations had a significant effect on total CEO compensation. Nevertheless, to further allay concerns related to these two regulations, we run additional robustness tests. The results of these tests are reported in Appendix Table B.4.

Specifically, to mitigate the concerns related to the 1993 tax deductibility cap on managerial compensation not considered performance-based, we do the following. First, we exclude from the sample firms where CEO salary exceeded \$0.9 million in 1992,[15] as these firms may have been affected by the tax deductibility cap on managerial compensation. Specification 1 in Panel A shows that our main findings are robust. Second, we exclude firms with the sum of CEO salary and bonus exceeding \$0.9 million in 1992. Specification 2 again shows the results that are similar to those in Table 5. Finally, instead of dropping firms from the sample, we include finer fixed effects. Specifically, we define an indicator variable, *Salary Below \$0.9M*, which equals to one if a CEO's salary in 1992 exceeds \$0.9 million, and zero otherwise. Then we include *Salary Below \$0.9M* by year fixed effects (specification 3) or *Salary Below \$0.9M* by industry and year fixed effects (specification 4) and show that the results remain robust.

To address the concern related to adoption of the 1992 disclosure rules, we re-run

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[15]Following Rose and Wolfram (2002), we use \$0.9 million as a cutoff instead of \$1 million to account for other compensation that is not performance-based. Our results are very similar if we instead exclude firms where CEO salary exceeded \$1 million in 1992.

the tests for CEO pay using the sample only post-1992, i.e., when the new disclosure rules were already in place and therefore are unlikely to contaminate our findings. Specifications 1 and 2 in Panel B report these results and confirm that our findings are robust, with very similar point estimates to the ones reported in Table 5.

### H.3. Alternative Timing of the Shock: The Online Access to EDGAR

Finally, we run the robustness tests to examine the alternative timing of the shock to disclosure processing costs related to the online access to EDGAR. Specifically, in 1993 the National Science Foundation (NSF) decided to fund a project to make EDGAR filings available for free online, with all electronic EDGAR filings becoming available online starting January 17, 1994.

We thus use the availability of EDGAR online access (instead of the implementation of EDGAR) as the shock to disclosure processing costs and redefine the EDGAR indicator for firms assigned to groups CF-01 through CF-04 (the first four groups) to take the value of one if a fiscal year end is after January 17, 1994, and zero otherwise (the definition of EDGAR indicator is unchanged for the remaining six groups of firms). Specifications 3 and 4 in Panel B report the related results and show that our findings are robust to this alternative timing of the shock.

Overall, it appears that our finding that CEO pay drops following the introduction of EDGAR is robust to addressing the concerns about the 1993 tax deductibility cap and the 1992 disclosure rules, as well as to using the EDGAR online access as the shock.

## V. Conclusion

The explosive growth of CEO pay in the United States has sparked controversy and has fueled calls for more regulation and disclosure. In this paper, we examine whether better access to corporate disclosure facilitated by the introduction of modern information technologies helps curbing CEO pay. Using both staggered and stacked difference-in-

difference designs around the implementation of the SEC EDGAR platform from 1993 to 1996, we find that CEO pay drops by approximately 7-10% following EDGAR implementation. Consistent with the idea that disclosure of exceptionally large compensation packages provokes public shaming of CEOs, the effect is stronger for highly-paid CEOs. We also find that better access to corporate disclosure provided by EDGAR has a particularly large effect on equity-based incentive pay, supporting the idea that the negative press coverage of executive compensation packages tends to disproportionally focus on large incentive-based awards. Naturally, changes in CEO compensation mix following EDGAR adoption translate in lower-powered CEO compensation incentives.

Finally, our evidence suggests that there are some negative implications of EDGAR adoption for firm value. First, we document that CEO turnover, and particularly voluntary CEO turnover, increases significantly following EDGAR adoption. Second, we find that total $q$ and market-to-book ratio are negatively related to EDGAR-induced changes in CEO compensation incentives. These results suggest that although greater disclosure helps curbing CEO pay, it may have negative consequences for firm shareholders. On balance, our evidence is more consistent with a reduction in disclosure processing costs resulting in a greater politicization of CEO pay and with the argument that disclosure regulation may reduce the overall efficacy of CEO pay.

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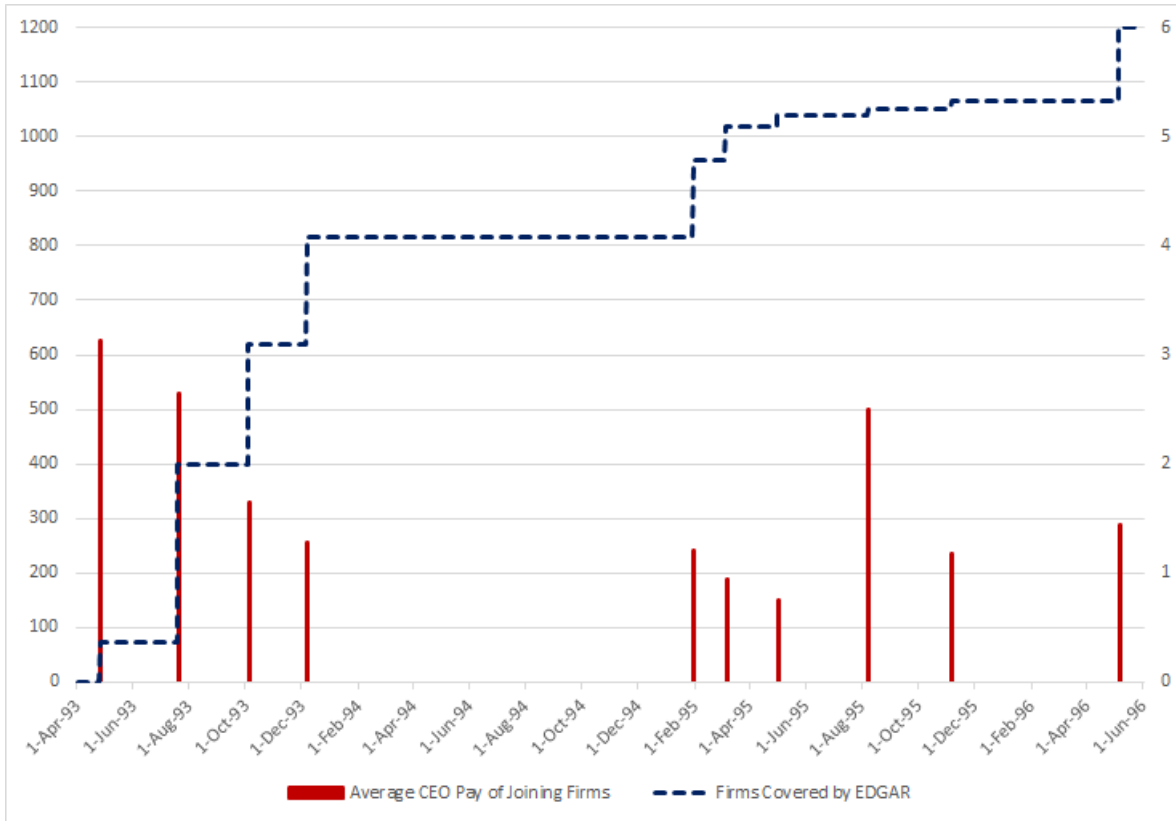
**Figure 1. Firms Covered by EDGAR and Average CEO Pay in Joining Firms.**
The dashed blue line shows the number of firms in the sample covered by EDGAR overtime
(see the left axis). The red solid bars show the average CEO pay (in $ million) in firms joining
EDGAR as of the year of joining (see the right axis).
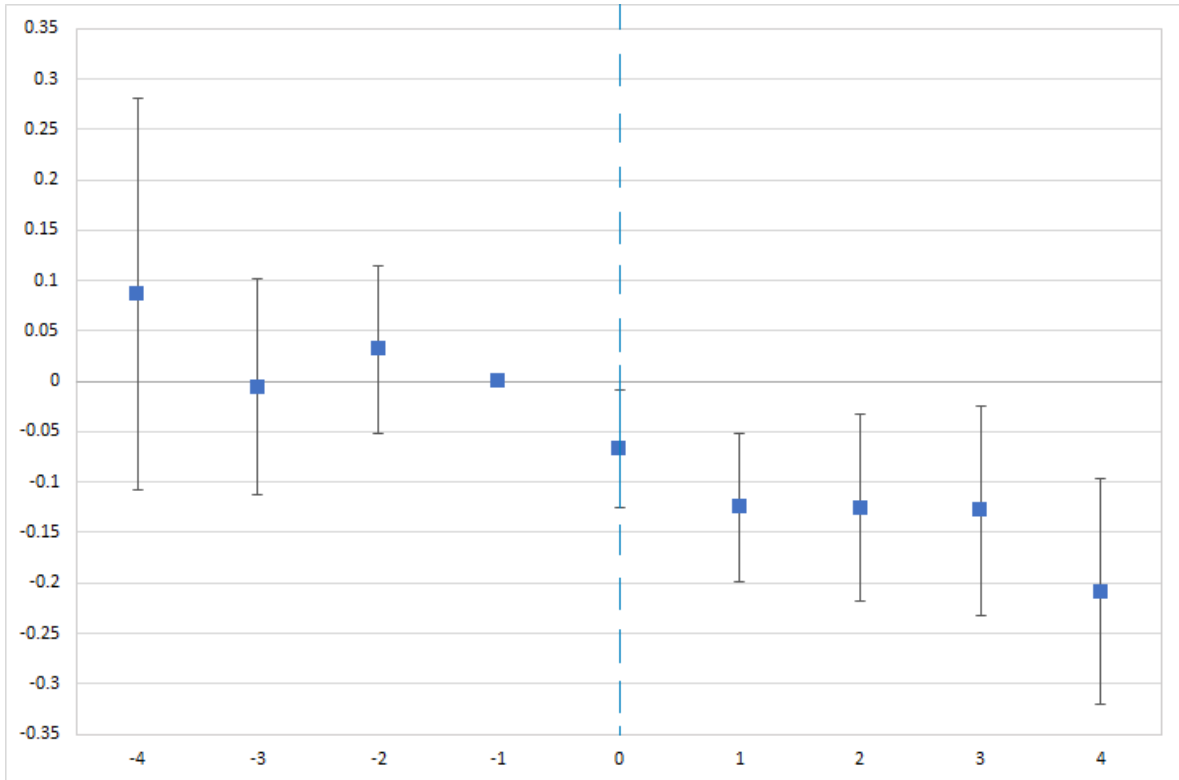
**Figure 2. EDGAR Introduction and Total CEO Compensation.** The figure shows
the effect of mandatory EDGAR filing on CEO pay. We plot the OLS regression coefficients
$\beta_k$, estimated from the following model: $\log\left(CEO\ Pay_{it}\right) = \gamma_i + \delta_t + \sum_{k=-4}^{k=4} \beta_k \times D_k + \varepsilon_{it}$,
where the dependent variable is the log of total CEO pay. The model includes firm and year
fixed effects, and $D_k$ is an indicator variable equal to one for observations in year $k$ relative
to the effective year of the EDGAR requirement. The last indicator variable, $D_4$, is set to one
if it has been four or more years since the effective year of the EDGAR requirement and zero
otherwise (following Serfling (2016)). Year -1 serves as the baseline year. The x-axis shows
the time relative to the EDGAR requirement effective year. The error bars correspond to the
90% confidence intervals of the coefficient estimates. The confidence intervals are based on
standard errors clustered at the firm level.

## Appendix A. Variable Definitions

| Variable Name | Description |
| --- | --- |
| *EDGAR* | Equal to one if a firm is a mandatory EDGAR filer in a given year; zero otherwise. |
| *Total CEO Compensation* | The natural log of total annual CEO pay (TDC1). |
| *Total Executive Compensation* | The natural log of total annual executive pay (TDC1) for all executives with reported compensation, with the exception of the CEO. |
| *Log(Assets)* | The natural log of the book value of total assets. |
| *Debt/Assets* | Short-term and long-term debt scaled by the book value of total assets. |
| *ROA* | Net income scaled by total assets (calculated in the previous year). |
| *Tobin's Q* | The sum of total assets and the market value of equity minus the book value of equity, all divided by the book value of total assets. |
| *PP&E/Assets* | Net plant, property, and equipment scaled by the book value of total assets. |
| *Stock Return* | The firm's annual stock return. |
| *Stock Volatility* | The firm's annual stock return volatility calculated using daily returns. |
| *Log(CEO Tenure)* | The natural log of the number of years the CEO worked at the firm. |
| *CEO Delta* | The natural log of delta of CEO compensation, calculated following Coles, Daniel, and Naveen (2006). |
| *CEO Vega* | The natural log of vega of CEO compensation, calculated following Coles, Daniel, and Naveen (2006). |
| *CEO Cash Incentive Pay* | The natural log of CEO nonequity incentive pay and bonus. |
| *CEO Salary* | The natural log of CEO salary. |
| *CEO Equity Incentive Pay* | The natural log of CEO stock and option pay. |
| *CEO Total Pay Cut* | Equal to one if a CEO's total pay is lower than it was in the previous year; zero otherwise. |
| *CEO Equity Pay Cut* | Equal to one if a CEO's equity incentive pay is lower than it was in the previous year; zero otherwise. |
| *CEO Turnover* | Equal to one if a firm has a new CEO in a given year relative to the previous year; zero otherwise. |
| *Forced CEO Turnover* | Turnovers classified as forced by Peters and Wagner (2014) and Jenter and Kanaan (2015), zero otherwise. |
| *Voluntary CEO Turnover* | Turnovers not classified as forced by Peters and Wagner (2014) and Jenter and Kanaan (2015), zero otherwise. |
| *M/B* | Market value of equity scaled by the book value of equity. |
| *Total q* | The ratio of firm value to the sum of physical and intangible capital as calculated in Peters and Taylor (2017). |
| *SEC Office Proximity* | Equal to one if a firm's headquarters are located in a zip code, with the same three digits as the zip code of one of the three SEC's reference rooms (in Chicago, New York, or Washington DC); zero otherwise. |
| *Cosine Compensation Similarity (Industry-Year)* | The measure is constructed following Cabezon (2020); it is based on the way firms distribute total CEO compensation across different components of pay (salary, bonus, stock awards, option awards, non-equity incentives, pensions, and perquisites). |

| Variable Name | Description |
| --- | --- |
| *Number of Compensation Articles* | The number of articles appearing in national newspapers (the *Wall Street Journal*, the *New York Times*, the *Financial Times*, and *USA Today*) that contain at least one of the keywords: "CEO compensation," "CEO salary," "CEO pay," "executive compensation," "executive salary," or "executive pay." The number of these articles that mention a given firm during a given fiscal year are summed at the firm-year level. |
| *Article Length* | The logarithm of the total number of words in compensation articles (firm-year). |
| *Positive Articles* | The number of compensation articles per firm-year that are classified as positive, i.e., that contain more positive words from the financial dictionary by Loughran and McDonald (2011) than negative words. |
| *Negative Articles* | The number of compensation articles per firm-year that are classified as negative, i.e., that contain more negative words from the financial dictionary by Loughran and McDonald (2011) than positive words. |

**Table 1. EDGAR Phase-In Waves**

This table presents the breakdown of SEC Phase-in dates/groups.

| Wave | SEC Designation | Phase-In Date |
|------|-----------------|---------------|
| 1    | CF-01           | April 26, 1993 |
| 2    | CF-02           | July 19, 1993 |
| 3    | CF-03           | October 4, 1993 |
| 4    | CF-04           | December 6, 1993 |
| 5    | CF-05           | January 30, 1995 |
| 6    | CF-06           | March 6, 1995 |
| 7    | CF-07           | May 1, 1995 |
| 8    | CF-08           | August 7, 1995 |
| 9    | CF-09           | November 6, 1995 |
| 10   | CF-10           | May 6, 1996 |

**Table 2. Summary Statistics**

This table reports summary statistics for variables used in the analysis. The sample includes firms present in both Compustat and Execucomp and covers the period 1992–1999. All continuous variables are winsorized at the 1st and 99th percentile values. Variable definitions are provided in Appendix A.

| Variable | Mean | SD | p25 | p50 | p75 | N |
|---|---|---|---|---|---|---|
| Total CEO Compensation ($K) | 2,743 | 3,698 | 802 | 1,523 | 3,007 | 7,959 |
| Total Non-CEO Compensation ($K) | 1,067 | 1,522 | 338 | 597 | 1,148 | 39,944 |
| EDGAR | 0.819 | 0.385 | 1 | 1 | 1 | 7,959 |
| CEO Salary ($K) | 544 | 274 | 345 | 500 | 700 | 7,959 |
| CEO Cash Incentive Pay ($K) | 563 | 752 | 83 | 300 | 700 | 7,959 |
| CEO Equity Incentive Pay ($K) | 1,451 | 2,223 | 0 | 531 | 1,711 | 7,959 |
| CEO Delta ($K) | 536 | 1,402 | 51 | 136 | 389 | 7,856 |
| CEO Vega ($K) | 55 | 86 | 8 | 24 | 60 | 7,959 |
| CEO Turnover | 0.104 | 0.305 | 0 | 0 | 0 | 6,887 |
| Forced CEO Turnover | 0.026 | 0.158 | 0 | 0 | 0 | 6,887 |
| Voluntary CEO Turnover | 0.078 | 0.269 | 0 | 0 | 0 | 6,887 |
| Book Assets, $M | 5,846 | 16,089 | 348 | 1,029 | 3,701 | 7,959 |
| Log(Assets) | 7.108 | 1.687 | 5.856 | 6.937 | 8.217 | 7,959 |
| Tobin's Q | 1.967 | 1.307 | 1.170 | 1.519 | 2.212 | 7,959 |
| Stock Return | 0.178 | 0.473 | -0.105 | 0.114 | 0.362 | 7,959 |
| ROA | 0.038 | 0.098 | 0.014 | 0.046 | 0.084 | 7,959 |
| Stock Volatility | 0.024 | 0.011 | 0.016 | 0.022 | 0.031 | 7,959 |
| PP&E/Assets | 0.324 | 0.236 | 0.137 | 0.268 | 0.489 | 7,959 |
| CEO Tenure | 8.244 | 7.722 | 2.667 | 5.917 | 10.917 | 7,959 |
| Debt/Assets | 0.233 | 0.174 | 0.090 | 0.221 | 0.342 | 7,959 |
| M/B | 3.082 | 2.889 | 1.544 | 2.287 | 3.607 | 7,959 |
| Total q | 1.542 | 2.610 | 0.466 | 0.814 | 1.602 | 7,514 |
| SEC Office Proximity | 0.122 | 0.327 | 0 | 0 | 0 | 6,291 |

**Table 3. Descriptive Statistics: Media Coverage of Executive Compensation**

This table reports descriptive statistics related to the media coverage of executive compensation. Panel A lists the number of compensation articles by year and source. Panel B reports statistics for the length and tone of compensation articles. Panel C illustrates the commonly used positive and negative words in compensation articles. The articles are from major U.S. national newspapers (the *Wall Street Journal*, the *New York Times*, the *Financial Times*, and *USA Today*). The sample includes firms present in both Compustat and Execucomp.

*Panel A. Number of Compensation Articles by Year and Source*

| Year | Number of Articles | Source | Number of Articles |
|------|--------------------|--------|--------------------|
| 1992 | 2,740 | *Wall Street Journal* | 24,279 |
| 1993 | 4,461 | *Financial Times* | 1,547 |
| 1994 | 3,585 | *New York Times* | 1,407 |
| 1995 | 4,329 | *USA Today* | 868 |
| 1996 | 4,293 | | |
| 1997 | 3,649 | | |
| 1998 | 2,326 | | |
| 1999 | 2,718 | | |

*Panel B. Compensation Articles' Length and Tone*

| Variable | Mean | SD | p25 | p50 | p75 | N |
|----------|------|-----|-----|-----|-----|---|
| Number of Compensation Articles | 1.894 | 6.233 | 0 | 0 | 1 | 8,441 |
| Number of Compensation Articles, if covered | 10.312 | 61.927 | 1 | 2 | 5 | 2,722 |
| Number of Words | 13,247 | 21,226 | 1,938 | 6,802 | 13,623 | 2,722 |
| Article Length, Log(Number of Words) | 8.650 | 1.339 | 7.569 | 8.825 | 9.520 | 2,722 |
| Negative Articles | 5.406 | 11.540 | 1 | 2 | 4 | 2,722 |
| Positive Articles | 1.014 | 2.047 | 0 | 0 | 1 | 2,722 |

*Panel C. Commonly Used Positive and Negative Words in Compensation Articles*

| Common Positive Words | Common Negative Words |
|-----------------------|-----------------------|
| 1. good | 1. cut |
| 2. better | 2. problems |
| 3. best | 3. late |
| 4. strong | 4. force |
| 5. despite | 5. problem |
| 6. able | 6. loss |
| 7. great | 7. declined |
| 8. gains | 8. lost |
| 9. benefit | 9. losses |
| 10. success | 10. concern |

**Table 4. Media Coverage of Executive Compensation and the Implementation of EDGAR**

This table reports the effect of EDGAR implementation on media coverage of executive compensation. The dependent variable in Panel A is the number of articles written about executive compensation that mention a given firm in a given year and appear in one of four outlets (the *Wall Street Journal*, the *Financial Times*, the *New York Times*, and *USA Today*); the variable is set to 0 if there are no such articles. The dependent variables in Panel B are the logarithm of the total number of words in compensation articles (specifications 1 and 2), the number of negative compensation articles (specifications 3 and 4), and the number of positive compensation articles (specifications 5 and 6). *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

*Panel A. Number of Compensation Articles*

| Dependent Variable: | Number of Compensation Articles | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| EDGAR | 0.232*** | 0.262*** | 0.174* | 0.217** |
| | [2.79] | [3.18] | [1.81] | [2.36] |
| Log(Assets) | -0.670* | -0.885* | -0.802* | -0.925* |
| | [-1.73] | [-1.83] | [-1.96] | [-1.84] |
| Log(Assets)$^2$ | 0.094*** | 0.107*** | 0.103*** | 0.108*** |
| | [2.91] | [2.79] | [3.04] | [2.74] |
| Tobin's Q | 0.023 | 0.037 | 0.029 | 0.052 |
| | [0.54] | [0.85] | [0.71] | [1.21] |
| Stock Return | -0.096 | -0.142* | -0.100 | -0.143* |
| | [-1.53] | [-1.95] | [-1.54] | [-1.95] |
| ROA | -1.753*** | -1.540*** | -1.618*** | -1.617*** |
| | [-4.67] | [-3.83] | [-4.14] | [-3.77] |
| Stock Volatility | 10.766*** | 9.306** | 11.331*** | 11.620*** |
| | [3.06] | [2.48] | [3.32] | [2.99] |
| PP&E/Assets | -0.375 | 0.278 | -0.409 | 0.080 |
| | [-0.83] | [0.60] | [-0.89] | [0.17] |
| Log(CEO Tenure) | -0.063* | -0.080** | -0.220*** | -0.243*** |
| | [-1.88] | [-2.50] | [-3.32] | [-3.69] |
| Debt/Assets | -0.516* | -0.469 | -0.686*** | -0.568* |
| | [-1.96] | [-1.62] | [-2.71] | [-1.89] |
| | | | | |
| Observations | 8,020 | 7,991 | 7,802 | 7,775 |
| R-squared | 0.935 | 0.942 | 0.943 | 0.949 |
| Firm FE | Y | Y | N | N |
| Year FE | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y |
| Firm-CEO | N | N | Y | Y |

*Panel B. Length and Tone of Compensation Articles*

| Dependent Variable: | Article Length | | Negative Articles | | Positive Articles | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| EDGAR | 0.224** | 0.297*** | 1.049** | 1.151** | -0.084 | -0.061 |
| | [2.24] | [2.74] | [2.21] | [2.20] | [-0.79] | [-0.56] |
| Log(Assets) | 0.698** | 0.314 | -2.061 | -1.791 | -0.734* | -1.148* |
| | [2.24] | [0.86] | [-1.58] | [-1.03] | [-1.66] | [-1.88] |
| Log(Assets)$^2$ | -0.026 | -0.002 | 0.211** | 0.205* | 0.062** | 0.088** |
| | [-1.46] | [-0.09] | [2.56] | [1.82] | [2.03] | [2.13] |
| Tobin's Q | 0.036 | 0.043 | 0.054 | 0.112 | 0.130*** | 0.166*** |
| | [1.16] | [1.22] | [0.36] | [0.67] | [2.71] | [3.01] |
| Stock Return | -0.129** | -0.089 | -0.338 | -0.340 | -0.111 | -0.135 |
| | [-2.41] | [-1.54] | [-1.29] | [-1.29] | [-1.51] | [-1.37] |
| ROA | -0.797** | -0.660 | -6.825*** | -7.229*** | -0.344 | -0.654 |
| | [-2.08] | [-1.48] | [-3.15] | [-2.95] | [-0.78] | [-1.24] |
| Stock Volatility | 0.840 | -4.309 | 39.599** | 19.604 | -0.114 | -9.567 |
| | [0.17] | [-0.80] | [2.10] | [0.94] | [-0.03] | [-1.64] |
| PP&E/Assets | -0.227 | 0.400 | -1.266 | 3.181 | -0.292 | -0.277 |
| | [-0.59] | [0.80] | [-0.64] | [1.19] | [-0.51] | [-0.39] |
| Log(CEO Tenure) | -0.013 | -0.008 | -0.305** | -0.297** | -0.071** | -0.055* |
| | [-0.54] | [-0.31] | [-2.27] | [-2.11] | [-2.29] | [-1.81] |
| Debt/Assets | -0.684** | -0.592* | -1.820 | -1.676 | -0.797** | -0.497 |
| | [-2.37] | [-1.86] | [-1.17] | [-1.13] | [-2.15] | [-1.17] |
| | | | | | | |
| Observations | 2,409 | 2,314 | 2,409 | 2,314 | 2,409 | 2,314 |
| R-squared | 0.730 | 0.781 | 0.921 | 0.938 | 0.821 | 0.850 |
| Firm FE | Y | Y | Y | Y | Y | Y |
| Year FE | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y |

**Table 5. Better Access to Disclosure and CEO Pay: DiD analysis**

This table reports the treatment effect of EDGAR implementation on total annual CEO pay (natural logarithm). *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and is zero otherwise. Specifications 1 to 4 implement a staggered difference-in-differences estimation using the sample from 1992–1999. Specifications 5 and 6 implement the stacked difference-in-differences estimation following Cengiz, Dube, Lindner, and Zipperer (2019) using three stacks of data. The first stack of 1992–1995 compares firms required to file on EDGAR in 1993 (treated) to those required to file in 1996 (outside this stack's window) and excludes firms required to file in 1995. The second stack of 1994–1997 compares firms required to file on EDGAR in 1995 (treated) to those required to file in 1993 (outside this stack's window) and excludes firms required to file in 1996. The third stack of 1995–1998 compares firms required to file on EDGAR in 1996 (treated) to those required to file in 1993 (outside this stack's window) and excludes firms required to file in 1995. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| *Dependent Variable:* | *Total CEO Compensation* | | | | | |
|---|---|---|---|---|---|---|
| *Sample*: | *Staggered* (1) | *Staggered* (2) | *Staggered* (3) | *Staggered* (4) | *Stacked* (5) | *Stacked* (6) |
| EDGAR | -0.102*** | -0.103*** | -0.074** | -0.069** | -0.077** | -0.090** |
| | [-3.13] | [-3.11] | [-2.23] | [-2.03] | [-2.04] | [-2.25] |
| Log(Assets) | 0.452*** | 0.537*** | 0.342*** | 0.481*** | 0.717*** | 0.795*** |
| | [4.12] | [4.41] | [2.93] | [3.62] | [4.56] | [4.55] |
| Log(Assets)$^2$ | -0.005 | -0.012 | 0.001 | -0.008 | -0.025** | -0.031** |
| | [-0.69] | [-1.40] | [0.18] | [-0.83] | [-2.28] | [-2.56] |
| Tobin's Q | 0.106*** | 0.093*** | 0.107*** | 0.088*** | 0.109*** | 0.097*** |
| | [7.19] | [6.22] | [6.38] | [5.38] | [6.27] | [5.23] |
| Stock Return | 0.046** | 0.068*** | 0.022 | 0.042* | 0.080*** | 0.107*** |
| | [2.22] | [2.97] | [1.02] | [1.83] | [3.70] | [4.53] |
| ROA | 0.377*** | 0.323** | 0.539*** | 0.460*** | 0.22 | 0.188 |
| | [2.65] | [2.16] | [3.66] | [3.09] | [1.63] | [1.37] |
| Stock Volatility | -1.619 | -0.929 | -3.005 | -2.608 | 0.663 | 0.524 |
| | [-0.91] | [-0.49] | [-1.64] | [-1.36] | [0.39] | [0.29] |
| PPE/Assets | -0.246 | -0.398** | -0.321* | -0.542** | -0.480*** | -0.607*** |
| | [-1.59] | [-2.38] | [-1.88] | [-2.88] | [-2.72] | [-3.34] |
| Log(CEO Tenure) | -0.060*** | -0.058*** | -0.106*** | -0.099*** | -0.091*** | -0.089*** |
| | [-5.28] | [-5.02] | [-4.23] | [-4.10] | [-8.35] | [-8.08] |
| Debt/Assets | -0.401*** | -0.353*** | -0.353*** | -0.326*** | -0.391*** | -0.308** |
| | [-3.62] | [-3.11] | [-2.88] | [-2.65] | [-3.17] | [-2.49] |
| | | | | | | |
| Observations | 7,959 | 7,930 | 8,099 | 8,072 | 10,130 | 10,071 |
| R-squared | 0.752 | 0.768 | 0.784 | 0.802 | 0.797 | 0.813 |
| Firm FE | Y | Y | N | N | Y | Y |
| Year FE | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y |
| Firm-CEO FE | N | N | Y | Y | N | N |

**Table 6. Better Access to Disclosure and CEO Pay: Quantile Regressions**

This table reports the estimates from quantile regressions using the 25th, 50th, and 75th percentiles of the data. The dependent variable is the log of total annual CEO pay. *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| Dependent Variable: | Total CEO Compensation | | | | | |
|---|---|---|---|---|---|---|
| Quantile: | p25 | p25 | p50 | p50 | p75 | p75 |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| EDGAR | 0.018 | 0.041 | -0.098* | -0.100* | -0.175*** | -0.204*** |
| | [0.29] | [0.67] | [-1.90] | [-1.81] | [-2.75] | [-3.15] |
| Log(Assets) | 1.361*** | 1.510*** | 0.874*** | 0.927*** | -0.254 | -0.207 |
| | [7.54] | [6.43] | [7.42] | [6.05] | [-1.38] | [-0.85] |
| Log(Assets)$^2$ | -0.082*** | -0.091*** | -0.038*** | -0.041*** | 0.051*** | 0.045** |
| | [-6.79] | [-5.87] | [-4.67] | [-3.82] | [3.75] | [2.55] |
| Tobin's Q | 0.044** | 0.038 | 0.062*** | 0.052** | 0.159*** | 0.148*** |
| | [1.97] | [1.64] | [3.59] | [2.02] | [5.77] | [6.13] |
| Stock Return | 0.154*** | 0.182*** | 0.086*** | 0.105** | -0.062 | -0.050 |
| | [4.57] | [5.21] | [2.60] | [2.37] | [-1.49] | [-1.13] |
| ROA | 0.539*** | 0.444* | 0.619*** | 0.556*** | 0.659*** | 0.638*** |
| | [2.73] | [1.93] | [2.90] | [2.71] | [2.90] | [2.72] |
| Stock Volatility | -6.763*** | -6.308** | -2.307 | -1.146 | 4.249* | 5.584 |
| | [-2.59] | [-2.22] | [-0.94] | [-0.41] | [1.71] | [1.53] |
| PP&E/Assets | -0.160 | -0.261 | -0.525** | -0.694** | -0.090 | -0.308 |
| | [-0.68] | [-1.06] | [-2.29] | [-2.48] | [-0.34] | [-1.08] |
| Log(CEO Tenure) | -0.021 | -0.021 | -0.065*** | -0.065*** | -0.097*** | -0.088*** |
| | [-1.22] | [-1.25] | [-4.59] | [-4.29] | [-5.11] | [-3.57] |
| Debt/Assets | -0.056 | -0.068 | -0.139 | -0.080 | -0.435** | -0.353 |
| | [-0.34] | [-0.42] | [-0.88] | [-0.49] | [-2.11] | [-1.43] |
| | | | | | | |
| Observations | 7,959 | 7,930 | 7,959 | 7,930 | 7,959 | 7,930 |
| R-squared | 0.590 | 0.618 | 0.598 | 0.624 | 0.581 | 0.608 |
| Firm FE | Y | Y | Y | Y | Y | Y |
| Year FE | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y |

**Table 7. Better Access to Disclosure and Total Pay of Executives Other Than the CEO**

This table reports the treatment effect of EDGAR implementation on total pay of non-CEO executives. Specifications 1 and 2 (3 to 8) report the estimates from OLS regressions (quantile regressions using the 25th, 50th, and 75th percentiles). The sample includes all non-CEO executives for the period 1992–1999. *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| *Dependent Variable:* | Total Executive Compensation (non-CEO) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | OLS (1) | OLS (2) | p25 (3) | p25 (4) | p50 (5) | p50 (6) | p75 (7) | p75 (8) |
| EDGAR | -0.023 | -0.029 | 0.054* | 0.057* | -0.014 | -0.013 | -0.111*** | -0.134*** |
| | [-1.07] | [-1.36] | [1.66] | [1.75] | [-0.47] | [-0.43] | [-3.93] | [-3.85] |
| Log(Assets) | 0.137* | 0.251*** | 0.876*** | 1.019*** | 0.594*** | 0.678*** | -0.114 | -0.064 |
| | [1.65] | [2.82] | [8.55] | [8.79] | [5.91] | [5.89] | [-1.06] | [-0.44] |
| Log(Assets)$^2$ | 0.012* | 0.003 | -0.049*** | -0.059*** | -0.024*** | -0.030*** | 0.035*** | 0.029** |
| | [1.94] | [0.41] | [-7.02] | [-7.38] | [-3.37] | [-3.82] | [3.89] | [2.52] |
| Tobin's Q | 0.090*** | 0.080*** | 0.030** | 0.030** | 0.057*** | 0.048*** | 0.119*** | 0.105*** |
| | [8.03] | [7.38] | [2.24] | [2.14] | [5.12] | [4.37] | [6.66] | [6.16] |
| Stock Return | 0.012 | 0.028** | 0.030** | 0.048*** | 0.004 | 0.026 | -0.008 | 0.004 |
| | [0.87] | [2.02] | [2.34] | [3.33] | [0.24] | [1.57] | [-0.35] | [0.16] |
| ROA | 0.546*** | 0.516*** | 0.629*** | 0.587*** | 0.777*** | 0.747*** | 0.624*** | 0.620*** |
| | [5.93] | [5.60] | [4.23] | [5.01] | [6.44] | [5.42] | [4.04] | [4.23] |
| Stock Volatility | 1.170 | 2.033* | -2.158 | -0.421 | -0.355 | 0.684 | 3.760** | 4.545** |
| | [1.06] | [1.83] | [-1.44] | [-0.23] | [-0.26] | [0.37] | [2.15] | [2.52] |
| PP&E/Assets | -0.064 | -0.114 | -0.129 | -0.136 | -0.308** | -0.377** | -0.148 | -0.279 |
| | [-0.57] | [-0.96] | [-0.74] | [-0.66] | [-2.51] | [-2.54] | [-0.82] | [-1.55] |
| Debt/Assets | -0.257*** | -0.215*** | -0.069 | -0.034 | -0.227** | -0.195* | -0.242 | -0.161 |
| | [-3.31] | [-2.84] | [-0.52] | [-0.25] | [-2.15] | [-1.80] | [-1.61] | [-1.10] |
| Observations | 39,944 | 39,943 | 39,944 | 39,943 | 39,944 | 39,943 | 39,944 | 39,943 |
| R-squared | 0.638 | 0.649 | 0.436 | 0.450 | 0.477 | 0.488 | 0.468 | 0.480 |
| Firm FE | Y | Y | Y | Y | Y | Y | Y | Y |
| Year FE | Y | N | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y | N | Y |

**Table 8. Cross-Sectional Heterogeneity: Information Asymmetry and Firm Performance**

This table shows the cross-sectional heterogeneity in the effect of EDGAR implementation on total CEO pay (natural logarithm). *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. *SEC Office Proximity* is an indicator variable equal to one if the first three digits of a firm's zip code are the same as the first three digits of a zip code of the closest SEC's reference room. Firm Size is measured by total assets prior to EDGAR adoption (natural logarithm), and coefficients in specifications 3 and 4 are multiplied by 1000 for illustrative purposes. The sample period is 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are in Appendix A.

| Dependent Variable: | Total CEO Compensation | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| EDGAR | -0.126*** | -0.137*** | -0.113*** | -0.111*** | -0.130*** | -0.130*** |
| | [-3.30] | [-3.54] | [-3.16] | [-3.04] | [-3.92] | [-3.86] |
| EDGAR×SEC Office Proximity | 0.144** | 0.122* | | | | |
| | [2.18] | [1.70] | | | | |
| EDGAR×Pre-EDGAR Firm Size | | | 0.005*** | 0.005** | | |
| | | | [2.82] | [2.34] | | |
| EDGAR×Stock Return | | | | | 0.159*** | 0.148*** |
| | | | | | [3.93] | [3.38] |
| Log(Assets) | 0.609*** | 0.661*** | 0.488*** | 0.504*** | 0.410*** | 0.498*** |
| | [5.13] | [4.91] | [4.03] | [3.70] | [3.72] | [4.08] |
| Log(Assets)$^2$ | -0.014* | -0.018* | -0.008 | -0.010 | -0.003 | -0.010 |
| | [-1.68] | [-1.92] | [-0.94] | [-0.98] | [-0.44] | [-1.17] |
| Tobin's Q | 0.109*** | 0.096*** | 0.100*** | 0.087*** | 0.104*** | 0.091*** |
| | [6.79] | [5.99] | [6.04] | [5.16] | [7.04] | [6.13] |
| Stock Return | 0.037 | 0.055** | 0.046* | 0.056** | -0.076** | -0.045 |
| | [1.59] | [2.11] | [1.87] | [2.08] | [-2.01] | [-1.11] |
| ROA | 0.259 | 0.205 | 0.362** | 0.346** | 0.363** | 0.310** |
| | [1.62] | [1.20] | [2.28] | [2.03] | [2.54] | [2.06] |
| Stock Volatility | -1.436 | -0.889 | -3.199 | -2.605 | -1.614 | -0.931 |
| | [-0.72] | [-0.42] | [-1.58] | [-1.19] | [-0.92] | [-0.50] |
| PP&E/Assets | -0.293* | -0.435** | -0.282 | -0.463** | -0.261* | -0.408** |
| | [-1.70] | [-2.35] | [-1.63] | [-2.45] | [-1.69] | [-2.46] |
| Log(CEO Tenure) | -0.060*** | -0.059*** | -0.061*** | -0.056*** | -0.059*** | -0.058*** |
| | [-4.69] | [-4.50] | [-4.50] | [-4.08] | [-5.24] | [-4.98] |
| Debt/Assets | -0.441*** | -0.387*** | -0.433*** | -0.405*** | -0.384*** | -0.344*** |
| | [-3.64] | [-3.14] | [-3.43] | [-3.11] | [-3.49] | [-3.04] |
| Observations | 6,291 | 6,252 | 5,937 | 5,914 | 7,959 | 7,930 |
| R-squared | 0.745 | 0.765 | 0.753 | 0.773 | 0.752 | 0.769 |
| Firm FE | Y | Y | Y | Y | Y | Y |
| Year FE | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y |

**Table 9. Components of CEO Compensation**

This table reports the treatment effect of EDGAR implementation on the components of CEO pay. The dependent variable in specifications 1 and 2 (3 and 4, 5 and 6) is the log of CEO salary (CEO nonequity incentive pay and bonus, CEO equity pay). *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| Dependent Variable: | CEO Salary | | CEO Cash Incentive Pay | | CEO Equity Incentive Pay | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| EDGAR | -0.002 | -0.005 | -0.002 | -0.006 | -0.147** | -0.148** |
| | [-0.15] | [-0.37] | [-0.06] | [-0.14] | [-2.51] | [-2.38] |
| Log(Assets) | 0.256*** | 0.275*** | 0.336*** | 0.385*** | 0.598*** | 0.715*** |
| | [4.57] | [4.74] | [3.00] | [3.01] | [3.20] | [3.60] |
| Log(Assets)$^2$ | -0.008* | -0.009** | -0.009 | -0.012 | -0.008 | -0.016 |
| | [-1.79] | [-2.06] | [-1.13] | [-1.42] | [-0.62] | [-1.21] |
| Tobin's Q | -0.002 | -0.001 | 0.058*** | 0.044*** | 0.162*** | 0.147*** |
| | [-0.34] | [-0.09] | [3.72] | [2.70] | [7.31] | [6.30] |
| Stock Return | -0.020* | -0.024** | 0.238*** | 0.256*** | -0.089** | -0.079** |
| | [-1.83] | [-2.05] | [10.60] | [10.27] | [-2.55] | [-2.08] |
| ROA | 0.161** | 0.178*** | 1.722*** | 1.660*** | 0.357 | 0.326 |
| | [2.49] | [2.67] | [7.94] | [7.87] | [1.58] | [1.37] |
| Stock Volatility | -1.264 | -0.716 | -4.564** | -4.847** | -5.789* | -4.424 |
| | [-1.52] | [-0.87] | [-2.15] | [-2.23] | [-1.91] | [-1.39] |
| PP&E/Assets | -0.005 | -0.013 | -0.735*** | -0.735*** | -0.355 | -0.454 |
| | [-0.06] | [-0.15] | [-3.95] | [-3.89] | [-1.22] | [-1.51] |
| Log(CEO Tenure) | 0.103*** | 0.103*** | 0.057*** | 0.058*** | -0.151*** | -0.148*** |
| | [12.33] | [12.52] | [4.30] | [4.31] | [-8.36] | [-8.12] |
| Debt/Assets | 0.001 | 0.009 | -0.269** | -0.188 | -0.564*** | -0.585*** |
| | [0.01] | [0.13] | [-1.99] | [-1.33] | [-2.93] | [-2.92] |
| | | | | | | |
| Observations | 8,020 | 7,991 | 6,546 | 6,507 | 5,866 | 5,821 |
| R-squared | 0.839 | 0.849 | 0.797 | 0.818 | 0.721 | 0.746 |
| Firm FE | Y | Y | Y | Y | Y | Y |
| Year FE | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y |

**Table 10. Compensation incentives: Delta and Vega**

This table reports the treatment effect of EDGAR implementation on CEO compensation incentives. The dependent variable in specifications 1 and 2 (3 and 4) is the log of CEO compensation delta (vega), where delta and vega are calculated following Coles, Daniel, and Naveen (2006). *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| *Dependent Variable:* | *CEO Delta* | | *CEO Vega* | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| EDGAR | -0.147*** | -0.136*** | -0.146*** | -0.114** |
| | [-3.67] | [-3.35] | [-2.61] | [-1.97] |
| Log(Assets) | 0.260* | 0.587*** | 0.919*** | 0.767*** |
| | [1.72] | [3.68] | [5.30] | [3.86] |
| Log(Assets)$^2$ | 0.019 | -0.010 | -0.027** | -0.019 |
| | [1.56] | [-0.79] | [-2.26] | [-1.35] |
| Tobin's Q | 0.326*** | 0.318*** | 0.081*** | 0.069** |
| | [14.52] | [14.65] | [2.99] | [2.30] |
| Stock Return | 0.198*** | 0.188*** | -0.093*** | -0.070** |
| | [7.54] | [6.77] | [-2.96] | [-2.00] |
| ROA | 1.127*** | 1.130*** | 0.367* | 0.462** |
| | [6.15] | [5.89] | [1.91] | [2.31] |
| Stock Volatility | -11.828*** | -11.382*** | -14.914*** | -13.661*** |
| | [-5.22] | [-4.98] | [-5.46] | [-4.86] |
| PP&E/Assets | -0.195 | -0.085 | -0.191 | -0.241 |
| | [-0.91] | [-0.38] | [-0.66] | [-0.79] |
| Log(CEO Tenure) | 0.278*** | 0.274*** | -0.060*** | -0.049** |
| | [14.55] | [14.51] | [-2.63] | [-2.12] |
| Debt/Assets | -0.573*** | -0.464*** | -0.384** | -0.329* |
| | [-3.49] | [-2.91] | [-2.21] | [-1.87] |
| Observations | 7,940 | 7,912 | 8,216 | 8,187 |
| R-squared | 0.882 | 0.893 | 0.770 | 0.786 |
| Firm FE | Y | Y | Y | Y |
| Year FE | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y |

**Table 11. CEO Turnover and the EDGAR Implementation**

This table reports the treatment effect of EDGAR implementation on CEO turnover. The dependent variables are CEO turnover in specifications 1 and 2, forced CEO turnover in specifications 3 and 4, and voluntary CEO turnover in specifications 5 and 6. *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| Dependent Variable: | CEO Turnover | | Forced CEO Turnover | | Voluntary CEO Turnover | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| EDGAR | 0.046*** | 0.044*** | 0.011 | 0.010 | 0.035*** | 0.034*** |
| | [3.60] | [3.23] | [1.31] | [1.07] | [3.15] | [2.90] |
| Log(Assets) | 0.000 | -0.009 | 0.006 | -0.003 | -0.005 | -0.005 |
| | [0.01] | [-0.17] | [0.21] | [-0.11] | [-0.12] | [-0.12] |
| Log(Assets)$^2$ | 0.001 | 0.001 | -0.001 | 0.000 | 0.002 | 0.001 |
| | [0.35] | [0.40] | [-0.30] | [0.04] | [0.55] | [0.42] |
| Tobin's Q | 0.007 | 0.009 | -0.002 | -0.002 | 0.009* | 0.011** |
| | [1.21] | [1.53] | [-0.58] | [-0.42] | [1.80] | [2.08] |
| Stock Return | -0.023*** | -0.033*** | -0.014** | -0.017*** | -0.010 | -0.016** |
| | [-2.88] | [-3.58] | [-2.50] | [-2.63] | [-1.35] | [-2.03] |
| ROA | -0.388*** | -0.363*** | -0.197*** | -0.204*** | -0.191*** | -0.160*** |
| | [-5.71] | [-5.27] | [-3.46] | [-3.47] | [-3.48] | [-2.85] |
| Stock Volatility | 1.437* | 1.533* | 2.515*** | 2.656*** | -1.079* | -1.123* |
| | [1.83] | [1.82] | [3.78] | [3.65] | [-1.82] | [-1.79] |
| PP&E/Assets | -0.016 | -0.019 | -0.020 | -0.041 | 0.004 | 0.021 |
| | [-0.22] | [-0.24] | [-0.41] | [-0.79] | [0.06] | [0.31] |
| Log(CEO Tenure) | -0.245*** | -0.246*** | 0.007* | 0.007 | -0.252*** | -0.252*** |
| | [-46.96] | [-46.30] | [1.88] | [1.60] | [-45.25] | [-44.87] |
| Debt/Assets | -0.025 | -0.018 | 0.011 | 0.019 | -0.036 | -0.038 |
| | [-0.52] | [-0.37] | [0.35] | [0.59] | [-0.87] | [-0.87] |
| | | | | | | |
| Observations | 6,841 | 6,817 | 6,841 | 6,817 | 6,841 | 6,817 |
| R-squared | 0.555 | 0.581 | 0.241 | 0.282 | 0.573 | 0.599 |
| Firm FE | Y | Y | Y | Y | Y | Y |
| Year FE | Y | N | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y | N | Y |

**Table 12. EDGAR-Related Decrease in CEO Incentives and Firm Value**

This table uses a two-stage procedure to estimate the effect of EDGAR implementation on firm value through a channel of compensation incentives. The dependent variable in the first (second) stage is the log of delta of CEO compensation (market-to-book ratios or total $q$). EDGAR is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. $t$-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| Dependent Variable: | CEO Delta | M/B | CEO Delta | M/B | CEO Delta | Total q | CEO Delta | Total q |
|---|---|---|---|---|---|---|---|---|
| Estimation Stage: | 1st | 2nd | 1st | 2nd | 1st | 2nd | 1st | 2nd |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| EDGAR | -0.160*** | | -0.154*** | | -0.162*** | | -0.150*** | |
| | [-3.72] | | [-3.52] | | [-3.61] | | [-3.28] | |
| CEO Delta | | 1.478** | | 1.702** | | 0.950* | | 1.194* |
| | | [2.32] | | [2.34] | | [1.69] | | [1.85] |
| Log(Assets) | -0.046 | -1.068** | 0.281 | -1.601*** | 0.094 | -0.280 | 0.239 | -0.646 |
| | [-0.28] | [-2.04] | [1.63] | [-2.70] | [0.52] | [-0.46] | [1.30] | [-0.99] |
| Log(Assets)$^2$ | 0.038*** | 0.016 | 0.010 | 0.053 | 0.028** | 0.006 | 0.014 | 0.031 |
| | [3.03] | [0.36] | [0.74] | [1.28] | [2.01] | [0.14] | [0.97] | [0.68] |
| Stock Return | 0.443*** | 0.892*** | 0.431*** | 0.846** | 0.448*** | 0.561** | 0.435*** | 0.478* |
| | [18.68] | [2.83] | [17.02] | [2.41] | [18.48] | [2.16] | [16.87] | [1.65] |
| ROA | 1.470*** | -0.709 | 1.469*** | -1.064 | 1.429*** | 1.232 | 1.469*** | 0.900 |
| | [7.08] | [-0.64] | [6.78] | [-0.86] | [6.91] | [1.34] | [6.76] | [0.87] |
| Stock Volatility | -12.976*** | 15.365 | -12.547*** | 18.522 | -12.408*** | 0.688 | -12.371*** | 0.929 |
| | [-5.24] | [1.40] | [-4.92] | [1.58] | [-4.91] | [0.07] | [-4.77] | [0.09] |
| PP&E/Assets | -0.132 | 1.153 | 0.006 | 1.273 | -0.172 | -2.743*** | 0.026 | -2.978*** |
| | [-0.58] | [1.46] | [0.02] | [1.43] | [-0.75] | [-4.83] | [0.11] | [-5.40] |
| Log(CEO Tenure) | 0.289*** | -0.364* | 0.287*** | -0.407* | 0.289*** | -0.227 | 0.289*** | -0.291 |
| | [14.62] | [-1.92] | [14.54] | [-1.90] | [14.29] | [-1.35] | [14.28] | [-1.51] |
| Debt/Assets | -0.813*** | 0.808 | -0.650*** | 0.948 | -0.833*** | 0.076 | -0.653*** | 0.216 |
| | [-5.10] | [0.96] | [-4.16] | [1.08] | [-5.15] | [0.13] | [-4.10] | [0.37] |
| Observations | 7,898 | 7,898 | 7,870 | 7,870 | 7,453 | 7,453 | 7,421 | 7,421 |
| Firm FE | Y | Y | Y | Y | Y | Y | Y | Y |
| Year FE | Y | Y | N | N | Y | Y | N | N |
| Industry-Year FE | N | N | Y | Y | N | N | Y | Y |

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# Appendix B. Robustness Tests and Additional Results

**Table B.1.  Likelihood of CEO Pay Cuts**

This table reports the treatment effect of EDGAR implementation on the likelihood of total pay cuts or equity pay cuts of CEOs. The dependent variable in specifications 1 and 2 is *CEO Total Pay Cut*, equal to one if the total annual CEO pay is lower in the current year than in the previous year and is zero otherwise. The dependent variable in specifications 3 and 4 is *CEO Equity Pay Cut*, equal to one if the value of CEO stock and option pay is lower in the current year than in the previous year and is zero otherwise. *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and zero otherwise. The data are from the period 1992–1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| Dependent Variable: | CEO Total Pay Cut | | CEO Equity Pay Cut | |
| --- | --- | --- | --- | --- |
| | (1) | (2) | (3) | (4) |
| EDGAR | 0.052* | 0.067** | 0.048* | 0.059** |
| | [1.94] | [2.35] | [1.79] | [2.05] |
| Log(Assets) | 0.146* | 0.104 | 0.282*** | 0.220** |
| | [1.87] | [1.19] | [3.34] | [2.37] |
| Log(Assets)$^2$ | -0.007 | -0.005 | -0.019*** | -0.016** |
| | [-1.25] | [-0.80] | [-3.28] | [-2.45] |
| Tobin's Q | 0.015 | 0.014 | -0.012 | -0.011 |
| | [1.46] | [1.29] | [-1.07] | [-0.93] |
| Sttock Return | -0.172*** | -0.179*** | -0.064*** | -0.074*** |
| | [-9.51] | [-8.90] | [-3.53] | [-3.75] |
| ROA | -0.404*** | -0.351*** | -0.248** | -0.218* |
| | [-3.28] | [-2.74] | [-2.10] | [-1.82] |
| Stock Volatility | 2.568* | 2.659* | 1.547 | 1.410 |
| | [1.85] | [1.82] | [1.12] | [0.96] |
| PP&E/Assets | 0.406*** | 0.338** | 0.164 | 0.083 |
| | [3.15] | [2.46] | [1.27] | [0.59] |
| Log(CEO Tenure) | -0.040*** | -0.039*** | -0.068*** | -0.066*** |
| | [-3.18] | [-3.05] | [-5.17] | [-4.93] |
| Debt/Assets | 0.119 | 0.129 | 0.038 | 0.056 |
| | [1.35] | [1.34] | [0.44] | [0.58] |
| Observations | 6,278 | 6,253 | 6,278 | 6,253 |
| R-squared | 0.213 | 0.275 | 0.209 | 0.264 |
| Firm FE | Y | Y | Y | Y |
| Year FE | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y |

### Table B.2. Implications of EDGAR for CEO Labor Market: An Increase in Compensation Similarity

This table reports the treatment effect of EDGAR implementation on CEO pay similarity, which is measured by the cosine compensation similarity at industry-year level following Cabezon (2020). *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and is zero otherwise. All specifications use a staggered difference-in-differences setting. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

| *Dependent Variable:* | *Cosine Compensation Similarity (Industry-Year)* | |
| --- | --- | --- |
| | (1) | (2) |
| EDGAR | 0.706*** | 0.523*** |
| | [4.23] | [3.18] |
| Log(Assets) | | 2.382*** |
| | | [3.19] |
| Log(Assets)$^2$ | | -0.102** |
| | | [-2.10] |
| Tobin's Q | | 0.324*** |
| | | [3.48] |
| Stock Return | | -0.693*** |
| | | [-5.73] |
| ROA | | -2.446*** |
| | | [-2.76] |
| Stock Volatility | | 6.662 |
| | | [0.70] |
| PP&E/Assets | | 2.572** |
| | | [2.45] |
| Log(CEO Tenure) | | -0.092 |
| | | [-1.23] |
| Debt/Assets | | -1.686** |
| | | [-2.38] |
| Observations | 8,378 | 7,992 |
| R-squared | 0.905 | 0.908 |
| Firm FE | Y | Y |
| Year FE | Y | Y |

**Table B.3. Robustness Tests: DiD analysis Using Matched Sample**

This table reports the robustness tests for total CEO pay using a propensity score matched (PSM) sample, constructed following Chang, Hsiao, Ljungqvist, and Tseng (2022). The sample is from 1992 to 1995. Treated firms experience the EDGAR requirement in 1993, while control firms are selected from firms experiencing the EDGAR requirement in 1996, after the sample ends (so no control firms experience the treatment at any time in the sample). We match treated firms to control firms in 1992, the year before the EDGAR requirement, based on the log of a firm's total assets and either the Fama-French 12 industry or the two-digit SIC code (as indicated). Panel A presents statistics on the match quality prior to the EDGAR introduction. Panel B presents the DiD results using the PSM sample. The dependent variable is the log of total annual CEO pay. *EDGAR* is one if a firm is a mandatory EDGAR filer in a given year; zero otherwise. *t*-statistics based on standard errors clustered at the firm level are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

*Panel A. PSM Match Quality*

|  | Log(Assets) | |
| --- | --- | --- |
| *PSM Industry* | *FF12* | *SIC2* |
| Treated Firms | 7.12 | 6.75 |
| Control Firms | 6.99 | 6.62 |
| *p*-value (difference in means) | 0.27 | 0.41 |

*Panel B. DiD Analysis Using PSM Sample*

| Dependent Variable: | Total CEO Compensation | |
| --- | --- | --- |
| | (1) | (2) |
| EDGAR | -0.218*** | -0.137** |
| | [-4.73] | [-2.14] |
| Log(Assets) | 0.987*** | 0.451 |
| | [3.61] | [1.06] |
| Log(Assets)$^2$ | -0.021 | 0.035 |
| | [-1.03] | [1.09] |
| Tobin's Q | 0.070* | 0.037 |
| | [1.91] | [0.65] |
| Stock Return | 0.104** | 0.050 |
| | [2.32] | [0.81] |
| ROA | 0.699*** | 0.903*** |
| | [3.03] | [2.81] |
| Stock Volatility | 6.939** | 6.133 |
| | [2.06] | [1.50] |
| PP&E/Assets | -1.314*** | -2.246*** |
| | [-4.24] | [-5.70] |
| Log(CEO Tenure) | 0.011 | 0.046 |
| | [0.46] | [1.49] |
| Debt/Assets | 0.261 | 0.577 |
| | [1.19] | [1.65] |
| | | |
| Observations | 2,316 | 1,024 |
| R-squared | 0.759 | 0.807 |
| PSM Industry | FF12 | SIC2 |
| Firm FE | Y | Y |
| Year FE | Y | Y |

**Table B.4. Robustness Tests: Other regulations and the EDGAR online access**

This table reports robustness tests for the results on total CEO pay. Panel A reports the robustness tests related to the introduction of Section 162(m) of the Internal Revenue Code. The sample in specification 1 (2) excludes firms with CEO salary (sum of salary and bonus) exceeding $0.9 million in 1992. Panel B reports the robustness tests related to the compensation disclosure rules in 1992 and the online access of EDGAR. The sample in specifications 1 and 2 excludes observations in 1992. *EDGAR* is equal to one if a firm is a mandatory EDGAR filer in a given year and is zero otherwise, except in specifications 3 and 4 of Panel B, where *EDGAR* is redefined for groups CF-01 through CF-04 (the first four groups) to take the value of one if a fiscal year end is after January 17, 1994 (when all electronic EDGAR filings became freely available online), and zero otherwise; for the remaining six groups, *EDGAR* is same to the original definition. The full sample is from 1992 to 1999. *t*-statistics based on standard errors clustered by firm are reported in brackets. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix A.

*Panel A. IRC Section 162(m)*

| Dependent Variable: | Total CEO Compensation | | | |
|---|---|---|---|---|
| Sample: | 1992 Salary < $0.9M | 1992 Salary + Bonus < $0.9M | Full | Full |
| | (1) | (2) | (3) | (4) |
| EDGAR | -0.100*** | -0.107*** | -0.102*** | -0.105*** |
| | [-3.03] | [-3.05] | [-3.10] | [-3.15] |
| Log(Assets) | 0.387*** | 0.360*** | 0.450*** | 0.523*** |
| | [3.46] | [2.90] | [4.09] | [4.21] |
| Log(Assets)$^2$ | 0.000 | 0.002 | -0.005 | -0.011 |
| | [0.04] | [0.26] | [-0.67] | [-1.25] |
| Tobin's Q | 0.104*** | 0.105*** | 0.107*** | 0.089*** |
| | [6.74] | [6.47] | [7.19] | [5.80] |
| Stock Return | 0.047** | 0.043** | 0.046** | 0.068*** |
| | [2.23] | [1.98] | [2.18] | [2.91] |
| ROA | 0.375*** | 0.315** | 0.375*** | 0.327** |
| | [2.61] | [2.07] | [2.63] | [2.17] |
| Stock Volatility | -1.644 | -1.448 | -1.632 | -1.056 |
| | [-0.93] | [-0.78] | [-0.92] | [-0.55] |
| PP&E/Assets | -0.199 | -0.140 | -0.244 | -0.385** |
| | [-1.30] | [-0.87] | [-1.58] | [-2.36] |
| Log(CEO Tenure) | -0.060*** | -0.079*** | -0.060*** | -0.058*** |
| | [-5.02] | [-5.78] | [-5.23] | [-4.89] |
| Debt/Assets | -0.430*** | -0.406*** | -0.404*** | -0.357*** |
| | [-3.98] | [-3.51] | [-3.67] | [-3.17] |
| | | | | |
| Observations | 7,597 | 6,320 | 7,959 | 7,817 |
| R-squared | 0.739 | 0.708 | 0.752 | 0.769 |
| Firm FE | Y | Y | Y | Y |
| Year FE | Y | Y | N | N |
| Salary < $0.9M-Year FE | N | N | Y | N |
| Salary < $0.9M-Ind-Year FE | N | N | N | Y |

*Panel B. Disclosure rules in 1992 and the EDGAR online access*

| Dependent Variable: | Total CEO Compensation | | | |
|---|---|---|---|---|
| Sample: | Exclude 1992 (1) | Exclude 1992 (2) | Full (3) | Full (4) |
| EDGAR | -0.103*** | -0.105*** | -0.077** | -0.087** |
| | [-2.90] | [-2.92] | [-2.22] | [-2.25] |
| Log(Assets) | 0.389*** | 0.471*** | 0.416*** | 0.507*** |
| | [3.22] | [3.44] | [3.84] | [4.22] |
| Log(Assets)$^2$ | -0.001 | -0.007 | -0.003 | -0.010 |
| | [-0.09] | [-0.70] | [-0.43] | [-1.22] |
| Tobin's Q | 0.111*** | 0.101*** | 0.107*** | 0.094*** |
| | [6.85] | [6.21] | [7.20] | [6.25] |
| Stock Return | 0.047** | 0.062** | 0.046** | 0.068*** |
| | [2.13] | [2.58] | [2.19] | [2.95] |
| ROA | 0.322** | 0.283* | 0.389*** | 0.335** |
| | [2.18] | [1.84] | [2.73] | [2.24] |
| Stock Volatility | -1.430 | -0.678 | -1.756 | -1.015 |
| | [-0.76] | [-0.33] | [-0.99] | [-0.54] |
| PP&E/Assets | -0.270 | -0.427** | -0.263* | -0.412** |
| | [-1.59] | [-2.34] | [-1.69] | [-2.46] |
| Log(CEO Tenure) | -0.071*** | -0.070*** | -0.060*** | -0.059*** |
| | [-5.98] | [-5.83] | [-5.29] | [-5.04] |
| Debt/Assets | -0.424*** | -0.382*** | -0.404*** | -0.359*** |
| | [-3.85] | [-3.31] | [-3.64] | [-3.14] |
| | | | | |
| Observations | 7,230 | 7,203 | 7,959 | 7,930 |
| R-squared | 0.756 | 0.772 | 0.751 | 0.768 |
| Firm FE | Y | Y | Y | Y |
| Year FE | Y | N | Y | N |
| Industry-Year FE | N | Y | N | Y |