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**Article:**

Chen, J., Gao, Y. and Zeng, C. (Accepted: 2026) Inequality Grows in Silence: The Impact of Newspaper Closures on CEO-Worker Pay Disparity. *The Accounting Review*. ISSN: 0001-4826 (In Press)

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# **Inequality Grows in Silence: The Impact of Newspaper Closures on CEO-Worker Pay Disparity <sup>†</sup>**

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**June 2026**

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<sup>†</sup> We appreciate helpful comments and suggestions from Karen Sedatole (the Editor), two anonymous reviewers, Hang Soo Kyung, Mark Lang, Laurence van Lent, Linda Myers, Jonathan Nam, Valeri Nikolaev, Kam-Ming Wan, Qiang Wu, and Xiao Ren (discussant). We would also like to thank seminar and conference participants at the University of International Business and Economics; University of Birmingham; the 2024 European Financial Management Association Conference; the 2024 China International Conference in Finance (CICF); the 2024 Journal of Accounting, Auditing and Finance Conference; and the Eleventh International Conference of the Journal of International Accounting Research. We also thank Su Fang, Mingyi Li, Qihang Liu, Xiuran Qiao, Han Yan, Jian Zhang, and Tianjie Zhuang for their excellent research assistance. We, the authors, are solely responsible for any errors or omissions.

# **Inequality Grows in Silence: The Impact of Newspaper Closures on CEO-Worker Pay Disparity**

## **Abstract**

Addressing income inequality is crucial for ensuring equitable and prosperous societies. This study examines the impact of the local press on intra-firm pay disparity. By utilizing recently mandated disclosures of CEO-worker pay ratios and analyzing the staggered shutdown of local newspapers, we find that within-firm pay disparity increases by 8.2% following local newspaper closures. Further analysis suggests that this post-closure increase in pay disparity ratio is unlikely to be driven by either CEO compensation or worker pay alone or underlying economic conditions, but instead reflects reduced concerns over reputational damage. Overall, our findings are consistent with local newspapers playing an important role in disseminating CEO-worker pay ratios and amplifying their reputational effects, thereby shaping and monitoring within-firm pay disparity.

## I. INTRODUCTION

Because corporations play a crucial role in shaping society's economic landscape, they frequently face public scrutiny for their practices and policies. One specific facet of corporate behavior that has garnered escalating interest is the issue of pay disparity within firms (Pan, Pikulina, Siegel, and Wang 2022). The contrast between the soaring compensation of top executives and the stagnant wages of rank-and-file employees has sparked considerable debate and public concern.<sup>1</sup> This spotlight on within-firm pay disparity is closely intertwined with the broader challenge of rising income inequality, making it a subject of interest for academics, policymakers, and the general public (Piketty 2014; Song, Price, Guvenen, Bloom, and von Wachter 2019).

Amidst this backdrop, the newspaper industry, despite remaining a primary source of local news and information (e.g., firm-specific issues and local economic or policy changes), has seen a significant decline in recent decades (Pew Research Center 2021).<sup>2</sup> Since newspapers have the power to foster public scrutiny and hold corporate and government entities accountable (Dyck and Zingales 2002; Dyck, Volchkova, and Zingales 2008; Miller and Shanthikumar 2015), reduced local press coverage may lead to weakened local accountability (Waldman 2011). Geographic areas with reduced local press coverage have less-informed voters (Gentzkow, Shapiro, and Sinkinson 2011; Hayes and Lawless 2015), increased misconduct by local firms (Heese, Pérez-Cavazos, and Peter 2022), higher toxic emissions (Jiang and Kong 2024), and heightened corruption among local politicians (Gao, Lee, and Murphy 2020). Despite this evidence, little is known about whether and how the decline in

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<sup>1</sup> According to a report from CNN Business, since 1978, CEO compensation among the largest U.S. companies has skyrocketed by approximately 1,460%, while the typical worker's pay has only increased by about 18% when adjusted for inflation. See: <https://edition.cnn.com/2023/09/18/business/ceo-pay-unions-strike/index.html>

<sup>2</sup> Pew Research Center. (2021, June 29). *Newspapers fact sheet*. <https://www.journalism.org/fact-sheet/newspapers/>

local press coverage affects the dispersion in pay between a firm's top executives and their employees.

Given the growing attention to income inequality, the CEO-worker pay gap is often considered a newsworthy event.<sup>3</sup> Anecdotal evidence suggests that local newspapers regularly publish original stories on pay disparities at local firms, often producing sensational headlines that strongly resonate with their readers. Noteworthy examples include “Colorado CEOs Earn in Three Days What the Typical Worker Earns in a Year,”<sup>4</sup> “CEOs Paid 1,000 Times More Than Average Workers,”<sup>5</sup> and “Extraordinarily High CEO-to-Median Employee Pay Ratio.”<sup>6</sup> When a firm is revealed to have a substantial CEO-worker pay gap, the resulting negative publicity can harm the firm's reputation (Jones, Willness, and Madey 2014; Sharkey, Pontikes, and Hsu 2022). Research shows that media scrutiny is particularly effective when corporate practices violate widely accepted societal norms. Dyck et al. (2008), for instance, demonstrate that media coverage curbs corporate misconduct in Russia precisely because such behavior conflicts with prevailing social values. In parallel, large CEO-worker pay disparities in the United States are widely perceived as socially undesirable and norm-violating, making them especially salient targets for press coverage and public criticism.

Unlike studies on corruption or corporate misconduct, where local newspapers play a central role in investigative journalism by uncovering hidden behaviors (e.g., Gao et al. 2020; Heese et al. 2022), our study focuses on the salience of publicly available information. Firms

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<sup>3</sup> Survey data reveal that the American public has become increasingly averse to income inequality over the last few decades. For example, Page and Jacobs (2009) demonstrate that while Americans believe income inequality is necessary to motivate hard work, 75% of respondents think the current level of inequality is too high and that certain jobs are overpaid. A prominent illustration of this sentiment is the “Occupy Wall Street” movement, which underscores widespread public concern regarding income distribution in society (McCall and Percheski 2010).

<sup>4</sup> Svaldi, A. (2018, April 20). *Colorado CEOs earn in three days what the typical worker earns in a year, new disclosures show*. The Denver Post. <https://www.denverpost.com/2018/04/20/colorado-ceo-worker-pay-gap/>.

<sup>5</sup> Murphy, B. (2018, May 22). *CEOs paid 1,000 times more than average workers*. Urban Milwaukee. <https://urbanmilwaukee.com/2018/05/22/murphys-law-ceos-paid-1000-times-more-than-average-workers/>.

<sup>6</sup> Dornbrook, J. (2018, August 3). *Filing reveals cost of CEO change at H&R Block, extraordinarily high CEO-to-median employee pay ratio*. Kansas City Business Journal. <https://www.bizjournals.com/kansascity/news/2018/08/02/hr-block-executive-compensation.html>.

listed in the United States are mandated by the Securities and Exchange Commission (SEC) to disclose their CEO-worker pay ratio, but the economic and social impact of this disclosure depends on whether it attracts public attention.<sup>7</sup> Recent research shows that the CEO-worker pay ratio influences stakeholder perceptions, particularly when it is salient and cognitively prominent (Boone, Starkweather, and White 2024; Bordalo, Gennaioli, and Shleifer 2022). In our context, local newspapers rarely generate new information; rather, they amplify and disseminate existing disclosures, increasing their visibility and social relevance. By drawing attention to CEO-worker pay disparities, local newspapers shape community discourse and create social pressure that reinforces accountability through public scrutiny. When local newspapers close, this accountability mechanism weakens. The decline of local media reduces the likelihood that negative coverage of pay disparities gains traction, weakening reputational scrutiny of managers and firms. We therefore hypothesize that local newspaper closures are associated with higher CEO-worker pay ratios, as reduced visibility and salience of mandated disclosures lower reputational risks.

On the other hand, newspapers likely have little impact on corporate pay disparity if they are influenced or even captured by local businesses. Gurun and Butler (2012) suggest that local newspapers may at times function as cheerleaders for local firms, rather than watchdogs, due to the significant contributions of local firms to local media outlet revenue through advertising. They argue that this financial dependence may compromise the editorial independence of local newspapers, potentially limiting their willingness to expose or criticize issues involving their advertisers, such as high executive pay disparities. Moreover, if there is a high degree of substitutability between the affected news outlets and alternative, unaffected outlets, there should also be no significant effect on pay disparities in nearby firms. Specifically,

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<sup>7</sup> Online Appendix A provides detailed institutional background and a review of the related literature on the mandatory CEO-worker pay ratio disclosure.

there has been an increase in social media platforms as news sources in recent years, potentially mitigating the traditional role of print media in information dissemination and oversight. As such, whether newspaper closures affect pay disparity remains an unanswered empirical question.

Studying within-firm pay disparity has long been constrained by a lack of comprehensive data. However, since fiscal years beginning on or after January 1, 2017, the SEC requires U.S.-listed firms to report the ratio of CEO pay to the median worker pay (i.e., the pay ratio), enabling large-scale empirical analysis of firm-level pay inequality. We collect this pay ratio information, along with other disclosure details, directly from firms' proxy statements over the period 2017–2023. We use a difference-in-differences (DiD) design that exploits the staggered closure of local newspapers over time. These closures provide plausibly exogenous shocks to external scrutiny and public pressure from the local press because they cause large, discrete reductions in local coverage of firm-specific issues (Gao et al. 2020; Heese et al. 2022). Our results show a positive association between newspaper closures and within-firm pay disparity, with the pay ratio increasing by 8.2% after newspaper closures. Additional analyses indicate that closures do not significantly affect disclosure behavior, nor does disclosure behavior moderate the relation between closures and the pay ratio, suggesting that our main results are primarily driven by real changes in pay rather than reporting choices. These findings provide evidence consistent with local newspapers playing a monitoring role in limiting within-firm pay disparity.

A potential concern with our baseline findings is that the closure of local newspapers and the increase in pay ratios may be driven by changes in the underlying economic conditions in the region (e.g., declining local economy). We address this concern in several ways. First, we explore the dynamics of the newspaper closure effect in the years before and after the closure event and find that the increase in the pay ratio only occurs after the closure. Second,

we conduct cross-sectional tests to examine whether the effect of newspaper closures on within-firm pay disparity varies with firms' exposure to local-press-coverage shocks and the availability of substitute monitoring.<sup>8</sup> We expect the effect to be stronger when closures represent a larger shock to local press scrutiny, such as in low-coverage counties, for geographically concentrated firms, and when locally owned newspapers—typically stronger watchdogs—shut down. In contrast, we expect the effect to be weaker when alternative monitoring channels are available, such as in counties with greater access to alternative media and for firms that are more prominent or have higher institutional ownership. Consistent with these predictions, we find stronger effects when exposure to the local press shock is greater and weaker effects when substitute monitoring is stronger.

Third, to ensure that our results are not driven by observed heterogeneity between treatment and control counties, we repeat our analysis by matching each closure county with a neighboring county of similar population size that does not experience a closure. Because nearby counties are likely exposed to similar economic conditions, insignificant effects in this matched sample would suggest that common economic factors drive our results. Instead, we continue to observe a significant post-closure increase in pay ratios, indicating that underlying economic conditions do not explain our findings.

To determine whether the effect of newspaper closures is directly related to the pay ratio or primarily reflects changes in either of its components alone, we conduct three sets of analyses. First, we find that the positive effect on pay ratios persists after controlling for contemporaneously disclosed CEO or worker pay, suggesting that pay disparity increases independently of pay levels. Second, we show that newspaper closures significantly affect both CEO pay and median worker pay. Specifically, CEO pay increases by 5.7% following the

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<sup>8</sup> Jiang (2017) calls for the use of cross-sectional variation tests to mitigate endogeneity concerns when the mechanisms of endogeneity are known.

shutdown of a local newspaper, whereas median worker pay decreases by 3.0%. The comparable magnitude of these effects indicates that changes in the CEO-worker pay ratio are not driven solely by changes in one of the two components. Third, we find that the decline in worker pay following newspaper closures is concentrated in financially constrained firms and industries with low labor mobility. In contrast, financial constraints have no significant impact on the post-closure increase in CEO pay, suggesting that executive pay is relatively insulated from resource limitations, while employees disproportionately bear the costs of financial constraints. These findings are consistent with prior research on the negative impact of financial constraints on employee welfare, including reduced workplace safety and deteriorating working conditions (Cohn and Wardlaw 2016; Habib, Costa, Huang, and Sun 2021).

Having established an association between newspaper closures and within-firm pay disparity, we examine a reputation-based mechanism. Negative press and populist scrutiny of pay inequality can damage managers' reputations among stakeholders, heightening firms' reputational concerns (Dyck and Zingales 2002; Dyck et al. 2008). Local newspapers thus amplify scrutiny of pay disparity, whereas their closure reduces such pressure, leading to higher pay ratios. We test this channel in three ways. First, we show that adverse shareholder reactions to the 2018 mandatory pay ratio disclosure—reflected in market responses and say-on-pay votes—were stronger in counties with local newspapers, indicating that the local press increases the salience of pay inequality. Second, we find that closure effects are more pronounced for firms led by younger CEOs, who face greater career concerns and reputational sensitivity. Third, we document stronger effects in counties where inequality concerns and

social sanctioning are likely stronger, proxied by Democratic political leanings,<sup>9</sup> and high levels of social capital. Together, the evidence supports a reputation-based explanation.

Our paper makes three contributions. First, leveraging plausibly exogenous variation in local news supply, we show that local newspapers amplify the salience and reputational consequences of publicly disclosed CEO–worker pay ratios, constraining pay disparities through a mechanism distinct from investigative journalism that uncovers new information (Dyck et al. 2008; Gao et al. 2020; Heese et al. 2022). Second, we extend the disclosure literature by demonstrating that the effectiveness of the SEC’s pay ratio mandate depends on the local information environment: unlike prior work treating disclosure as a uniform transparency shock (Pan et al. 2022; Chang, Dambra, Schonberger, and Suk 2023), we show its impact varies with the presence of local media that disseminate and sustain attention to inequality concerns (Acemoglu and Autor 2011; Piketty 2014; Song et al. 2019). Third, amid the ongoing decline of local newspapers (Pew Research Center 2021), we provide the first evidence that their erosion may exacerbate income inequality and weaken transparency-based governance, extending prior findings on the adverse effects of newspaper closures (An, Chen, Naiker, and Wang 2020; Gao et al. 2020; Heese et al. 2022; Kang and Nam 2025; Kim, Stice, Stice, and White 2021; Kyung and Nam 2023; Waldman 2011) and responding to the call by Blankespoor, deHaan, and Marinovic (2020) to explore the real effects of the evolution and decline of traditional media.

## **II. RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT**

### **Related Literature**

Our study is grounded in a growing body of literature that explores the monitoring role of the local press, using newspaper closures as a negative shock to local information

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<sup>9</sup> According to a Pew Research Center survey, Democrats and Democrat-leaning individuals are significantly more likely than Republicans and Republican-leaning individuals to view reducing economic inequality as a top government priority. See: <https://www.pewresearch.org/social-trends/2020/01/09/most-americans-say-there-is-too-much-economic-inequality-in-the-u-s-but-fewer-than-half-call-it-a-top-priority/>

environments. This literature can be broadly classified into three lines of inquiry. The first line investigates whether the local press impacts political activism. Schulhofer-Wohl and Garrido (2013), for instance, document lower regional voter turnout following the shutdown of The Cincinnati Post, while Gentzkow et al. (2011) and Snyder and Strömberg (2010) find that newspapers enhance political engagement and voter knowledge of congressional candidates. The second line explores the informational role of local news outlets in financial markets, showing that newspaper closures increase information opacity (Kyung and Nam 2023), reduce institutional ownership (Kang and Nam 2025), and lead to negative outcomes such as increased crash risk (An et al. 2020) and higher borrowing costs (Gao et al. 2020; Ma, Stice, Stice, and Zhang 2025).

The third line of inquiry, which is relatively underdeveloped but more relevant to our study, evaluates the impact of newspapers on firm behavior. Heese et al. (2022) document that firms located near closed newspapers engage in more corporate misconduct in the absence of a local press watchdog, as measured by federal violations and penalties. Jiang and Kong (2024) find that firms in these contexts also increase their toxic emissions. Responding to investors' concerns about increased information costs, Kim et al. (2021) show that firms increase dividend payouts upon local newspaper closures.

Together, these studies demonstrate how the local press can exert a positive influence on society's political and economic landscape, primarily through its informational and monitoring functions. We extend these studies by focusing on the impact of local press on corporate pay disparity. Our focus is motivated by the high public salience surrounding pay ratio disclosures; this topic's controversial and newsworthy nature provides ample opportunities for the local press to play a substantial role. Notably, the CEO-worker pay ratio has become an important indicator for the public to evaluate firms and is thus attracting considerable attention (Piketty 2014; Song et al. 2019). With the possible exception of major

accounting fraud (e.g., Enron and WorldCom), few topics are more pervasive or have a bigger impact in the press than excessive pay inequality. As Jamieson and Campbell (2001) point out, an incident deemed “newsworthy” typically exhibits five characteristics: (i) it can be personalized; (ii) dramatic, violent, and conflict-filled; (iii) actual and concrete; (iv) novel and deviant; and (v) an issue of ongoing concern. The large gap between CEO pay and that of the people who work for them is one of the few topics that meets all five criteria.

A simple textual analysis of newspaper articles illustrates the substantial coverage of topics related to CEO-worker pay disparity. We collect this textual information from Newspapers.com, one of the largest online newspaper archives, which contains tens of millions of newspaper articles (primarily from local newspapers) from around the world. We searched for the following keywords in U.S. newspapers: “pay ratio,” “pay disparity,” “CEO-worker pay inequality,” and “CEO-worker pay gap.” Throughout our sample period, the coverage of pay disparity issues was quite extensive, totaling 173,575 articles. This represents approximately half of the number of articles during the same period that include the keyword “financial performance” (369,711), a widely covered topic in most newspapers.

### **Hypothesis Development**

Local newspapers play a central role in disseminating and increasing the salience of negative news, particularly for localized firms that often receive limited coverage from national news outlets. The local press has the power to influence managers’ reputations, and the public pressure generated by local news coverage compels managers to act in ways that align with public expectations (Dyck and Zingales 2002). Public perception of pay inequality is generally negative, as media coverage and transparency initiatives highlight disparities and influence societal concerns (e.g., Mueller, Ouimet, and Simintzi 2017). To the extent that local newspapers serve as an important source of public scrutiny, their decline may weaken

reputational constraints on firms, thereby encouraging managerial decisions that deviate from prevailing societal norms (Choi and Valente 2023).

In the spirit of Dyck and Zingales (2002), the local press can serve a disciplinary function by broadly disseminating information that may harm managers' reputations. This is crucial even when the underlying data is publicly available. While firms are mandated to disclose CEO-worker pay ratios, these figures are often buried in lengthy, technical proxy statements, making them difficult and time-consuming to locate and interpret, especially for average citizens who may lack expertise in navigating such filings. Behavioral research consistently shows that individuals have limited capacity to process complex information and face substantial cognitive constraints in extracting relevant insights from voluminous public disclosures, particularly in today's information-saturated environment (Bloomfield 2002; Libby, Bloomfield, and Nelson 2002).

Recent studies on salience reinforce this view, demonstrating that the impact of publicly disclosing pay ratios depends not merely on availability but on the extent to which the information captures public attention and stands out cognitively. Boone et al. (2024) show that the saliency of CEO-worker pay ratios increases their influence on stakeholder perceptions and reactions, while Bordalo et al. (2022) provide a broader theoretical framework for understanding how salient information disproportionately shapes decision-making and behavior. By highlighting specific disclosures, local newspapers act as third-party intermediaries that filter, contextualize, and amplify complex regulatory data for a broader audience (Bushee and Miller 2012; Miller 2006). In doing so, newspaper editors reduce the cognitive and search costs associated with information acquisition, making otherwise technical data more interpretable, visible, and consequential for reputational concerns and stakeholder responses.

Despite having reduced in numbers substantially in recent years, local newspapers remain an important component of the societal information environment (Kyung and Nam 2023). Local newspapers avoid direct competition with national newspapers and cater to their audiences by focusing more on local affairs, such as local-firm-specific news (George and Waldfogel 2006). This approach effectively fosters a devoted local readership; a survey conducted by the Readership Institute of Northwestern University reveals that local newspapers enjoy notably higher local readership within their communities compared to national newspapers (Gurun and Butler 2012). At the same time, the influence of local newspaper articles often extends well beyond their intended regional audience. Once articles are published, they are frequently copied, quoted, and elaborated on by other news outlets, including national newspapers and online news portals (Nielsen 2015; Shapira and Zingales 2017). Essentially, local newspapers are an important information source for local affairs that would otherwise be difficult to learn about from other news outlets (Hayes and Lawless 2015; Mondak 1996). The closure of local newspapers thus has an adverse impact on the extent to which local affairs are covered in the broader news ecosystem.

The local press can also reinforce public scrutiny by increasing the salience of pay ratio information. A key role of newspapers is to help readers contextualize various pieces of information, such as financial filings and private conversations with executives and employees (Kang and Nam 2025). Given the contentious nature of income inequality, newspapers often use sensational headlines to draw readers' attention and emphasize the perceived moral issues of pay disparity (i.e., CEOs receiving multimillion-dollar bonuses while their workers' wages remain stagnant). This dramatic contrast and negative framing significantly raise the prominence of pay ratio information, affecting the reputations of managers and firms in the eyes of shareholders, potential employers, and society at large (Dyck et al. 2008). The resultant

reputational concerns can lead to adverse shareholder reactions, diminished human capital, and a tarnished public image. Based on the above arguments, we propose the following hypothesis:

**Hypothesis 1:** Local newspaper closures are associated with an increase in CEO-worker pay disparity.

It should be noted that an alternative perspective suggests that local newspaper closures may have a trivial effect on corporate pay disparity because local newspapers might be incentivized to positively slant news about local firms or avoid reporting on them altogether. Gurun and Butler (2012), for example, show that local firms advertising in local news outlets create a conflict of interest, resulting in overly positive articles about those firms. Similarly, Shapira and Zingales (2017) document that when the local press scrutinizes local firms, which are often large employers in the area, they risk upsetting their readers. As a result, the local press may refrain from reporting critically on these firms. Therefore, if local newspapers are captured or compromised by local businesses, their closures may not cause significant changes in CEO-worker pay ratios.

Moreover, if the affected news outlets can be readily substituted by alternative, unaffected sources, such as other local newspapers, online media, or national outlets, we would likewise expect no significant impact on pay disparities among nearby firms. In particular, the growing reliance on social media platforms as news sources in recent years may have weakened the traditional role of print media in disseminating information and providing oversight. Overall, whether the loss of local news coverage has an impact on nearby firms' pay disparity remains an empirical question.

### **III. DATA**

#### **The CEO-worker Pay Ratio**

Our sample begins in 2017, the first year in which pay ratio information disclosure was required. We manually extract pay ratio information from the proxy statements filed with the

SEC for fiscal years 2017–2023.<sup>10</sup> We conduct a thorough search for the term “pay ratio” and its variations in all the proxy statements throughout our sample period, resulting in a universe of 16,771 proxy statements from 3,296 firms. After excluding firms headquartered outside the United States, we obtain a sample of 2,895 unique firms and 14,709 firm-years with non-missing pay ratio information, including the CEO-worker pay ratio, CEO compensation, median worker pay, and other disclosure details.

The SEC mandate encompasses a set of detailed provisions pertaining to the determination of median annual employee compensation. When identifying median worker pay, for instance, firms must consider all full-time, part-time, seasonal, and temporary employees.<sup>11</sup> Non-U.S. employees must be included unless their inclusion violates data privacy laws in the foreign country (i.e., foreign data privacy exemption) or if non-U.S. employees constitute 5% or less of the firm’s entire workforce (i.e., de minimis exemption). Moreover, although firms can apply cost-of-living adjustments to employee compensation in countries other than the CEO’s country of residence, they must also provide an unadjusted pay ratio. All these details are disclosed in the pay ratio section of firms’ proxy filings.

We adopt Pan et al.’s (2022) approach and construct six variables that capture firm characteristics related to disclosure requirements, including worker composition (*Fraction non-US* and *Part-time worker*), the presence of multiple pay ratios (*Several pay ratios*), use of the de minimis exemption (*De minimis*), application of cost-of-living adjustment (*Cost-of-living adj.*), and the length of the pay ratio section (*LN Length PR section*). See the Appendix for more detailed variable definitions.

Panel A of Table 1 provides summary statistics for the pay variables, including the pay ratio (*Pay ratio*), CEO compensation (*CEO pay*), and median worker pay (*Worker pay*). *Pay*

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<sup>10</sup> See Pan et al. (2022) for more details about the data collection procedures we follow in this study.

<sup>11</sup> Employees on leave of absence are excluded, and employees of a recently acquired entity can also be excluded for the fiscal year in which the merger and acquisition takes place. Independent contractors and workers employed by unaffiliated third parties are excluded.

*ratio* ranges from 0 to 6,565, with a mean of 144, a median of 77, and a standard deviation of 266. This variation in the pay ratio reflects substantial variation in both CEO pay and median worker pay, with pay at the 25<sup>th</sup> and 75<sup>th</sup> percentiles amounting to \$3.0 million and \$10.1 million, respectively, for CEOs, and \$48,291 and \$111,125, respectively, for median workers. To avoid the effect of outliers, we use the natural logarithm of the pay ratio and its components in our regression analysis. Specifically, we follow Pan et al. (2022) and define *LN Pay ratio* as  $\ln(1+Pay\ ratio)$ , *LN CEO pay* as  $\ln(1+CEO\ pay)$ , and *LN Worker pay* as  $\ln(Worker\ pay)$ . The last three rows of Panel A report the corresponding summary statistics.

Panel B of Table 1 shows the means and medians of *Pay ratio*, *CEO pay*, and *Worker pay* for individual industries (using one-digit SIC codes). The mining, agriculture, and financial industries have relatively low pay ratios, whereas the service, manufacturing, and retail trade industries have relatively high pay ratios. Panel C illustrates a noticeable trend of growing pay disparity within firms over time. The average (median) pay ratio rises from 129 (68) in 2017 to 150 (84) in 2023.

Panel D of Table 1 reports the summary statistics for the disclosure details reported in the pay ratio section of firms' proxy filings. Among our sample observations, 8.3% of firms report more than one pay ratio,<sup>12</sup> and 1.6% identify their median employees as part-time. The average fraction of non-U.S. employees in our sample is 11.8%. While 23.1% of the firm-years use the de minimis exemption, only a small fraction (0.7%) apply a cost-of-living adjustment. As noted by Bank and Georgiev (2019), such adjustments are typically applied when the median employee resides in a different geographic jurisdiction than the CEO and are intended to account for regional differences in living costs. They may not reflect changes in employees' real wages relative to CEO compensation, however, which can complicate the interpretation of the reported pay ratio. On average, the pay ratio section in our sample firms' proxy statements

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<sup>12</sup> In cases where firms report multiple pay ratios, we use the smallest value, in line with Pan et al. (2022).

spans 383 words. Notably, all statistics presented in this section are comparable to those of Pan et al. (2022).

### **Newspaper Closures**

To identify newspaper closure events, we analyze both daily and weekly newspapers for two reasons. First, including both daily and weekly newspapers in our analyses ensures a sufficient number of newspaper closures—critical given the limited timeframe of our study. Second, since weekly newspapers have a lower publication frequency, their closures are expected to have a smaller impact on the local information environment compared to the closure of daily newspapers. As a result, our estimates are likely to be conservative in terms of identifying the effect of newspaper closures on pay disparity.

Our primary data source for data on U.S. newspaper closures during our sample period is the Editor and Publisher Yearbook, which is an annual directory of U.S. newspapers. For each year within our sample period, we manually collect information on newspapers' names, publication frequency, city, county, and state. To augment this dataset, we extract the relevant newspaper information from the U.S. Newspaper Directory of Chronicling America.<sup>13</sup> Using the combined dataset, we identify the newspapers that disappear from the dataset and then manually search for the year and reason for each identified closure. Finally, we cross-check all the closures and reconcile discrepancies using Newspaper Death Watch,<sup>14</sup> along with other relevant news content found through Google searches. Following Gentzkow et al. (2011), we match the newspapers to the counties in which they are located using the 2010 U.S. Census County definition. If a newspaper is located on the border of two counties, we match the newspaper to both counties (Gao et al. 2020; Heese et al. 2022).

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<sup>13</sup> The U.S. Newspaper Directory of Chronicling America, sponsored jointly by the National Endowment for the Humanities and the Library of Congress, provides information about U.S. newspapers published since 1690.

<sup>14</sup> Accessible at: <https://newspaperdeathwatch.com/>.

Our initial sample comprises 166 newspaper closures. Similar to Heese et al. (2022), we only include firms that are present in both the pre- and post-closure periods. Accordingly, we exclude newspaper closures that took place before 2018 or after 2022 from our analyses, resulting in a sample of 124 closures. We next drop closure cases that do not necessarily lead to a reduction in local news coverage, including: (i) 54 cases in which newspapers merge with or are acquired by other newspapers; and (ii) 16 cases in which newspapers transition from print to digital-only publication. After merging our newspaper closure dataset with the CEO-worker pay ratio data, our final sample consists of 34 newspaper closures across 72 counties, including 9 daily and 25 weekly newspapers. Table OA2 in the Online Appendix provides detailed information on these closures. Examining the distribution of these closures, we find that they are scattered across both geographical locations (see Figure OA1 in the Online Appendix) and time (see Table OA1 in the Online Appendix).

Figure 1 depicts the change in local news coverage of corporate pay disparity around the time of newspaper closures. The number of news articles related to firm-specific pay disparity published by local newspapers falls by more than 50% following the shutdown of a local newspaper in the same county, relative to two years prior.<sup>15</sup> This substantial decline in local coverage of pay disparity news after newspaper closures underscores the important role of local newspapers in disseminating CEO-worker pay ratio information.

To further illustrate the geographic distribution and consistency of the coverage decline, Figure OA1 presents a choropleth map of counties that experience newspaper closures. Closure counties appear in blue, with darker shades indicating larger reductions in local news coverage of CEO-worker pay disparity, measured as the percentage decline in the year following the newspaper closure relative to two years prior. As shown, the decline in coverage is broadly

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<sup>15</sup> For firms headquartered in a closure county, we count the number of news articles published by local newspapers, retrieved from Factiva, that discuss topics related to CEO-worker pay disparity. A news article is classified as related to pay disparity if it contains any of the following keywords: “pay ratio”, “pay disparity”, “CEO-worker pay inequality”, and “CEO-worker pay gap”.

distributed rather than concentrated in a few isolated areas, with the percentage reduction in coverage ranging from 30.3% to 68.9% across closure counties.

Together, the two figures demonstrate that newspaper closures are associated with a substantial, geographically widespread decline in local media scrutiny of CEO-worker pay disparity. This evidence reinforces the interpretation of newspaper closure events as economically meaningful coverage shocks rather than a nominal or symbolic change.

### **Other Data Sources**

In addition to the pay ratio and newspaper data, we also obtain firm-level control variables from Compustat. Specifically, we collect data on the firm’s market capitalization (*Size*), the ratio of book value of assets to market value of assets (*Book to market*), the ratio of capital expenditures to total assets (*Capex*), profitability (*ROA* and *Stock return*), and the ratio of liabilities to total assets (*Leverage*). These variables are described in more detail in the Appendix. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles to mitigate the impact of outliers. After removing observations with missing data for the variables of interest or controls, our primary sample comprises 2,442 unique firms and 13,799 firm-year observations.

Panel E of Table 1 presents the summary statistics for the firm-level control variables. The average firm in our sample exhibits a market capitalization of \$13.2 billion, a book-to-market ratio of 66.5%, a capex-to-assets ratio of 3.0%, an ROA of 4.6%, a stock return of 10.6%, and a leverage rate of 30.6%.

## **IV. EMPIRICAL METHODOLOGY AND RESULTS**

### **Empirical Methodology**

Our baseline regressions examine the effect of newspaper closures on within-firm pay disparity using the following generalized DiD framework:

$$Y_{ilt} = \alpha + \beta \text{Closure}_{it} + \gamma \text{Control}_{it} + \text{Firm FE} + \text{State} \times \text{Year FE} + \varepsilon_{ilt} \quad (1)$$

where  $i$  is the firm,  $l$  refers to the county, and  $t$  indicates the year. The dependent variable is the natural logarithm of one plus the reported pay ratio in a given firm-year. Following Heese et al. (2022), *Closure* is an indicator variable equal to one for the years following a newspaper closure in county  $l$ , and zero for the years prior to the closure. We assign closures to firms based on the locations of firm headquarters because local newspapers disproportionately cover firms headquartered in their regions (Gurun and Butler 2012; Heese et al. 2022; Kim et al. 2021), and reputational pressures are strongest in communities where firms are headquartered (Hoi, Wu, and Zhang 2019). While the CEO-worker pay ratio reflects firm-wide compensation, not just that of employees working at the headquarters, focusing on the headquarters location allows us to capture variation in local press scrutiny that is most relevant to stakeholder perceptions and firm behavior. At the same time, we acknowledge that the influence of local newspapers may extend beyond the counties in which they are published, as coverage can spill over into neighboring counties. To the extent that newspaper closures reduce press scrutiny in adjacent counties, some control firms may also experience reduced monitoring. Such spillovers would introduce measurement error that attenuates the estimated treatment effect, biasing against finding significant effects and rendering our estimates conservative.

*Control* represents a vector of disclosure details (see Section “The CEO-worker Pay Ratio”) and firm characteristics (see Section “Other Data Sources”) that may affect pay ratios. Our model specification also includes two sets of fixed effects. Firm fixed effects account for unobserved time-invariant heterogeneity across firms, and state $\times$ year fixed effects control for any time-varying state-level shocks. The inclusion of the state $\times$ year fixed effects implies that *Closure* captures the effect of a newspaper closure in a given county relative to the effect in other counties that do not experience newspaper closures within the same state and year.

This generalized DiD approach allows us to exploit the staggered closure of newspapers over time. The first difference pertains to the change in pay disparity in each affected firm

before and after the closure of a local newspaper, using the reported CEO-worker pay ratio as a proxy. The implicit control group at time  $t$  consists of firms located in areas where no newspaper closures occur. The second difference concerns the change in pay disparity within this control group. The effect of newspaper closure on pay disparity can thus be estimated as the difference between these two differences, denoted as  $\beta$  in the above specification. If local news coverage plays a crucial role in reinforcing negative publicity of and reputational concerns related to pay inequality, we expect newspaper closures to lead to higher pay ratios (i.e.,  $\beta > 0$ ).

### **Baseline Results**

Table 2 provides the results of estimating Eq. (1). We start the analysis by regressing *LN Pay ratio* on *Closure*, along with firm and state-year fixed effects. Regression 2 incorporates firm characteristics as control variables, and Regression 3 includes additional controls for disclosure details. Across all of the three model specifications, the coefficient on *Closure* is positive and statistically significant at the 1% level.<sup>16</sup>

Our most stringent specification, Regression 3, indicates that a newspaper closure is associated with an 8.2% increase in the CEO-worker pay ratio (calculated as  $\exp(0.079) - 1$ , which approximates the percentage increase in the pay ratio when the ratio is large relative to 1). Given the sample average pay ratio of 144 (see Table 1), this corresponds to an increase of approximately 11.8 points. In other words, such increase implies that, following a local newspaper closure, the pay ratio rises from 144 to approximately 156.

To contextualize this effect, the average CEO compensation in our sample is \$7.58 million, and the median worker pay is \$89,429. In dollar terms, this shift corresponds to either

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<sup>16</sup> Given that the closure indicator varies at the county-year level, we re-estimate our baseline specifications with standard errors clustered at the county level to align statistical inference with the level of treatment variation. In untabulated results, the estimated effects remain positive and statistically significant at the 1% level. In addition, we estimate collapsed regressions at the county-year level, averaging firm-level variables within each county-year. These specifications include county and state-year fixed effects, with standard errors clustered at the county level. The results remain consistent with our baseline estimates.

an increase in CEO pay of approximately \$622,000 (holding worker pay constant), a decrease in median worker pay of approximately \$6,800 (holding CEO pay constant), or, most likely, some combination of the two. For large firms employing tens of thousands of workers, even modest proportional changes in median pay can translate into substantial aggregate redistributions of income within the firm.

The magnitude of our estimated effect is comparable to that reported by Burns, Keithley, Minnick, and Rivolta (2022), who document that a one-unit increase in county-level social capital—an index that ranges from  $-1.57$  to  $1.07$  with a mean of  $-0.23$ —reduces the CEO-worker pay ratio by approximately 6.9%. Given that social capital is widely recognized as an important determinant of corporate conduct (Yenkey 2018), our results suggest that local newspaper closures represent a similarly meaningful driver of pay disparity.

In terms of the control variables, our results indicate that within-firm pay disparity is positively related to firm size, consistent with Mueller et al. (2017) and Song et al. (2019). Pan et al. (2022) suggest that worker composition plays a significant role in explaining variations in the pay ratio, largely due to its association with median worker pay. In line with this view, we show that firms in which the median employee is classified as part-time and those with larger fractions of non-U.S. employees have higher reported pay ratios. Interestingly, firms with higher pay ratios tend to have longer pay ratio sections in their proxy filings, which may reflect an inclination among firms to provide more details and greater justification when their pay ratios are high.<sup>17</sup>

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<sup>17</sup> In Table OA3 of the Online Appendix, we examine whether newspaper closures affect firms' pay-ratio-related disclosure choices using six disclosure measures: de minimis exemptions, inclusion of part-time employees, cost-of-living adjustments, reporting of multiple pay ratios, the fraction of non-U.S. employees, and disclosure length. In addition to our baseline controls, we follow prior studies (e.g., Hartzell and Starks 2003; Chang et al. 2006; Khurana et al. 2021; Chen, Liao, Tsang, and Yu 2023; Cheng, Lin, and Yang 2025) by incorporating several established determinants of disclosure practices, including firm complexity, auditor oversight, international operations, and the information environment. We find no evidence that closures systematically influence disclosure behavior. In Table OA4, we further examine whether disclosure choices moderate the effect of newspaper closures on the pay ratio by interacting the closure indicator with each disclosure variable. None of the interaction terms is statistically significant, while the estimated effect of closures on the pay ratio remains stable

Although we construct *LN Pay ratio* using the pay ratios reported in firms' proxy statements, these reported pay ratios occasionally deviate from the actual ratio calculated using the two pay variables reported in the same section.<sup>18</sup> As a robustness check, we construct an alternative pay ratio measure,  $\ln(\text{CEO Pay}/\text{Worker Pay})$ , as the natural logarithm of the reported CEO pay over reported median worker pay. In Table OA5 of the Online Appendix, we repeat the regressions in Table 2 using this alternative measure, finding quantitatively similar results.

Next, to address concerns that firms may exercise discretion in identifying the median employee, we exclude firm-year observations that involve multiple pay ratio disclosures or apply cost-of-living adjustments. As reported in Table OA6 of the Online Appendix, the results remain positive and statistically significant, confirming that our main findings are not driven by discretionary reporting practices.

Recent studies show that staggered DiD designs can yield biased estimates when later-treated units serve as controls prior to treatment—a heterogeneous treatment problem (Callaway and Sant'Anna 2021; Sun and Abraham 2021). Following Baker, Larcker, and Wang (2022), we address this concern using a stacked DiD approach. We construct event-specific cohorts comprising treated firms and firms never treated within the event window, thereby preventing later-treated firms from acting as controls for earlier-treated ones. We then stack these cohorts in relative time to estimate the average treatment effect as if treatment occurred simultaneously. The results (Table OA7) confirm that our main inferences remain unchanged.

### **Enhancing identification**

In this section, we address two key robustness concerns. First, we consider whether both newspaper closures and rising pay ratios are driven by underlying local economic

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and significant across specifications. Together, these findings rule out the possibility that our results are driven by changes in disclosure behavior.

<sup>18</sup> In our sample, we identify 795 observations with (mostly small) discrepancies between the reported pay ratio and the actual ratio of the reported CEO pay and median worker pay.

conditions or other unobserved factors. To mitigate this concern, we conduct three sets of tests: (i) a dynamic effects analysis, (ii) cross-sectional tests, and (iii) a neighboring-county matching analysis.<sup>19</sup> Second, we assess whether the post-closure increase in the pay ratio reflects changes in CEO compensation, median worker pay, or both.

### *Dynamic Effects*

We first examine how the effect of local newspaper closures on within-firm pay disparity evolves before and after the closures. We use the same specifications as those in our baseline models but allow the closure effect to vary with the year. To achieve this, we create dummy variables for three or more years before the closure ( $Closure_{t-3}$ ), two years before ( $Closure_{t-2}$ ), the year before ( $Closure_{t-1}$ ), the year after ( $Closure_{t+1}$ ), two years after ( $Closure_{t+2}$ ), and three or more years after ( $Closure_{t+3}$ ). We then replace  $Closure$  with these indicators, taking the year of the newspaper closure as the base year. If pay disparity widens during local economic slowdowns (which could subsequently result in a newspaper closure), it may lead to a pre-closure increase in the pay ratio. If our results are influenced by underlying economic conditions or if the treated and control firms exhibit differential pre-closure trends, then  $LN$  *Pay ratio* might already be correlated with  $Closure$  before a local newspaper's closure.

Table 3 presents the results. We find that the coefficients on  $Closure_{t-3}$ ,  $Closure_{t-2}$ , and  $Closure_{t-1}$  are statistically insignificant, suggesting that the treated and control firms are indistinguishable from each other prior to the newspaper closures. The absence of pre-closure differences in treated and untreated firms alleviates concerns that our findings are driven by a declining local economy. As for the post-closure trends, firms react to the reduced public scrutiny following a newspaper closure. The coefficients on  $Closure_{t+1}$ ,  $Closure_{t+2}$ , and

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<sup>19</sup> In Table OA8, we also conduct a falsification test using randomized pseudo-treatments to mitigate concerns that our results are driven by unobserved factors coinciding with newspaper closures or by random chance.

$Closure_{t+3}$  are positive and significant, indicating that an increase in the pay ratio occurs after local newspaper closures.

To further address concerns about treatment effect heterogeneity in staggered DiD settings, we estimate dynamic effects using the interaction-weighted estimator proposed by Sun and Abraham (2021). Figure 2 plots the resulting event-time coefficients alongside those from the two-way fixed effects (TWFE) specification reported in Table 3. Consistent with the TWFE results, the Sun and Abraham (2021) estimates show no evidence of differential pre-trends prior to newspaper closures, while the post-closure coefficients remain positive and statistically significant throughout the post-treatment period.

### ***Cross-Sectional Tests***

The closure of a local newspaper is unlikely to be equally important under all circumstances, as some firms are more likely to be affected by changes in the local information landscape than others. To investigate this matter, we conduct cross-sectional analyses to determine whether the variation in exposure to local press coverage shocks moderates the effect of newspaper closures on within-firm pay disparity.

We first test whether local press coverage moderates the impact of newspaper closures on pay disparity. Following Gao et al. (2020) and Heese et al. (2022), we measure local coverage by the number of newspapers operating in a county. Where newspaper presence is high, a single closure is unlikely to meaningfully reduce scrutiny, as remaining outlets continue reporting (Gao et al. 2020; Gentzkow et al. 2011; Heese et al. 2022). In contrast, in low-coverage counties, a closure represents a substantial disruption to the local information environment. If rising pay ratios after closures reflect diminished press scrutiny, the effect should be concentrated in low-coverage counties; if instead closures proxy for broader economic conditions, we would expect similar effects regardless of local newspaper density.

In Panel A of Table 4, we interact *Closure* with the binary variable *Low NP county*, which takes a value of one for counties with two or fewer newspapers pre-closure, and zero otherwise.<sup>20</sup> As in our previous analyses, we include state-year-fixed effects to ensure that the moderating effect of *Low NP county* is estimated within the same state and year. The results show that the coefficients on *Closure*  $\times$  *Low NP county* are positive and significant at the 5% level. Economically, the estimated effect of newspaper closures on pay disparity is substantially larger in low-coverage counties. Using Regression 2, the implied effect for counties with greater newspaper coverage is approximately 5.9% (calculated as  $\exp(0.057) - 1$ , which approximates the percentage increase in the pay ratio when the ratio is large relative to 1), whereas the implied effect for low-coverage counties is approximately 20.2% (calculated as  $\exp(0.057 + 0.127) - 1$ ). Thus, the increase in pay disparity following newspaper closures is more than three times larger in counties with limited pre-existing press coverage. These findings indicate that the effect of newspaper closures on pay ratios is concentrated among firms located in areas where there are fewer local newspapers, consistent with our conjecture.

Second, we explore whether differences in the geographical dispersion of a firm influence the effect of newspaper closures. Prior research suggests that the local press tends to focus on local firms in its reporting (Kim et al. 2021; Miller and Shanthikumar 2015). In contrast to geographically dispersed firms, local firms typically face intense scrutiny from the local press and receive less coverage from national news outlets (Kyung and Nam 2023). Consequently, the watchdog role of local newspapers is more salient to local firms, rendering them more susceptible to disruptions in local press coverage. If newspaper closures truly affect pay ratios, this effect is expected to be more prominent among local firms.

We define a firm as “local” if its business activities are concentrated in a small geographic area. To capture this geographical concentration, we adopt Garcia and Norli’s

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<sup>20</sup> Low newspaper counties are those in the lowest quartile for the number of newspapers.

(2012) methodology and count the occurrence of state names in the sections “Item 1: Business,” “Item 2: Properties,” “Item 6: Consolidated Financial Data,” and “Item 7: Management’s Discussion and Analysis” of Form 10-K annual report filings. The variable *Local firm* equals one if no more than two states are mentioned in these four sections, and zero otherwise.<sup>21</sup> Panel B of Table 4 reports the regression results when the variable of interest is the interaction term between *Closure* and *Local firm*. We find that the coefficients on  $Closure \times Local\ firm$  are positive and significant at the 5% level, indicating that the effect of newspaper closures is stronger for local firms.

Importantly, once the interaction term is included, the standalone coefficient on *Closure* becomes small and statistically insignificant. The economic magnitudes also indicate a substantial difference across firms. Based on Regression 2, the implied effect of newspaper closures for geographically dispersed firms is only 1.4% (approximated by  $\exp(0.014) - 1$ ), whereas the implied effect for local firms is 11.7% (approximated by  $\exp(0.014 + 0.097) - 1$ ). This pattern suggests that the increase in pay disparity following newspaper closures is concentrated among geographically localized firms, for which local newspapers serve as a more salient source of external scrutiny and reputational discipline. In contrast, geographically dispersed firms are likely to remain subject to monitoring by national media and broader stakeholder audiences. These findings indicate that the effect of newspaper closures depends critically on firms’ exposure to local press monitoring.

Third, we investigate whether a local newspaper’s ownership structure influences the effect of newspaper closures on the CEO-worker pay ratio. Locally owned newspapers are generally more independent and attuned to the interests of their communities, whereas newspapers owned by large media corporations (e.g., Gannett, Lee Enterprises) may face

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<sup>21</sup> Local firms are those that belong to the lowest quartile in terms of the number of states mentioned in annual reports. Similar to Garcia and Norli (2012), we exclude firms that do not mention any U.S. states in their 10-Ks.

centralized profit pressures and standardized editorial practices that can dilute their watchdog function (Paladhi 2023; Akhavan-Majid, Rife, and Gopinath 1991).<sup>22</sup> To test this idea, we construct an indicator variable, *Corporate-owned NP*, which equals one if a local newspaper is owned by a large media chain operating across multiple states, and zero otherwise. We gather data on newspaper ownership from a variety of sources, including newspaperownership.com, official newspaper websites, and general Google searches.

In Panel C of Table 4, we interact *Closure* with *Corporate-owned NP* to examine heterogeneity in closure effects. The coefficient on  $Closure \times Corporate-owned NP$  is negative and statistically significant at the 10% level at least, indicating that newspaper closures have a stronger effect on CEO-worker pay disparity when the paper is locally owned. Using Regression 2, the implied effect of closures involving locally owned newspapers is 11.4% (approximated by  $\exp(0.108) - 1$ ), whereas the implied effect for corporate-owned newspapers is only 0.8% (approximated by  $\exp(0.108 - 0.100) - 1$ ). These results suggest that locally owned newspapers serve as more effective and independent monitors of local firms. Their closures have a greater impact on widening within-firm pay disparities, underscoring the role of ownership in shaping the effectiveness of local press oversight.

Fourth, we examine whether the availability of alternative news sources moderates the impact of newspaper closures. If local newspapers influence the CEO-worker pay ratio by disseminating pay ratio information to local communities, the effect of their closure should be less pronounced in areas where alternative channels of information are more accessible. Following Gao et al. (2020) and Kyung and Nam (2023), we manually collect state-level data on internet usage and smart TV or TV-connected device adoption from the National

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<sup>22</sup> It should be noted that while locally owned newspapers often enjoy greater editorial independence and stronger connections to their communities, they may face more significant resource constraints compared to their corporate-owned counterparts. This can potentially limit their capacity for in-depth reporting and investigative journalism (Akhavan-Majid et al. 1991). The extent to which newspaper ownership influences the effects of closures thus remains an important and unresolved empirical question.

Telecommunications and Information Administration (NTIA). We then construct two indicators of the availability of alternative news sources. *High Internet* is equal to one if a state's internet usage rate falls within the top quartile of the distribution, and zero otherwise. *High TV* is equal to one if a state's adoption rate of smart TVs or TV-connected devices falls within the top quartile of the distribution, and zero otherwise.

In addition, we construct a broader geographic measure of alternative news availability based on urbanization. Following Loughran and Schultz (2005), we classify a firm as urban if its headquarters is located in one of the ten largest U.S. metropolitan areas, as defined by the most recent U.S. Census (i.e., the 2010 Census for 2017–2019 and the 2020 Census for 2020–2023). The *Urban* indicator captures the notion that firms located in large metropolitan areas operate in a denser media environment, characterized by greater access to regional and national newspapers, digital news platforms, and other “watchdog” institutions, which may serve as substitutes for the monitoring role of the local press.

Panel D of Table 4 shows that the interaction terms  $Closure \times High\ Internet$ ,  $Closure \times High\ TV$ , and  $Closure \times Urban$  are all negative and statistically significant. These results suggest that online platforms, TV-based media, and metropolitan news markets can partially substitute for the information-dissemination and reputational-monitoring functions traditionally provided by local newspapers. However, although these alternative sources help alleviate the informational and reputational gaps associated with newspaper closures, they do not fully eliminate them.

Fifth, we test whether firm prominence affects the influence of newspaper closures. Following the same logic above, the effect of newspaper closures should be attenuated for firms that are more prominent and therefore subject to alternative sources of scrutiny. Panel E of Table 4 presents the results from an interaction between the *Closure* variable and an indicator variable indicating S&P 500 membership, *S&P 500*, which serves as a proxy for firm

prominence. Firms in the S&P 500 have greater national visibility, and their compensation practices are more likely to attract sustained media attention even in the absence of local press coverage. As expected, the coefficients on *Closure*  $\times$  *S&P 500* are negative and statistically significant, indicating that the increase in pay disparity following newspaper closures is smaller for more prominent firms. This finding reinforces the idea that highly visible firms are widely monitored by broader media channels, which can partially substitute for the oversight role of local newspapers.

Finally, we examine whether a firm's institutional ownership, which serves as an external governance mechanism, can mitigate the impact of newspaper closures. Following Hartzell and Starks (2003), we measure institutional ownership as the combined shareholdings of a firm's five largest institutional investors, using data from LSEG Institutional (13F) Holdings. We define the indicator variable, *High Institutional Ownership*, as equal to one if a firm's institutional ownership falls within the top quartile of the sample distribution, and zero otherwise. In Panel F of Table 4, we interact *Closure* with *High Institutional Ownership*. The coefficient on *Closure*  $\times$  *High Institutional Ownership* is negative and statistically significant at the 5% level, indicating that firms with stronger institutional oversight experience a smaller increase in CEO-worker pay ratios following newspaper closures.

### **Interpretation and robustness of cross-sectional tests**

While the cross-sectional patterns documented above are broadly consistent with the view that local newspapers discipline firms by increasing public scrutiny and reputational costs, we acknowledge several limitations. The moderators capturing alternative information environments (e.g., *High Internet*, *High TV*, and *Urban*) are measured at relatively coarse levels and may reflect broader socioeconomic differences, such as income, education, and macroeconomic conditions, rather than clean substitution for local press coverage. Similarly, the attenuated effects observed among S&P 500 firms may capture not only substitution

through alternative information channels but also the presence of stronger governance. We therefore interpret these findings as suggestive evidence consistent with substitution explanations, rather than as definitive tests isolating the informational role of local newspapers.

In contrast, our primary, theory-motivated moderators, *Low NP county*, *Local firm*, and *Corporate-owned NP*, are more directly linked to variation in firms' exposure to local press monitoring. Reassuringly, in untabulated analyses, we include these three interaction terms jointly in a single specification and find that each remains statistically significant, with coefficients similar to those reported in Table 4. These results indicate that the documented heterogeneity is not driven by a single proxy or overlapping variation across moderators, but instead reflects distinct and economically meaningful dimensions of exposure to local press coverage.

Finally, because the interaction effect in Panel A, *Closure*  $\times$  *Low NP county*, is central to our interpretation, we conduct additional robustness tests to assess its stability. Specifically, we (i) re-estimate the specification with standard errors clustered at the county level and (ii) adopt an alternative definition of low-coverage counties, defined as those with one or no newspapers. In both cases, the interaction coefficient remains statistically positive, reinforcing our interpretation that the effects of newspaper closures are concentrated in areas with limited pre-existing press coverage.

### ***Neighboring County Matching***

We repeat our main analysis by matching each county experiencing a newspaper closure with a neighboring county of similar population size that does not experience a closure. Because regional economic conditions are likely to affect both counties, insignificant effects in the matched sample would suggest that common economic factors drive our results. If newspaper closures truly affect pay disparity, however, the effect should persist. In Table OA9

of the Online Appendix, we continue to observe a significant post-closure increase in pay ratios, confirming that underlying economic conditions do not explain our findings.<sup>23</sup>

### *Pay Disparity Versus Pay Levels*

Our baseline results show a positive relation between newspaper closures and within-firm pay disparity. To determine whether this effect reflects changes in pay disparity rather than changes in either pay component alone, we conduct two sets of tests. First, Panel A of Table 5 shows that the coefficient on *Closure* remains significant after controlling for CEO or worker pay levels, suggesting that the results are not driven solely by either component. Second, we examine the effect of closures on the two components of the pay ratio. Panel B of Table 5 shows that *Closure* is positively associated with CEO pay but negatively associated with median worker pay. Specifically, the coefficients imply that CEO pay increases by 5.7% (approximated by  $\exp(0.055) - 1$ ), whereas median worker pay decreases by 3.0% (calculated as  $\exp(0.03) - 1$ ). Thus, both CEO and worker pay contribute to the post-closure increase in the CEO-worker pay ratio.<sup>24</sup>

These results suggest that worker pay, not just executive compensation, is associated with changes in the local information environment. In addition to disciplining executive pay, local newspapers may shape firms' reputational exposure in labor markets by publicizing wage practices and pay disparities (Miller 2006; Dyck et al. 2008; Kuhnen and Niessen 2012). Such coverage can reinforce norms of pay fairness and raise the reputational and employee-relations costs of wage suppression (Akerlof and Yellen 1990; Dyck and Zingales 2002). In this sense,

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<sup>23</sup> For brevity, we report the details and results of this analysis in Online Appendix B and Table OA9.

<sup>24</sup> To address the concern that the observed decline in worker pay may reflect worsening local economic conditions, we conduct an additional test controlling for changes in county-level GDP, unemployment, average annual wages, population, and industry employment concentration. To account for potential nonlinearities, we also include decile-fixed effects for each of these variables. Across all specifications in Panels A and B of Table OA10 in the Online Appendix, the estimated effect of *Closure* on worker pay remains negative and statistically significant, indicating that our results are not driven by deteriorating local economic conditions. Furthermore, Panel C of Table OA10 shows that newspaper closures are not predictive of subsequent changes in county-level GDP, unemployment, average annual wages, population, or industry employment concentration, reinforcing that these closures are not simply a response to worsening local economic conditions.

media coverage may constrain firms' ability to reduce median worker pay, particularly in geographically concentrated firms that rely heavily on local labor markets. In contrast, when newspapers close, this visibility declines, potentially weakening these constraints and allowing firms to adjust wages more aggressively with less concern about public scrutiny (Gao et al. 2020; Heese et al. 2022; Kyung and Nam 2023).

We next examine whether the worker-pay effects vary with firms' financial constraints and industry labor mobility. To assess financial constraints, we classify firms using the WW index (Whited and Wu 2006). *High financial constraints* equals one for firms in the top quartile of the WW index distribution, and zero otherwise.<sup>25</sup> Columns 1 and 3 of Panel C in Table 5 show that the decline in median worker pay is concentrated among financially constrained firms, whereas CEO pay adjustments are not significantly affected by financial constraints.

Following Donangelo (2014), we measure labor mobility using the occupational dispersion of workers within an industry.<sup>26</sup> *Low labor mobility* equals one if a firm's industry-specific labor mobility falls within the lowest quartile of the sample distribution, and zero otherwise. Column 4 of Panel C shows that the negative relation between newspaper closures and median worker pay is concentrated in industries with low labor mobility, where workers have fewer outside employment opportunities.

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<sup>25</sup> Following Whited and Wu (2006), we compute the WW index using Compustat data, according to the following formula:  $WW = -0.091 \times CF - 0.062 \times DIVPOS + 0.021 \times TLTD - 0.044 \times LNTA + 0.102 \times ISG - 0.035 \times SG$ , where  $CF$  is the ratio of cash flow to total assets;  $DIVPOS$  is an indicator that takes the value of one if the firm pays cash dividends in a given year;  $TLTD$  is the ratio of the long-term debt to total assets;  $LNTA$  is the natural logarithm of total assets;  $ISG$  is the sales growth in the firm's three-digit SIC industry; and  $SG$  is the firm's sales growth. Higher index values indicate greater financial constraints.

<sup>26</sup> Using data from the Bureau of Labor Statistics, we construct the measure of labor mobility in two stages, first at the occupation level and then at the (NAICS) industry level. In the first stage, the concentration of workers in occupation  $j$  is estimated as:

$$CONC_{j,t} = \left( \frac{emp_{i,j,t}}{\sum_i emp_{i,j,t}} \right)^2,$$

where  $emp_{i,j,t}$  is the number of workers assigned to occupation  $j$  who are employed in industry  $i$  at time  $t$ . In the second stage, the aggregate occupation-level concentration measure  $CONC$  is computed by industry and weighted by the wage expense associated with each occupation:

$$LM_{i,t} = \left( \sum_j CONC_{j,t} \times \frac{emp_{i,j,t} \times wage_{i,j,t}}{\sum_j emp_{i,j,t} \times wage_{i,j,t}} \right)^{-1},$$

where  $wage_{i,j,t}$  is a measure of the average annual wage paid to workers in industry  $i$  who are assigned to occupation  $j$  in year  $t$ . Finally, the estimated  $LM$  in the above equation is standardized.

## **V. LOCAL PRESS COVERAGE AND REPUTATIONAL CONCERNS**

We argue that local newspapers limit the CEO–worker pay ratio by raising the reputational costs of pay disparity across several domains, including the managerial labor market, financial markets, and broader public opinion (Fama 1980; Fama and Jensen 1983; Diamond 1989; Gomes 2001; Dyck and Zingales 2002). To examine this mechanism, we analyze how local press coverage interacts with shareholder responses, managerial labor market outcomes, and managers’ public image.

### **Shareholder Responses to the Initial Pay Ratio Disclosure**

To investigate whether the information-dissemination role of the local press affects the reputations of managers and their firms vis-à-vis shareholders, we analyze shareholder responses to the initial disclosure of the CEO-worker pay ratio in the 2018 calendar year. The 2018 pay ratio disclosure represents a well-defined event that allows for the clear identification of shareholder reactions to pay disparity within firms (Pan et al. 2022). Prior studies demonstrate that shareholders generally respond negatively to within-firm pay disparity, both in terms of short-term equity market reactions (Pan et al. 2022) and their say-on-pay votes (Chang et al. 2023).

Motivated by these previous studies, we examine whether local newspapers amplify negative shareholder responses to pay ratio disclosures. If the press actively disseminates pay ratio information to a broader audience, we would expect a more pronounced negative market reaction and a larger fraction of adverse say-on-pay votes in counties with local newspapers compared to those without. Conversely, if the press merely rebroadcast widely known information, we would expect no significant differences in shareholder responses between counties with and without local newspapers. Importantly, although institutional investors operate in national capital markets, prior research suggests that they rely on local newspapers as a valuable source of information about local firms (Kang and Nam 2025). Consistent with

Allee, Cating, and Rawson (2025), local news intensity improves firms' information environments and facilitates the dissemination of firm-level information to broader capital market participants. In this framework, local newspapers act as upstream information intermediaries. By increasing the visibility and salience of compensation practices, including pay disparity, local coverage can be transmitted through national media, data intermediaries, and proxy advisors, ultimately shaping institutional investors' trading and voting decisions. When newspapers close, this layer of information dissemination weakens, potentially attenuating shareholder scrutiny and capital market reactions.

For the dependent variables, we replace our pay ratio measure with two proxies for shareholder responses. First, we examine the seven-day cumulative abnormal return (CAR) around the initial announcement of firms' pay ratios. Following Pan et al. (2022), we construct  $CAR [-1, +5]$  as the cumulative abnormal return between event days  $-1$  and  $+5$ . Day 0 is the earliest filing date in 2018 of either the preliminary or definitive proxy statement.<sup>27</sup> We calculate abnormal returns as the difference between a firm's daily return and the value-weighted CRSP market return, with both returns excluding dividends. Second, we use the percentage of votes against the say-on-pay proposal at the subsequent shareholder meeting to capture institutional investor responses to the initial pay ratio disclosure. In line with Ertimur, Ferri, and Muslu (2011), we calculate *% Votes against* as the number of votes cast against the say-on-pay proposal divided by the total number of votes cast on the proposal. As panel analyses are not feasible for these shareholder response tests, we rely on cross-sectional regressions that focus on the first year of the pay ratio disclosure.

In Panel A of Table 6, we examine whether equity market reactions to the pay disparity differ between counties with and without newspapers. The variable of interest is the interaction

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<sup>27</sup> To control for outliers, we follow Pan et al. (2022) and eliminate firms with daily abnormal returns that deviate by more than three standard deviations from the sample mean, where both the mean and the standard deviation of daily abnormal returns are calculated across all stocks in our sample across all days in 2018.

term between *LN Pay ratio* and *County with NP*, where *County with NP* is an indicator variable that equals one if a county had at least one newspaper in 2018, and zero otherwise. We find that the coefficients on the interaction term  $LN\ Pay\ ratio \times County\ with\ NP$  are negative and significant at the 1% level, whereas those on *LN Pay ratio* are statistically insignificant. These results suggest that the significantly negative market reaction to a high pay ratio is concentrated in counties with newspapers.

The results of examining shareholder responses to pay ratio disclosures via say-on-pay votes, shown in Panel B of Table 6, reveal two noteworthy observations. First, the coefficients on *LN Pay ratio* are positive and significant, consistent with prior evidence that shareholders voice discontent regarding pay disparity through adverse say-on-pay votes (e.g., Chang et al. 2023; Crawford, Nelson, and Rountree 2021). Second, the coefficients on the interaction term  $LN\ Pay\ ratio \times County\ with\ NP$  are also positive and significant, indicating that the increase in adverse say-on-pay votes following pay ratio disclosures is more prominent in counties with newspapers than those without. Collectively, these results suggest that the local press plays an important role in disseminating pay ratio information to a broader audience.

### **Human Capital in the Managerial Labor Market**

Managerial reputations in the labor market entail human capital risk: if negative press about pay disparity damages a CEO's reputation, it can reduce future career prospects and earnings. Newspaper closures may ease these concerns by lowering reputational scrutiny, thereby facilitating higher CEO–worker pay ratios. To test this mechanism, we examine whether the closure–pay disparity relation varies with CEO age, a proxy for human capital concerns. Prior research (Hirshleifer and Thakor 1992; Holmström 1999) suggests that younger CEOs, who have not yet established strong reputations and are further from retirement, are more vulnerable to reputational damage and its labor market consequences. If local newspapers

affect pay disparity through managerial reputation and human capital channels, the closure effect should be stronger in firms led by younger CEOs.

Table 7 reports the results of pay ratio regressions in which the variable of interest is the interaction term between *Closure* and *Young CEO*. *Young CEO* is an indicator variable that equals one if the CEO falls in the lowest quartile of the CEO age distribution, and zero otherwise. Consistent with our conjecture, the coefficients on *Closure*  $\times$  *Young CEO* are positive and significant at the 5% level, suggesting that the positive relation between closures and pay ratios is more prominent for firms led by young CEOs.<sup>28</sup>

### **Managers' Public Images**

Managers care not only about their reputation with shareholders and potential employers but also about their standing in the broader community. Dyck and Zingales (2002) argue that negative press can damage managers' local reputations, creating social pressure for them and their families, while Dyck et al. (2008) frame such reputational costs as the personal disutility from harm to one's public image. Simply put, individuals dislike being labeled the "bad guy," especially in societies where inequality violates social norms and perceived contributions to income inequality invite social shaming. Building on this idea, we examine whether the effect of newspaper closures on pay disparity varies with local attitudes toward inequality. If closures operate by weakening pressures tied to managers' public image, the effect should be stronger in more inequality-averse counties, where negative coverage is more likely to generate social sanctions.

We test this conjecture in Table 8, employing two measures to capture local attitudes toward income inequality. Our first measure exploits the idea that inequality aversion is correlated with political views (e.g., Alesina and Giuliano 2011; Luttmer and Singhal 2011).

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<sup>28</sup> We acknowledge that CEO age may capture other firm and managerial characteristics, such as differences in risk tolerance, growth opportunities, or governance environments. Accordingly, we interpret these results as broadly consistent with the managerial human capital channel, while recognizing that *Young CEO* is not a uniquely identifying proxy for reputational concerns.

In the United States, the Democratic Party aligns more closely with a Rawlsian view that redistribution enhances social justice, whereas the Republican Party leans toward a libertarian view that market outcomes are generally fair (Pan et al. 2022). We use the degree of support for the Democratic Party in a given county as a proxy for inequality aversion in that county. *High Democratic* is an indicator variable that equals one if % *Democratic* is in the top quartile of its distribution, and zero otherwise, where % *Democratic* is the percentage of votes obtained by the Democratic Party in the 2020 Presidential Election in a given county.<sup>29</sup>

Our second measure of inequality aversion is based on local social capital. Negative press coverage of income inequality is more likely to go viral in communities with high social capital, given their dense social networks and the prescribed values associated with cooperative norms (Hoi et al. 2019). Following Hasan, Hoi, Wu, and Zhang (2017) and Hoi et al. (2019), we construct the variable *Social capital* using the first principal component from a factor analysis based on four factors that capture cooperative norms and social networks in U.S. counties: (i) *Pvote*, which is voter turnouts in presidential elections; (ii) *Respn*, response rates in U.S. census surveys; (iii) *Nccs*, total numbers of nonprofit organizations; and (iv) *Assn*, total number of ten types of social organizations.<sup>30</sup> We then construct *High social capital* as an indicator variable that equals one if *Social capital* is in the top quartile of its distribution, and zero otherwise.

Panels A and B of Table 8 present the results of examining the impact of local attitudes toward inequality, using *High Democratic* and *High social capital*, respectively. Regardless of the measure used, the coefficients on the interaction terms—*Closure* × *High Democratic* and

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<sup>29</sup> We collect election data from the MIT Election Data and Science Lab.

<sup>30</sup> We construct the social capital index using data from several sources. We obtain data on voter turnout rate from the MIT Election Data and Science Lab, data on the census response rate from the U.S. Census Bureau, and data on the total numbers of ten types of social organizations from the County Business Patterns. Additionally, we collect data on the total number of non-profit organizations from the National Center for Charitable Statistics. We could only directly estimate *Social capital* for the period 2017–2022. Therefore, following the approach of Hilary and Hui (2009) and Hoi et al. (2019), we backfill the data for the missing years using estimates of *Social capital* in the preceding year for which data are available. Specifically, we fill in the missing data for 2023 using *Social capital* from 2022.

*Closure × High social capital*—are positive and significant. These results suggest that the relation between newspaper closures and pay disparity is stronger in more inequality-averse counties, where negative coverage of pay disparity is more likely to incite public outrage.<sup>31</sup>

## VI. CONCLUSION

Exploiting staggered shutdowns of local newspapers and the mandated CEO-worker pay ratio disclosures, we find that nearby firms experience higher pay ratios following closures, especially when alternative news sources are limited or the closed outlet was locally owned. Notably, the effect is concentrated among geographically localized firms, whereas geographically dispersed firms exhibit little change in pay disparity following newspaper closures. This pattern suggests that local newspapers exert a meaningful governance influence when firms rely heavily on local information environments. Moreover, our results suggest that newspaper coverage, and the loss thereof, shapes pay disparity by influencing managers' reputational concerns related to shareholder reactions, human-capital considerations, and public image.

Overall, our findings indicate that local newspapers play a key role in disseminating pay ratio information and enabling external scrutiny of firms' compensation practices. More broadly, they suggest that the effectiveness of transparency reforms, such as the SEC's pay ratio mandate, depends not only on formal disclosure rules but also on local institutions that publicize and contextualize this information, a dynamic likely relevant to other areas of corporate reporting and governance where media serve as monitors.

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<sup>31</sup> We note, however, that these county-level measures may also capture broader institutional and social environments, such as differences in labor regulations, union strength, and CSR-related norms. We therefore interpret these results as suggestive evidence consistent with the public-image mechanism, while acknowledging that these moderators likely reflect multiple correlated local characteristics.

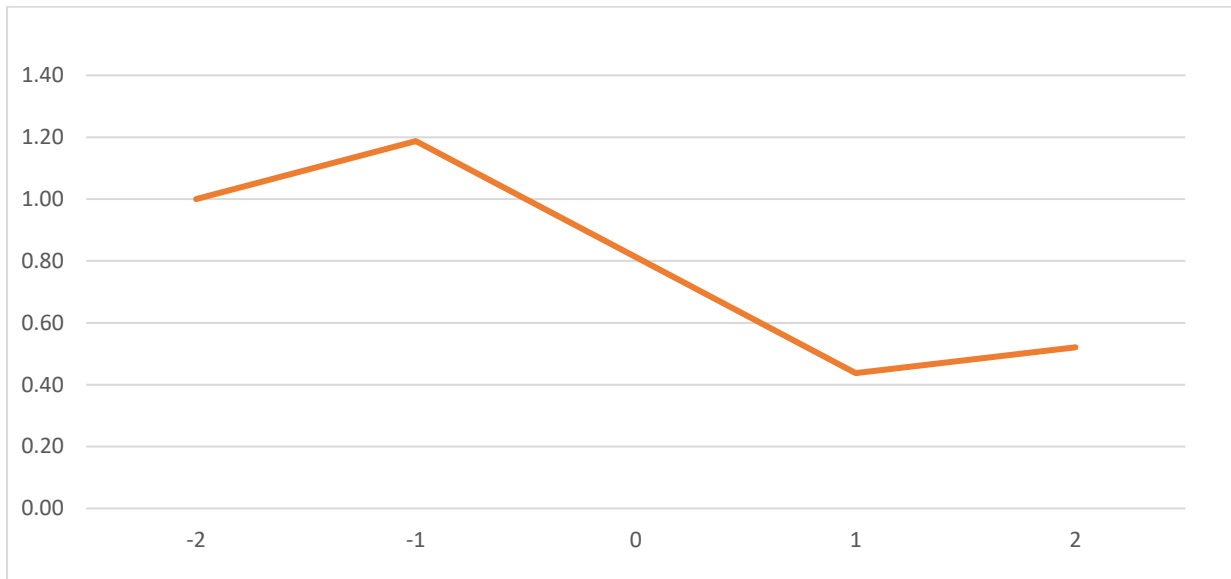
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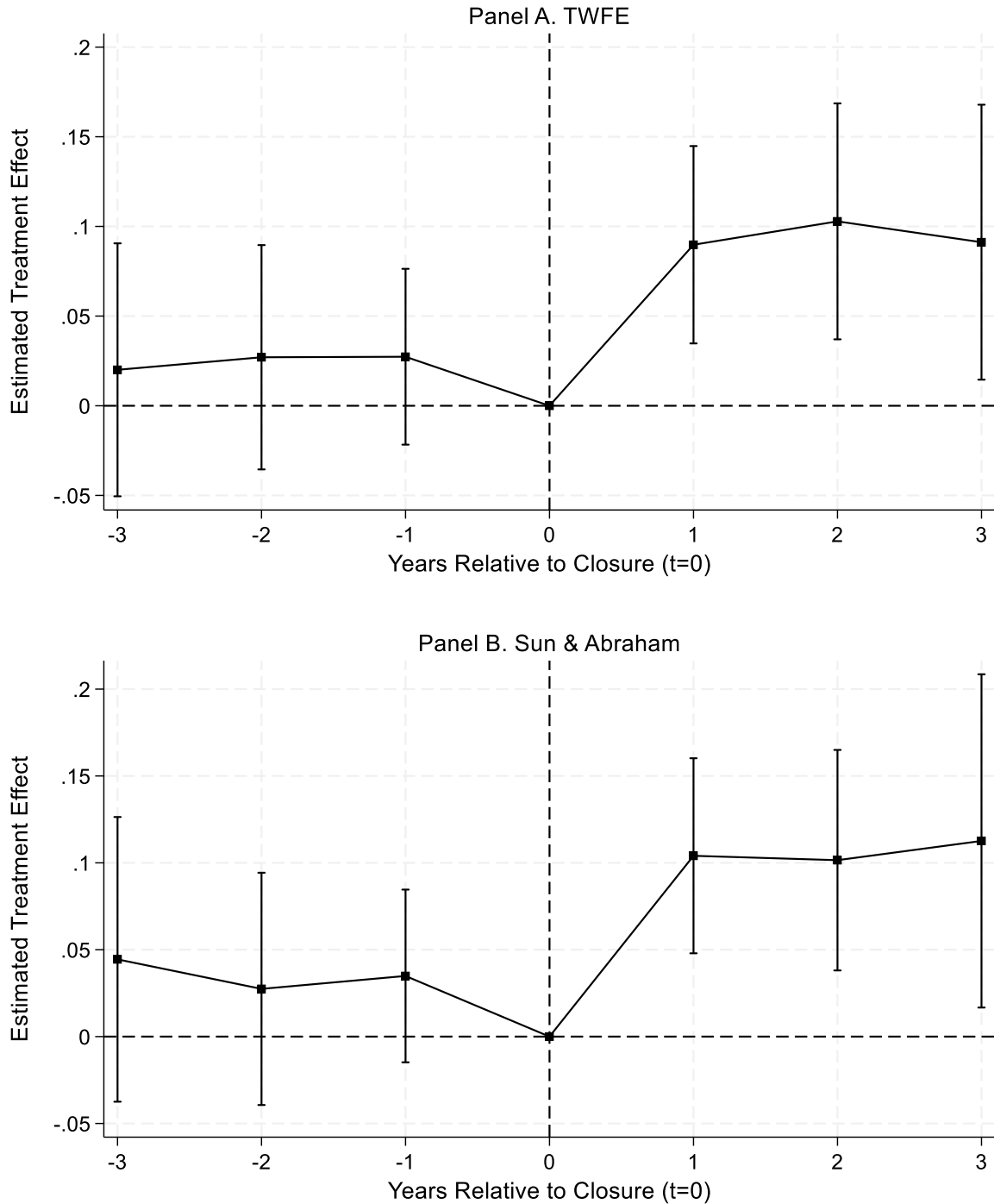
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**Figure 1. Change over time in local news coverage of CEO-worker pay disparity**

[Alt-Text] The line chart illustrates changes in local news coverage of CEO-worker pay disparity around newspaper closures, with a substantial post-closure decline.

[Long Description] The line chart illustrates changes over time in local news coverage pertaining to CEO-worker pay disparity around newspaper closures. For firms headquartered in a closure county, we count the number of news articles published by local newspapers, retrieved from Factiva, that discuss topics related to the firms' CEO-worker pay disparities. The y-axis denotes the value of each year as relative to two years prior to a local newspaper closure, in terms of the number of relevant articles. The x-axis denotes the year relative to the newspaper closure (year 0). Coverage declines sharply after the closure and remains below the pre-closure level in years +1 and +2.



**Figure 2: Dynamic effects**

[Alt-Text] This event-study plots show no evidence of differential pre-trends and positive treatment effects following newspaper closures.

[Long Description] The figure presents event-study estimates of the dynamic effects of newspaper closures. We include event-time indicators for each treatment period and examine a window spanning three years before and three years after the closure event. The x-axis denotes years relative to the newspaper closure, with  $t = 0$  representing the closure year. The y-axis reports the estimated treatment effect. The bars represent 90% confidence intervals. Panel A reports estimates from the two-way fixed effects specification reported in Table 3, while Panel B reports interaction-weighted estimates following Sun and Abraham (2021). In both panels, the pre-closure estimates are small and statistically indistinguishable from zero, while the post-closure estimates are positive and larger in magnitude.

**Table 1. Descriptive statistics**

This table presents summary statistics for the pay ratio and its components in Panel A, pay variables by (one-digit SIC) industry in Panel B, pay variables by year in Panel C, disclosure details reported in the pay ratio section of the proxy statement in Panel D, and firm characteristics that are potentially related to the pay ratio in Panel E. All variables are defined in the Appendix.

<i>Panel A. Pay variables</i>						
Variable	N	Mean	Std. dev.	25th	Median	75th
Pay ratio	13,799	144.291	266.186	36.800	76.600	156.000
CEO pay (in thousand \$)	13,799	7,578.196	6,515.012	2,972.281	5,779.365	10,096.480
Worker pay (in thousand \$)	13,799	89.429	64.904	48.291	70.342	111.125
LN Pay ratio	13,799	4.321	1.146	3.632	4.352	5.056
LN CEO pay	13,799	15.454	0.967	14.905	15.570	16.128
LN Worker pay	13,799	11.160	0.726	10.785	11.161	11.618

*Panel B. Pay variables by industry*

SIC1-Industry	N	Pay ratio		CEO pay		Worker pay	
		Median	Mean	Median	Mean	Median	Mean
Finance, insurance, real estate	3,585	50.000	79.416	4,560.821	6,441.333	75.983	98.500
Agriculture, forestry, fishing	32	44.500	81.056	2,127.090	4,231.828	45.116	50.023
Mining	603	54.900	71.717	6,548.158	7,787.755	118.073	121.321
Construction	231	74.000	97.404	6,682.051	8,158.587	86.494	86.418
Transportation and utilities	1,120	71.000	117.572	5,834.316	8,347.958	85.135	92.731
Wholesale trade	416	85.800	118.133	5,110.930	5,737.974	59.910	60.912
Services	2,150	90.000	158.922	6,802.476	8,681.250	75.090	88.351
Manufacturing	4,845	91.000	158.954	6,274.659	7,867.270	64.629	91.195
Retail trade	789	242.000	428.350	6,006.138	7,469.715	23.923	30.200

*Panel C. Pay variables by year*

Year	N	Pay ratio		CEO pay		Worker pay	
		Median	Mean	Median	Mean	Median	Mean
2017	1,512	68.000	129.163	4,544.986	6,252.198	64.177	80.331
2018	1,950	75.000	135.548	4,948.739	6,685.76	64.601	80.186
2019	2,047	73.000	135.734	5,341.858	6,899.949	67.062	84.640
2020	2,042	71.600	149.319	5,423.080	7,230.569	69.405	88.821
2021	2,090	85.000	162.732	6,659.119	8,414.529	72.236	93.425
2022	2,127	79.000	143.039	6,548.158	8,231.167	75.627	96.297
2023	2,031	84.000	149.850	7,003.593	8,910.830	77.084	99.207

*Panel D. Disclosure details*

	N	Mean	Std. dev.	Median
Several pay ratios	13,799	0.083	0.276	0.000
Part-time worker	13,799	0.016	0.125	0.000
Fraction non-US	13,799	0.118	0.251	0.000
De minimis	13,799	0.231	0.421	0.000
Cost-of-living adj.	13,799	0.007	0.081	0.000
LN Length PR section	13,799	5.869	0.404	5.889

*Panel E. Firm characteristics*

	N	Mean	Std. dev.	25th	Median	75th
Size	13,799	8.006	1.674	6.852	7.926	9.072
Book to market	13,799	0.665	0.295	0.428	0.680	0.917
Capex	13,799	0.030	0.037	0.004	0.018	0.039
ROA	13,799	0.046	0.124	0.019	0.050	0.099
Stock return	13,799	0.106	0.446	-0.156	0.039	0.289
Leverage	13,799	0.306	0.231	0.106	0.284	0.444

**Table 2. Newspaper closures and within-firm pay disparity**

This table examines the effect of newspaper closures on within-firm pay disparity. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio		
	(1)	(2)	(3)
Closure	0.075*** (2.592)	0.080*** (2.866)	0.079*** (2.807)
Size		0.203*** (8.727)	0.202*** (8.676)
Book to market		0.135* (1.889)	0.133* (1.861)
Capex		0.315 (1.056)	0.300 (1.012)
ROA		0.173* (1.738)	0.178* (1.787)
Return		-0.010 (-0.666)	-0.011 (-0.730)
Leverage		0.192*** (2.621)	0.183** (2.515)
Several pay ratios			-0.142*** (-4.653)
Part-time worker			0.241** (2.121)
Fraction non-US			0.066* (1.741)
De minimis			-0.025 (-0.764)
Cost-of-living adj.			-0.032 (-0.236)
LN Length PR section			0.108*** (3.056)
Firm FE	Yes	Yes	Yes
Stateyear FE	Yes	Yes	Yes
Observations	13,799	13,799	13,799
Adjusted R <sup>2</sup>	0.843	0.848	0.848

**Table 3. Dynamic effects**

This table reports the results from a dynamic-effects model. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variables include various timing indicators for the years surrounding the closure event. *Closure<sub>t-3</sub>* is an indicator variable that equals one for three or more years before the newspaper closure, and zero otherwise. *Closure<sub>t-2</sub>* is an indicator variable that equals one for two years before the newspaper closure, and zero otherwise. *Closure<sub>t-1</sub>* is an indicator variable indicating the year before the newspaper closure. *Closure<sub>t+1</sub>* is an indicator variable indicating the year after the newspaper closure. *Closure<sub>t+2</sub>* is an indicator variable that equals one for two years after the newspaper closure, and zero otherwise. *Closure<sub>t+3</sub>* is an indicator variable that equals one for three or more years after the newspaper closure, and zero otherwise. These treatment windows are benchmarked against the year of the newspaper closure. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio	
	(1)	(2)
<i>Closure<sub>t-3</sub></i>	0.020 (0.460)	0.020 (0.467)
<i>Closure<sub>t-2</sub></i>	0.032 (0.826)	0.027 (0.711)
<i>Closure<sub>t-1</sub></i>	0.029 (0.978)	0.027 (0.917)
<i>Closure<sub>t+1</sub></i>	0.093*** (2.783)	0.090*** (2.684)
<i>Closure<sub>t+2</sub></i>	0.106*** (2.642)	0.103** (2.571)
<i>Closure<sub>t+3</sub></i>	0.091* (1.940)	0.091* (1.957)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848

**Table 4. Cross sectional tests**

This table presents the results of cross-sectional analyses that investigate whether variation in firms' exposure to local press coverage shocks moderates the effect of newspaper closures on pay disparity. The main variables are as follows. *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. *Closure* is an indicator variable that takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. *Low NP county* is an indicator variable that takes the value of one for counties with two or fewer newspapers pre-closure, and zero otherwise. *Local firm* is an indicator variable that equals one if at most two states are mentioned in a firm's annual report, and zero otherwise. *Corporate-owned NP* is an indicator variable that equals one if a local newspaper is owned by a large media corporation operating newspaper chains across multiple states, and zero otherwise. *High TV* is an indicator variable equal to one if the percentage of the state population that uses a smart TV or TV-connected device falls within the top quartile of the sample distribution, and zero otherwise. *High internet* is an indicator variable equal to one if the percentage of the state population that uses the internet falls within the top quartile of the sample distribution, and zero otherwise. *Urban* is an indicator variable that equals one if a firm's headquarters is located in one of the ten largest metropolitan areas in the U.S., and zero otherwise. *S&P 500* is an indicator variable that equals one if a firm is a member of the S&P 500, and zero otherwise. *High institutional ownership* is an indicator variable that equals one if the combined holdings of a firm's five largest institutional investors fall within the top quartile of the sample distribution, and zero otherwise. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<i>Panel A. Level of local press coverage</i>		
	LN Pay ratio	
	(1)	(2)
Closure	0.058*	0.057*
	(1.891)	(1.846)
Low NP county	-0.003	-0.002
	(-0.095)	(-0.073)
Closure × Low NP county	0.128**	0.127**
	(1.965)	(1.967)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848
<i>Panel B. Geographical scope of the firm</i>		
	LN Pay ratio	
	(1)	(2)
Closure	0.011	0.014
	(0.323)	(0.407)
Local firm	-0.003	-0.001
	(-0.139)	(-0.052)
Closure × Local firm	0.103**	0.097**
	(2.210)	(2.081)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	11,048	11,048
Adjusted R <sup>2</sup>	0.841	0.842
<i>Panel C. Newspaper ownership</i>		
	LN Pay ratio	
	(1)	(2)
Closure	0.111***	0.108***
	(3.204)	(3.116)
Closure × Corporate-owned NP	-0.105**	-0.100*
	(-1.983)	(-1.909)

Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848

*Panel D. Alternative local news sources*

	LN Pay ratio					
	(1)	(2)	(3)	(4)	(5)	(6)
Closure	0.116*** (3.463)	0.112*** (3.341)	0.097*** (3.401)	0.094*** (3.282)	0.107*** (3.239)	0.106*** (3.165)
High TV	-0.011 (-0.149)	-0.047 (-0.560)				
High internet			-0.001 (-0.067)	-0.001 (-0.058)		
Urban					-0.019 (-0.511)	-0.013 (-0.356)
Closure × High TV	-0.073* (-1.858)	-0.069* (-1.745)				
Closure × High internet			-0.073** (-1.965)	-0.071* (-1.922)		
Closure × Urban					-0.099* (-1.898)	-0.098* (-1.884)
Control for disclosure details	No	Yes	No	Yes	No	Yes
Control for firm characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
State×year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,799	13,799	13,799	13,799	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848	0.848	0.849	0.848	0.848

*Panel E. Firm prominence*

	LN Pay ratio	
	(1)	(2)
Closure	0.115*** (3.366)	0.115*** (3.373)
S&P 500	-0.064 (-0.608)	-0.057 (-0.529)
Closure × S&P 500	-0.099** (-2.378)	-0.104** (-2.503)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848

*Panel F. Institutional oversight*

	LN Pay ratio	
	(1)	(2)
Closure	0.101*** (3.464)	0.099*** (3.382)
High institutional ownership	-0.006 (-0.240)	-0.010 (-0.407)
Closure × High institutional ownership	-0.091** (-2.073)	-0.088** (-2.004)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848

**Table 5. Pay disparity versus pay levels**

This table examines the relation between newspaper closures and reported pay ratios and pay levels. Panel A re-estimates the baseline regressions controlling for pay levels. Panel B analyzes the effects of newspaper closures on the two components of the pay ratio. Panel C explores the roles of financial constraints and labor mobility in shaping the relation between newspaper closures and pay levels. *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. *LN CEO pay* is the natural logarithm of total annual CEO pay plus one, and *LN Worker pay* is the natural logarithm of total annual median worker pay. *Closure* equals one for years after a newspaper closure in county *l* and zero otherwise. *Low labor mobility* equals one if industry-specific labor mobility is in the lowest quartile, based on Donangelo (2014). *High financial constraints* equals one if financial constraints are in the top quartile, measured using the WW index (Whited and Wu 2006). All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

*Panel A. Controlling for pay levels*

	LN Pay ratio			
	(1)	(2)	(3)	(4)
Closure	0.029** (2.019)	0.060** (2.291)	0.028** (1.981)	0.060** (2.269)
LN CEO pay	0.919*** (49.068)		0.918*** (48.904)	
LN Worker pay		-0.655*** (-11.963)		-0.648*** (-11.942)
Control for disclosure details	No	No	Yes	Yes
Control for firm characteristics	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
State×year FE	Yes	Yes	Yes	Yes
Observations	13,799	13,799	13,799	13,799
Adjusted R <sup>2</sup>	0.961	0.860	0.961	0.861

*Panel B. Newspaper closures and pay levels*

	LN CEO pay	LN Worker pay
	(1)	(2)
Closure	0.055** (2.087)	-0.030** (-2.291)
Control for disclosure details	Yes	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	13,799	13,799
Adjusted R <sup>2</sup>	0.813	0.928

*Panel C. The role of financial constraints and labor mobility*

	LN CEO pay		LN Worker pay	
	(1)	(2)	(3)	(4)
Closure	0.048* (1.656)	0.074** (1.970)	-0.014 (-1.038)	-0.023 (-1.493)
High financial constraints	0.009 (0.460)		0.001 (0.189)	
Low labor mobility		0.020 (0.787)		-0.004 (-0.315)
Closure × High financial constraints	0.016 (0.434)		-0.033* (-1.909)	
Closure × Low labor mobility		-0.068 (-1.264)		-0.066* (-1.656)
Control for disclosure details	Yes	Yes	Yes	Yes
Control for firm characteristics	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
State×year FE	Yes	Yes	Yes	Yes
Observations	13,799	8,840	13,799	8,840
Adjusted R <sup>2</sup>	0.813	0.769	0.928	0.933

**Table 6. Local newspapers and shareholder responses**

This table investigates whether local newspapers affect shareholder responses to the initial pay ratio disclosure. Panel A examines shareholder response via equity market reactions. Panel B examines shareholder response via say-on-pay votes. The main variables are as follows. *CAR [-1, +5]* is the cumulative abnormal return between event days -1 and +5, where abnormal returns are computed as the difference between a firm's daily return and the value-weighted CRSP market return, with both returns excluding dividends. Day 0 in event time is identified as the earliest filing date in 2018 of either the preliminary or the definitive proxy statement. *% Votes against* is the number of votes cast against the proposal divided by the total number of votes cast on the proposal. *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. *County with NP* is an indicator variable that equals one if a county has at least one newspaper in 2018, and zero otherwise. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. Industries are defined based on the two-digit Standard Industrial Classification (SIC) codes. Similar to Pan et al. (2022), the *t*-statistics reported in parentheses in Panel A (Panel B) are based on robust standard errors double-clustered by announcement (annual meeting) date and state. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<i>Panel A. Shareholder response via equity market reactions</i>		
	CAR [-1, +5]	
	(1)	(2)
LN Pay ratio	0.001 (0.281)	0.001 (0.334)
County with NP	0.013*** (3.197)	0.013*** (3.333)
LN Pay ratio × County with NP	-0.003*** (-2.825)	-0.003*** (-2.976)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Industry FE	Yes	Yes
Observations	2,041	2,041
Adjusted R <sup>2</sup>	0.032	0.031
<i>Panel B. Shareholder response via say-on-pay votes</i>		
	% Votes against	
	(1)	(2)
LN Pay ratio	0.019*** (6.498)	0.020*** (5.657)
County with NP	-0.030* (-1.731)	-0.030* (-1.948)
LN Pay ratio × County with NP	0.006* (1.822)	0.006** (2.042)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Industry FE	Yes	Yes
Observations	1,786	1,786
Adjusted R <sup>2</sup>	0.036	0.039

**Table 7. CEO age and the newspaper closure effect**

This table presents results for the differential effect of newspaper closures on within-firm pay disparity for firms led by young CEOs and those led by old CEOs. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variables are as follows. *Closure* is an indicator that takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. *Young CEO* is an indicator variable that equals one if the age of the CEO is in the lowest quartile of the CEO age distribution, and zero otherwise. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio	
	(1)	(2)
Closure	0.061* (1.811)	0.059* (1.740)
Young CEO	-0.071*** (-3.292)	-0.071*** (-3.330)
Closure × Young CEO	0.087** (1.987)	0.088** (2.017)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	9,588	9,588
Adjusted R <sup>2</sup>	0.836	0.837

**Table 8. Inequality aversion and the newspaper closure effect**

This table examines whether local attitudes toward income inequality affect the effect of newspaper closures on within-firm pay disparity. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variables are as follows. *Closure* is an indicator that takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. *High Democratic* is an indicator variable that equals one if *% Democratic* is in the top quartile of its distribution and zero otherwise, where *% Democratic* is the percentage of votes obtained by the Democratic Party in the 2020 presidential election in a county. *High social capital* is an indicator variable that equals one if *Social capital* is in the top quartile of its distribution and zero otherwise, where *Social capital* is the first principal component from a factor analysis based on voter turnout rates, response rates in US census surveys, total numbers of ten types of social organizations, and total numbers of non-profit organizations. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio	
	(1)	(2)
<i>Panel A. Inequality aversion proxied by democratic leaning</i>		
Closure	0.034 (0.873)	0.035 (0.900)
High Democratic	-0.023 (-0.444)	-0.023 (-0.453)
Closure × High Democratic	0.148** (2.109)	0.141** (2.026)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	12,190	12,190
Adjusted R <sup>2</sup>	0.852	0.853
<i>Panel B. Inequality aversion proxied by social capital</i>		
	LN Pay ratio	
	(1)	(2)
Closure	0.020 (0.502)	0.015 (0.380)
High social capital	0.021 (0.664)	0.023 (0.748)
Closure × High social capital	0.109** (1.968)	0.112** (2.032)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	12,614	12,614
Adjusted R <sup>2</sup>	0.847	0.848

### Appendix. Variable definitions

Variables	Definition	Source
<b><i>Pay variables</i></b>		
LN Pay ratio	The natural logarithm of one plus the pay ratio between the total annual CEO pay and the total annual median worker pay reported in the firm's proxy statement.	SEC Edgar
LN CEO pay	The natural logarithm of the reported total annual CEO pay (thousands \$) plus one.	SEC Edgar
LN Worker pay	The natural logarithm of the total annual median worker compensation (thousand \$).	SEC Edgar
<b><i>Disclosure details</i></b>		
Several pay ratios	An indicator variable that equals one if a firm reports two or more pay ratios in the definitive proxy statement for a firm year and zero otherwise.	SEC Edgar
Fraction non-US	The reported proportion of non-U.S. employees in the definitive proxy statement. For companies that do not report this information, it is equal to the number of employees in foreign countries divided by the total number of employees if both numbers are available through Compustat and Compustat segment data. For all other companies, this variable is equal to zero.	SEC Edgar, Compustat segment, and Compustat.
De minimis	An indicator variable that is equal to one if in the process of identifying its median employee a firm excludes some non-U.S. employees under the de minimis exemption, and zero otherwise.	SEC Edgar
Part-time worker	An indicator variable that equals one if a firm's median employee is a part-time employee and zero otherwise, as reported in the firm's proxy statement.	SEC Edgar
Cost-of-living adj.	An indicator variable that equals one if a firm applies the cost-of-living adjustment to the calculation of the total annual median worker pay and zero otherwise.	SEC Edgar
LN Length PR section	The natural logarithm of the number of characters of the pay ratio section in the definitive proxy statement. To construct this variable, we parse the full DEF 14A proxy statement in plain text and identify the section labeled "Pay Ratio" or equivalent headings. This approach ensures that the measure captures the complete textual content related to the CEO-worker pay ratio disclosure.	SEC Edgar
<b><i>Local Newspaper closure</i></b>		
Closure	An indicator variable that equals one for the years following a newspaper closure, and zero for the years prior to the closure.	Editor and Publisher Yearbook, U.S. Newspaper Directory of Chronicling America, Newspaper Death Watch, and other news
<b><i>Firm characteristics</i></b>		
Size	Firm size, computed as the natural logarithm of market capitalization.	Compustat
Book to market	Book value of total assets divided by the sum of book value of assets plus market value of equity minus book value of equity.	Compustat
Capex	Capital expenditure divided by total assets.	Compustat
ROA	Earnings before taxes and interest divided by total assets.	Compustat
Return	Annual stock return.	Compustat
Leverage	The sum of debt in current liabilities plus long-term debts divided by total assets.	Compustat
<b><i>Variables used in further analyses</i></b>		
Low NP county	An indicator variable that equals one for counties with two or fewer local newspapers, and zero otherwise.	Editor and Publisher Yearbook, U.S.
GDP	The natural logarithm of one plus the county's GDP.	Bureau of Economic Analysis

Population	The natural logarithm of one plus the county's population.	Bureau of Economic Analysis
Unemployment rate	The unemployment rate of the county.	Bureau of Labor Statistics
Wage	The natural logarithm of one plus the county's average annual wage.	Bureau of Labor Statistics
Industry concentration	A measure of local industry employment concentration, defined as the Herfindahl-Hirschman Index (HHI) calculated from the share of an industry's employment in a county relative to the county's total employment.	Bureau of Labor Statistics
Young CEO	An indicator variable that equals one if the age of the CEO is in the lowest quartile of the CEO age distribution, and zero otherwise.	Execucomp
High Democratic	An indicator variable that equals one if % <i>Democratic</i> is in the top quartile of its distribution and zero otherwise, where % <i>Democratic</i> is the percentage of votes obtained by the Democratic Party in the 2020 presidential election in a county.	MEDSL
High social capital	An indicator variable that equals one if <i>Social capital</i> is in the top quartile of its distribution and zero otherwise, where <i>Social capital</i> is the first principal component from a factor analysis based on voter turnout rates, response rates in US census surveys, total numbers of ten types of social organizations, and total numbers of non-profit organizations.	MEDSL, U.S. Census Bureau, CBP, and NCCS
CAR [-1, +5]	The cumulative abnormal return between event days -1 and +5, where abnormal returns are computed as the difference between a firm's daily return and the value-weighted CRSP market return, with both returns excluding dividends. Day 0 in event time is identified as the earliest filing date in 2018 of either the preliminary or the definitive proxy statement. To control for outliers, we eliminate 148 firms with daily abnormal returns that deviate by more than three standard deviations from the sample mean, where both mean and standard deviation of daily abnormal returns are calculated across all stocks in our sample across all days in 2018.	CRSP, SEC Edgar
High financial constraints	An indicator variable that takes the value of one if a firm's financial constraints are in the top quartile of its sample distribution and zero otherwise, where financial constraints are measured using the WW index (Whited and Wu 2006).	Compustat
Low labor mobility	An indicator variable that equals one if a firm's industry-specific labor mobility falls within the lowest quartile of its sample distribution, and zero otherwise, where labor mobility is measured using the approach outlined by Donangelo (2014).	Occupational Employment and Wage Statistics of the U.S. Bureau of Labor Statistics
County with NP	An indicator variable that equals one if a county had at least one local newspaper in 2018, and zero otherwise.	Editor and Publisher Yearbook, U.S. Newspaper Directory of Chronicling America, Newspaper Death Watch, and other news
High TV	An indicator variable that equals one if the percentage of the state population that uses a smart TV or TV-connected device falls within the top quartile of the sample distribution, and zero otherwise.	National Telecommunications and Information Administration (NTIA)
High internet	An indicator variable that equals one if the percentage of the state population that uses the internet falls within the top quartile of the sample distribution, and zero otherwise.	National Telecommunications and Information Administration (NTIA)
Urban	An indicator variable that equals one if a firm's headquarters is located in one of the ten largest metropolitan areas in the U.S., and zero otherwise.	U.S. Census Bureau
S&P 500	An indicator variable that equals one if a firm is a member of the S&P 500, and zero otherwise.	Siblis Research
Corporate-owned NP	An indicator variable that equals one if a local newspaper is owned by a large media corporation operating newspaper chains across multiple states, and zero otherwise.	Newspaperownership.com, official newspaper websites, and general Google searches.
High institutional ownership	An indicator variable that equals one if the combined holdings of a firm's five largest institutional investors fall within the top quartile of the sample distribution, and zero otherwise.	LSEG Institutional (13F) Holdings
% Votes against	The number of votes cast against the proposal divided by the total number of votes cast on the proposal.	SEC Edgar
Local firm	An indicator variable that equals one if at most two states are mentioned in a firm's annual report in sections "Item 1: Business", "Item 2: Properties", "Item 6: Consolidated Financial Data", and "Item 7: Management's Discussion and Analysis" of the annual report filed on Form 10-K with the SEC.	SEC Edgar

**Online Appendix for  
“Inequality Grows in Silence: The Impact of Newspaper Closures on CEO-Worker Pay  
Disparity”**

This Online Appendix presents the results of additional analyses and robustness tests discussed in the main text. The tables are organized as follows:

Online Appendix A: Background of the mandatory CEO–worker pay ratio disclosure

Online Appendix B: Details of neighboring county matching

Figure OA1. Map of newspaper closures

Table OA1. Newspaper closures by year

Table OA2. Closed newspapers and county characteristics

Table OA3. Newspaper closures and disclosure behavior

Table OA4. Disclosure behavior and the effect of newspaper closures on within-firm pay disparity

Table OA5. Alternative pay ratio measure

Table OA6. Excluding observations with discretionary reporting adjustments

Table OA7. Stacked difference-in-differences

Table OA8. Falsification test

Table OA9. Neighboring county matching

Table OA10. The effect of closures on worker pay after controlling for county characteristics

References

## Online Appendix A: The Pay Ratio Disclosure Mandate and Income Inequality

More than a decade after the 2008 global financial crisis, rising income inequality and associated public concern are garnering significant attention from politicians, economists, and policymakers.<sup>32</sup> The growing pay disparity within firms is of particular concern (Song et al. 2019). In July 2010, as part of the larger reforms in the Dodd-Frank Act, the U.S. Congress passed a disclosure mandate focusing on within-firm pay disparity. Following an extensive comment period, the SEC adopted the final version of the mandate in August 2015, which requires most public firms listed in the United States to disclose their CEO-worker pay ratio starting in the first fiscal year beginning on or after January 1, 2017.<sup>33</sup> The first pay ratio disclosures were made in calendar year 2018, based on fiscal year 2017 data, typically reported in the proxy statement (i.e., SEC Form DEF 14A). Under the new rule, firms must disclose the median annual total compensation of all employees (excluding the CEO), the annual total compensation of the CEO, and the ratio between these two numbers.

What purpose is the pay ratio disclosure mandate intended to fulfill? According to former Senator Menendez, the initiator of the pay ratio mandate, there are two broad justifications for it: (i) providing information on income inequality for the benefit of employees; and (ii) helping investors evaluate the fairness of firms' compensation practices. In a 2011 letter to the SEC, Senator Menendez stated that "at a time when companies are laying off workers, employees deserve to know whether their executives are sharing proportionally in any sacrifices."<sup>34</sup> In a subsequent letter in 2017, Senator Menendez and 36 other members of Congress argued that investors can use pay ratio information to determine the "fairness" of a firm's compensation structure, and that this information is relevant to investors because high pay ratios are associated with "the kind of risky investments that brought on the global financial crisis."<sup>35</sup> This letter also drew a connection between corporate pay disparity and broader societal concerns by noting that "paying CEOs hundreds of times more than the typical employees hurts working families, is detrimental to employee morale, and goes against what

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<sup>32</sup> Krugman, P. (2013, December 15). *Why inequality matters*. The New York Times. <https://www.nytimes.com/2013/12/16/opinion/krugman-why-inequality-matters.html>; Kuhn, M., Schularick, M., and Steins, U. (2018, September 13). *Research: How the financial crisis drastically increased wealth inequality in the U.S.* Harvard Business Review. <https://hbr.org/2018/09/research-how-the-financial-crisis-drastically-increased-wealth-inequality-in-the-u-s>.

<sup>33</sup> The mandate exempts certain firms from disclosure, such as emerging growth firms with annual revenues below \$1.07 billion and smaller reporting firms with public floats below \$75 million.

<sup>34</sup> Menendez, R. (2011, January 19). *Letter to Mary L. Schapiro, Chairwoman of the U.S. SEC*. <https://www.sec.gov/comments/df-title-ix/executive-compensation/executivecompensation-59.pdf>.

<sup>35</sup> Menendez, R. et al. (2017, March 14). *Letter to Michael Piwowar, Acting Chairman of the U.S. SEC*. <https://www.sec.gov/comments/pay-ratio-statement/cll3-1660758-148835.pdf>.

research shows is best for business,” and that such pay practices “contribute to stunning widening of economic inequality.”

A notable feature of the disclosure mandate is that it was the first rule in the history of the SEC disclosure regime to require firms to disclose any information about how they pay their workers (Bank and Georgiev 2019).<sup>36</sup> As a result, these pay ratio data not only attract significant media attention but also alter the nature of the coverage on corporate compensation issues. Prior to 2018, firms were only required to disclose the total compensation received by the five highest-paid executives. At the time, the media’s reporting on pay disclosures primarily focused on the size of executive pay packages and whether executive pay was closely linked to corporate performance.<sup>37</sup> The availability of firm-specific pay ratio data in 2018 shifted media attention to pay disparities between CEOs and rank-and-file employees, as well as the broader issue of income inequality.<sup>38</sup>

The pay ratio disclosure rule can encourage and amplify public discourse about income inequality in at least two ways (Bank and Georgiev 2019). First, by linking workers’ earnings to those of executives, the pay ratio brings a personal dimension that resonates more strongly with the public than information about CEO pay alone. Essentially, the pay ratio represents a useful summary measure of corporate pay disparity since employees often use CEO pay as a reference to gauge the fairness of their own compensation (Wade, O’Reilly, and Pollock 2006). Second, the pay ratio disclosure rule ensures that public discussion on pay disparity occurs every year during the annual corporate reporting season. Cheng and Zhang (2024) document that firms notably reduce their CEO-worker pay differentials when their previous differentials are high compared to those of their peer firms, suggesting the public plays a critical role in monitoring and impacting firms with high pay gaps.

Scholars and practitioners, however, also note several limitations of the CEO-worker pay ratio as a measure of pay disparity. Although the mathematical computation is straightforward, the SEC’s rules grant firms considerable methodological flexibility in defining the employee population, identifying the median employee, and calculating compensation (Bank and Georgiev 2019). While intended to reduce compliance costs, this flexibility can undermine the reliability and comparability of reported ratios across firms and over time.

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<sup>36</sup> The only other disclosure rule concerning workers requires firms to report their total number of employees.

<sup>37</sup> Mullaney, T. (2015, May 18). *Why corporate CEO pay is so high, and going higher*. CNBC. <https://www.cnbc.com/2015/05/18/why-corporate-ceo-pay-is-so-high-andgoing-higher.html>.

<sup>38</sup> Talton, J. (2018, July 20). *It’s suite at the top, but runaway CEO pay doesn’t help the economy*. The Seattle Times. <https://www.seattletimes.com/business/economy/its-suite-at-the-top-but-runaway-ceo-pay-is-bad-for-capitalism>.

Companies may differ, for example, in whether they include part-time, seasonal, or foreign workers in the calculation, and in whether they apply cost-of-living or other adjustments. Moreover, without mandatory narrative disclosures to explain the figures, the ratios can be difficult for investors and employees to interpret in context (Bank and Georgiev 2019). Despite these limitations, the CEO-worker pay ratio remains a unique and valuable metric. It provides a direct link between CEO compensation and that of the typical employee, with important implications for public discourse on corporate pay disparities. Additionally, it serves as a tangible benchmark for stakeholders, shaping broader discussions around equity and fairness in compensation practices (Pan et al. 2022; Boone et al. 2024). The pay ratio's frequent association with income inequality underscores the ever-widening wealth gap. Mandating firms to disclose their pay ratios encourages regular public discourse that raises society's concerns about pay disparity issues.

## Online Appendix B: Details of the neighboring-county matching analysis

We examine the robustness of our findings using a neighboring-county–matched sample to further mitigate the concern that both newspaper closures and the resulting higher pay ratios might be driven by underlying economic conditions within a given region. To construct this sample, we follow a two-step matching process. First, we identify all neighboring counties within a 50-mile radius that do not experience a newspaper closure within our study period. From this initial pool, we employ a logit model to estimate the likelihood of a newspaper closure occurring in a county based on its population size and GDP. We then use the estimated propensity scores to perform one-to-one nearest-neighbor matching without replacement.

The rationale behind this approach is that changes in economic conditions in a given region are likely to affect both counties. However, given that the vast majority of local-newspaper circulations are typically within-county (Gao et al. 2020; Gentzkow et al. 2011), the shutdown of a newspaper in one county is unlikely to significantly affect pay ratios in a neighboring control county. As a result, we would expect the effect of newspaper closures on pay ratios to persist within the matched sample if these closures truly affect pay disparity. Conversely, if the newspaper closures merely reflect changes in the local economic environment, the effect would disappear.

Panel A of Table OA9 presents diagnostic statistics comparing the mean values of GDP and population between closure counties and their matched counterparts. The non-significant differences between these means suggest that the two groups are indeed comparable. Panel B reports the regression results based on the neighboring-county–matched sample. The continued presence of significant positive coefficients on *Closure* indicates that the post-closure increase in pay ratios is unlikely to be driven by changing economic conditions in a given region.

While the neighboring-county matching approach offers some reassurance, it may not fully account for broader economic differences that could simultaneously influence both newspaper survival and corporate pay practices, such as deteriorating labor market conditions or shifts in local industry composition. To further mitigate this concern, we adopt an inverse probability of treatment weighting (IPTW) strategy that balances closure and control counties not only on population and GDP, but also on county-level unemployment rates, average annual wages, and industry employment concentration (measured using the Herfindahl–Hirschman

Index).<sup>39</sup> Specifically, we estimate the propensity score of a newspaper closure using a logistic regression model that incorporates these county-level characteristics, and apply IPTW to construct a weighted sample in which closure and control counties are balanced across all observed covariates (Hirano et al. 2003; Rosenbaum and Rubin 1983; Stuart and Yim 2010). The weighted regression results, presented in Panel C of Table OA9, confirm that the positive effect of newspaper closures on CEO-worker pay ratios remains robust to this alternative county-matching approach.

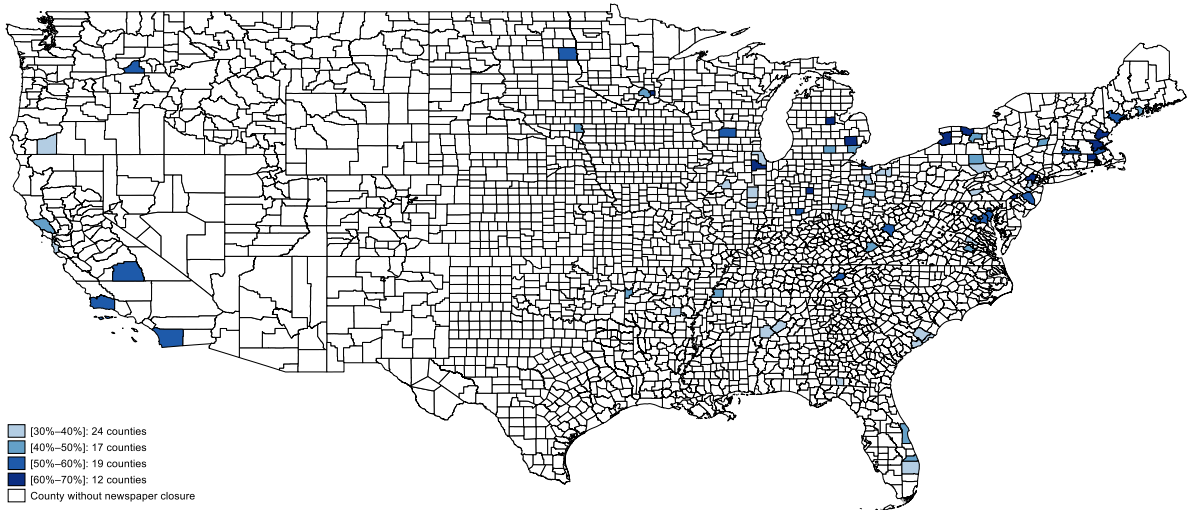
In untabulated analyses, we further augment our baseline specifications by: (i) explicitly controlling for changes in county-level variables; (ii) interacting the closure indicator with changes in each county-level variable to capture potential heterogeneous effects; and (iii) including decile-fixed effects for each variable to account for potential nonlinear relations between local economic conditions and CEO-worker pay disparity. The estimated effect of newspaper closures on pay ratios remains positive and significant across all specifications. Together, these robustness checks strengthen our confidence that the observed increase in CEO-worker pay disparity following the closure of local newspapers is not driven by underlying regional economic shocks.

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<sup>39</sup> *Industry concentration* measures local employment concentration, calculated as the Herfindahl–Hirschman Index using each industry’s share of county employment, as follows:

$$\text{Industry concentration}_{c,t} = \sum_i \left( \frac{\text{emp}_{i,c,t}}{\text{emp}_{c,t}} \right)^2 = \sum_i (S_{i,c,t})^2$$

where  $\text{emp}_{i,c,t}$  is the total employment in industry  $i$  (based on NAICS) in county  $c$  in year  $t$ ;  $\text{emp}_{c,t}$  is the total employment in county  $c$  in year  $t$ ; and  $S_{i,c,t}$  is the employment share of industry  $i$  in county  $c$  in year  $t$ .



**Figure OA1. Map of newspaper closures**

[Alt-Text] Choropleth map shows counties experiencing newspaper closures, with darker blue indicating larger declines in local coverage.

[Long Description] This figure shows a choropleth map of counties that experience newspaper closures. Counties with closures are highlighted in blue, with darker shades representing larger reductions in local news coverage of pay disparities in the year following the closure compared to two years prior. The closure counties are grouped into four categories based on the magnitude of this reduction: 30–40 percent, 40–50 percent, 50–60 percent, and 60–70 percent. Each category is represented by a different shade of blue and the legend reports the number of counties in each group. The map shows that newspaper closures are geographically dispersed across the United States.

**Table OA1. Newspaper closures by year**

This table presents the distribution of newspaper closures in our sample by year. We only include firms that are present in both the pre- and post-closure periods. As our sample spans the period 2017–2023, this research design implies that newspaper closures before 2018 or after 2022 are excluded from our analyses to ensure that the firms included are present both in the pre- and post-closure periods.

Year	Number of newspaper closures	% of total
2017	-	-
2018	6	17.6%
2019	5	14.7%
2020	7	20.6%
2021	9	26.5%
2022	7	20.6%
2023	-	-
Total	34	100%

**Table OA2. Closed newspapers and county characteristics**

This table lists all newspaper closures included in our analysis. Panel A reports details of the closed newspapers, including publication frequency (weekly or daily), year of closure, reason for closure, and whether an online presence remains. Panel B presents characteristics of the counties where closures occurred, including GDP, population, unemployment rate, average wages, and industry employment concentration. For newspaper closures involving multiple counties, we take the average of the relevant counties' characteristics for Panel B. GDP is reported in billions of dollars, population in thousands, and wages in thousands of dollars. Among the newspaper closures, over 91% (31 of 34) occurred in counties with GDP above the sample median of \$1.127 billion across all U.S. counties. Additionally, the unemployment rates in all affected counties are below the sample median of 0.042, and average annual wages consistently exceed the sample median of \$42.57 thousand.

*Panel A. Details of closed newspapers*

Newspaper name	Publication frequency	Closure year	Closure reason	Online presence
Herald-Progress	Weekly	2018	Financial challenges and declining advertising revenue	No
Waynesville Daily Guide	Daily	2018	Declining advertising revenue, a reduction in circulation, and owner's aggressive cost-cutting strategies across its publications	No
Downtown Journal	Weekly	2018	Declining advertising revenue	No
Hope Star	Daily	2018	A steady decline in advertising revenue	No
Green Banner Publications	Weekly	2018	Challenges in sustaining its business model amid changing media consumption habits	No
Nevada County Picayune	Weekly	2018	Declining print revenue and rising operational costs	No
Carthage Republican Tribune	Weekly	2019	Financial challenges, including declining readership and advertising revenue	No
Jupiter Courier Newsweekly	Weekly	2019	Decline in print advertising revenue and high operational costs	No
OC Weekly	Weekly	2019	A long-term financial decline due to falling advertising revenues and changing media consumption.	No
Journal Tribune	Daily	2019	Declining print circulation and insufficient digital advertising revenue	No
Hendricks County Flyer	Weekly	2019	Decline in print advertising revenue and high operational costs	No
Maries County Gazette	Weekly	2020	Financial challenges exacerbated by the COVID-19 pandemic	No
Metro Boston	Daily	2020	Loss of centralized editorial, production, and administrative resources, and declining circulation and advertising Revenue	No
The Umpqua Post	Weekly	2020	Owner cited economic pressures and cessation of revenue making operation untenable	No

Santee Striper	Weekly	2020	Financial challenges exacerbated by the COVID-19 pandemic	No
Del Rio News-Herald	Daily	2020	Sustained economic decline, failed adaptations to shrinking revenues, and broader disruption in the local media model	No
RedEye	Weekly	2020	The COVID-19 pandemic significantly affected advertising revenues and the viability of free commuter newspapers	No
Union Daily Times	Daily	2020	Economic pressures exacerbated by the COVID-19 pandemic	No
Ford County Record	Weekly	2021	The Ford County Record had been unable to regain community financial support	No
Barnesville Enterprise	Weekly	2021	Declining advertising revenue, and rising production and printing costs	No
Ontario Post	Weekly	2021	The economic fallout from the COVID-19 pandemic decimated advertising revenue and strained newsroom budgets	No
Hudson Sun	Weekly	2021	Declining print advertising revenue	No
Sidney Argus-Herald	Weekly	2021	The severe economic impact of the COVID-19 pandemic leads to steep drops in advertising revenue and operational sustainability	No
Bowie Blade-News	Weekly	2021	A lack of local advertisers was cited as the primary reason for the closure	No
Ralston Recorder	Weekly	2021	Financial unsustainability due to a substantial drop in subscribers and advertising revenue	No
The Munising News	Weekly	2021	Staffing shortage	No
Upper Dauphin Sentinel	Weekly	2021	Publisher Ben Kocher (age 76) retired after 51 years of ownership, and no successor or buyer found despite years of trying	No
Randolph County Herald Tribune	Weekly	2022	The severe economic impact of the COVID-19 pandemic	No
Daleville Sun-Courier	Weekly	2022	Significant decline in advertising revenue due to pandemic-related supply chain challenges and Severe staff shortages left the organization understaffed	No
The Clay City Times	Weekly	2022	Rising printing and production costs, declining subscriptions and circulation, and falling local advertising revenue	No
Colorado Daily	Daily	2022	Economic pressures and unsustainable advertising revenue	No
Gazette of Middle Township	Weekly	2022	Advertising declines, rising costs and digital competition	No
Du Quoin Call	Daily	2022	Rising costs, and fewer sources of income, particularly advertising and classifieds	No
Titusville Herald	Daily	2022	Corporate wind-down after publisher's death and longtime financial strain	No

*Panel B. Characteristics of closure counties*

Newspaper name	Closure year	GDP	Population	Unemployment rate	Wage	Industry concentration
Herald-Progress	2018	1.557	37.485	0.024	75.116	0.271
Waynesville Daily Guide	2018	21.439	22.821	0.029	56.712	0.230
Downtown Journal	2018	5.657	60.368	0.024	66.911	0.228
Hope Star	2018	13.050	36.890	0.029	48.386	0.215
Green Banner Publications	2018	1.719	46.489	0.028	49.621	0.210
Nevada County Picayune	2018	14.513	37.777	0.029	53.994	0.216
Carthage Republican Tribune	2019	2.678	58.847	0.040	105.861	0.263
Jupiter Courier Newsweekly	2019	9.302	190.557	0.030	52.477	0.236
OC Weekly	2019	31.278	116.172	0.034	95.039	0.220
Journal Tribune	2019	2.798	115.267	0.027	47.492	0.225
Hendricks County Flyer	2019	2.408	65.462	0.028	50.299	0.209
Maries County Gazette	2020	22.725	25.046	0.029	61.197	0.227
Metro Boston	2020	22.541	196.187	0.030	96.811	0.244
The Umpqua Post	2020	0.832	16.123	0.032	67.922	0.205
Santee Stripper	2020	6.064	40.408	0.025	52.270	0.209
Del Rio News-Herald	2020	510.667	72.697	0.035	71.107	0.219
RedEye	2020	15.764	800.868	0.040	73.220	0.228
Union Daily Times	2020	6.821	42.340	0.025	52.689	0.210
Ford County Record	2021	19.831	917.393	0.040	77.267	0.228
Barnesville Enterprise	2021	2.526	46.500	0.036	62.037	0.222
Ontario Post	2021	2.781	56.479	0.040	131.987	0.267
Hudson Sun	2021	25.336	196.925	0.030	103.201	0.245
Sidney Argus-Herald	2021	1.790	44.515	0.023	61.695	0.219
Bowie Blade-News	2021	1.369	20.052	0.027	85.364	0.244
Ralston Recorder	2021	0.692	8.603	0.023	57.593	0.222
The Munising News	2021	4.236	71.595	0.035	65.375	0.214
Upper Dauphin Sentinel	2021	43.350	117.071	0.036	69.710	0.229
Randolph County Herald Tribune	2022	18.327	851.879	0.040	72.898	0.229
Daleville Sun-Courier	2022	6.058	555.592	0.028	63.326	0.223
The Clay City Times	2022	1.509	15.705	0.036	63.595	0.221
Colorado Daily	2022	7.827	663.148	0.028	87.418	0.236
Gazette of Middle Township	2022	0.819	20.981	0.035	83.485	0.246
Du Quoin Call	2022	22.875	950.590	0.040	79.681	0.228
Titusville Herald	2022	51.343	114.402	0.036	72.167	0.228

**Table OA3. Newspaper closures and disclosure behavior**

This table examines the effect of newspaper closures on disclosure behavior. To capture disclosure behavior, we employ six measures. *Part-time worker* is an indicator variable that equals one if a firm's median employee is a part-time employee and zero otherwise, as reported in the firm's proxy statement. *De minimis* is an indicator variable that is equal to one if in the process of identifying its median employee a firm excludes some non-U.S. employees under the de minimis exemption, and zero otherwise. *Cost-of-living adj.* is an indicator variable that equals one if a firm applies the cost-of-living adjustment to the calculation of the total annual median worker pay, and zero otherwise. *LN Length PR section* is the natural logarithm of the number of characters of the pay ratio section in the definitive proxy statement plus one. *Several pay ratios* is an indicator variable that equals one if a firm reports two or more pay ratios in the definitive proxy statement for a firm year, and zero otherwise. *Fraction non-US* is the reported proportion of non-U.S. employees in the definitive proxy statement. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. We add additional controls to account for important determinants of disclosure behavior. They include the following. *Segments* is the number of business segments disclosed in the Compustat Segment files. *Big 4* is an indicator variable equal to one if the auditor is Deloitte, Ernst & Young, KPMG, or PwC, and zero otherwise. *Foreign sales fraction* is the aggregate sales from foreign segments scaled by total sales. *Analyst coverage* is measured as the log of one plus the maximum number of analysts issuing annual earnings forecasts for a firm in any given month over the 12-month period. *Institutional ownership* is measured as the combined shareholdings of a firm's five largest institutional investors, using data from LSEG Institutional (13F) Holdings. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	Part-time worker	De minimis	Cost-of-living adj.	LN Length PR section	Several pay ratios	Fraction non-US
	(1)	(2)	(3)	(4)	(5)	(6)
Closure	-0.001 (-0.315)	-0.016 (-1.461)	-0.002 (-1.006)	-0.016 (-1.502)	-0.016 (-1.186)	0.015 (1.290)
Size	-0.002 (-0.802)	0.002 (0.274)	0.001 (1.125)	0.022*** (3.023)	0.006 (0.795)	-0.001 (-0.186)
Book to market	0.006 (1.064)	0.023 (0.944)	0.005* (1.795)	0.084*** (3.362)	0.060** (2.280)	0.015 (0.712)
Capex	0.064 (1.556)	-0.225* (-1.882)	-0.007 (-0.631)	-0.048 (-0.435)	-0.008 (-0.078)	0.072 (1.005)
ROA	-0.012 (-0.964)	-0.022 (-0.706)	0.005* (1.768)	-0.058 (-1.578)	-0.025 (-0.795)	0.004 (0.134)
Return	0.003* (1.829)	0.000 (0.016)	-0.000 (-0.483)	-0.003 (-0.580)	-0.001 (-0.147)	0.005 (1.437)
Leverage	-0.002 (-0.196)	0.004 (0.172)	0.006 (1.336)	0.034 (1.370)	-0.039 (-1.537)	0.005 (0.291)
Segments	-0.001 (-0.688)	0.000 (0.126)	-0.000 (-0.305)	0.003 (1.240)	0.003 (1.225)	-0.002 (-0.685)
Big 4	0.006 (1.068)	0.007 (0.477)	0.000 (0.048)	-0.003 (-0.136)	-0.055*** (-2.637)	-0.003 (-0.324)
Foreign sales fraction	0.031 (1.565)	0.032 (1.035)	-0.001 (-0.105)	-0.002 (-0.083)	0.006 (0.183)	0.087*** (2.723)

Institutional ownership	-0.011 (-0.500)	0.186 (1.351)	0.034 (0.804)	0.349** (1.994)	-0.065 (-0.364)	0.222* (1.791)
Analyst coverage	-0.004 (-1.634)	0.004 (0.438)	-0.000 (-0.577)	-0.006 (-0.993)	-0.005 (-0.586)	-0.012 (-1.638)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
State×year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,095	13,095	13,095	13,095	13,095	13,095
Adjusted R <sup>2</sup>	0.856	0.869	0.885	0.821	0.506	0.729

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**Table OA4. Disclosure behavior and the effect of newspaper closures on within-firm pay disparity**

This table examines whether disclosure behavior moderates the effect of newspaper closures on within-firm pay disparity. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. To capture disclosure behavior, we employ six measures. *Part-time worker* is an indicator variable that equals one if a firm's median employee is a part-time employee and zero otherwise, as reported in the firm's proxy statement. *De minimis* is an indicator variable that is equal to one if in the process of identifying its median employee a firm excludes some non-U.S. employees under the de minimis exemption, and zero otherwise. *Cost-of-living adj.* is an indicator variable that equals one if a firm applies the cost-of-living adjustment to the calculation of the total annual median worker pay, and zero otherwise. *LN Length PR section* is the natural logarithm of the number of characters of the pay ratio section in the definitive proxy statement plus one. *Several pay ratios* is an indicator variable that equals one if a firm reports two or more pay ratios in the definitive proxy statement for a firm year, and zero otherwise. *Fraction non-US* is the reported proportion of non-U.S. employees in the definitive proxy statement. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Closure × Part-time worker	0.014 (0.062)						0.003 (0.011)
Closure × De minimis		-0.056 (-1.271)					-0.060 (-1.371)
Closure × Cost-of-living adj.			0.171 (0.634)				0.297 (1.021)
Closure × LN Length PR section				-0.037 (-1.574)			-0.028 (-1.166)
Closure × Several pay ratios					-0.141 (-1.505)		-0.154 (-1.592)
Closure × Fraction non-US						0.055 (0.710)	0.066 (0.865)
Closure	0.079*** (2.799)	0.090*** (3.030)	0.078*** (2.780)	0.293** (2.121)	0.086*** (3.026)	0.072** (2.473)	0.252* (1.805)
Size	0.202*** (8.676)	0.203*** (8.678)	0.203*** (8.686)	0.203*** (8.678)	0.202*** (8.665)	0.202*** (8.667)	0.202*** (8.670)
Book to market	0.133* (1.861)	0.133* (1.859)	0.133* (1.863)	0.133* (1.865)	0.133* (1.869)	0.133* (1.862)	0.134* (1.872)
Capex	0.300 (1.014)	0.296 (0.999)	0.302 (1.020)	0.303 (1.023)	0.298 (1.007)	0.302 (1.017)	0.301 (1.017)
ROA	0.178* (1.788)	0.177* (1.782)	0.178* (1.787)	0.179* (1.799)	0.175* (1.762)	0.178* (1.793)	0.176* (1.766)
Return	-0.011 (-0.730)	-0.011 (-0.718)	-0.011 (-0.739)	-0.011 (-0.730)	-0.011 (-0.720)	-0.011 (-0.723)	-0.011 (-0.714)

Leverage	0.183** (2.516)	0.182** (2.503)	0.183** (2.512)	0.184** (2.525)	0.184** (2.526)	0.184** (2.523)	0.183** (2.518)
Several pay ratios	-0.142*** (-4.652)	-0.143*** (-4.663)	-0.143*** (-4.664)	-0.142*** (-4.653)	-0.134*** (-4.322)	-0.143*** (-4.656)	-0.134*** (-4.335)
Part-time worker	0.241** (2.119)	0.241** (2.125)	0.241** (2.129)	0.241** (2.119)	0.241** (2.124)	0.242** (2.131)	0.240** (2.105)
Fraction non-US	0.066* (1.740)	0.066* (1.733)	0.066* (1.740)	0.067* (1.768)	0.066* (1.736)	0.060 (1.533)	0.059 (1.513)
De minimis	-0.025 (-0.763)	-0.020 (-0.601)	-0.025 (-0.770)	-0.025 (-0.750)	-0.025 (-0.755)	-0.025 (-0.755)	-0.019 (-0.573)
Cost-of-living adj.	-0.033 (-0.236)	-0.031 (-0.221)	-0.063 (-0.522)	-0.027 (-0.193)	-0.013 (-0.094)	-0.036 (-0.264)	-0.063 (-0.505)
LN Length PR section	0.108*** (3.051)	0.108*** (3.045)	0.108*** (3.050)	0.110*** (3.120)	0.108*** (3.057)	0.108*** (3.067)	0.110*** (3.119)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stateyear FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,799	13,799	13,799	13,799	13,799	13,799	13,799
Adjusted R <sup>2</sup>	0.848	0.848	0.848	0.848	0.848	0.848	0.848

**Table OA5. Alternative pay ratio measure**

This table examines the effect of newspaper closures on within-firm pay disparity using an alternative pay ratio measure. The dependent variable  $\ln(\text{CEO pay}/\text{Worker pay})$  is the natural logarithm of the reported CEO pay over reported median worker pay. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. All specifications include firm and state-year fixed effects. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	ln(CEO pay/Worker pay)		
	(1)	(2)	(3)
Closure	0.083*** (2.770)	0.088*** (3.045)	0.086*** (2.957)
Control for disclosure details	No	No	Yes
Control for firm characteristics	No	Yes	Yes
Firm FE	Yes	Yes	Yes
State×year FE	Yes	Yes	Yes
Observations	13,798	13,798	13,798
Adjusted R <sup>2</sup>	0.828	0.833	0.833

**Table OA6. Excluding observations with discretionary reporting adjustments**

This table re-examines the effect of newspaper closures on within-firm pay disparity, excluding firm-year observations with multiple pay-ratio disclosures or cost-of-living adjustments. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. All specifications include firm and state-year fixed effects. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio		
	(1)	(2)	(3)
Closure	0.093*** (3.077)	0.095*** (3.277)	0.095*** (3.267)
Control for disclosure details	No	No	Yes
Control for firm characteristics	No	Yes	Yes
Firm FE	Yes	Yes	Yes
State×year FE	Yes	Yes	Yes
Observations	12,581	12,581	12,581
Adjusted R <sup>2</sup>	0.848	0.852	0.852

**Table OA7. Stacked difference-in-differences**

This table examines the effect of newspaper closures on within-firm pay disparity using a stacked difference-in-differences design. To apply the stacked DiD method, we create 19 event-specific cohorts that correspond to 34 newspaper closures. Each event cohort consists of firms treated by the closure event and control firms that never experience any newspaper closures for a 3-year panel by event time ( $t-1$  to  $t+1$ ) around the corresponding closure year  $t$ . We then stack all the event cohorts in relative time to estimate an average treatment effect. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county  $l$ , and zero for the years prior to the closure. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. All specifications include firm, state-year, and cohort fixed effects. The  $t$ -statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio		
	(1)	(2)	(3)
Closure	0.075*** (3.003)	0.090*** (3.672)	0.092*** (3.765)
Control for disclosure details	No	No	Yes
Control for firm characteristics	No	Yes	Yes
Firm FE	Yes	Yes	Yes
State $\times$ year FE	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes
Observations	167,724	165,014	164,760
Adjusted R <sup>2</sup>	0.875	0.880	0.881

**Table OA8. Falsification test**

This table presents the results of falsification tests examining the pay ratio following local newspaper closures. The dependent variable, *LN Pay Ratio*, is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variable, *Closure<sub>pseudo</sub>*, is a pseudo-treatment indicator constructed through a two-step randomization: we randomly select 72 pseudo-closure counties (matching the distribution of actual closure and non-closure counties) and assign each a random pseudo-closure year within its sample period. We re-estimate our baseline regressions using this pseudo-treatment and repeat the procedure 1,000 times. Across specifications with and without disclosure detail controls, the coefficients on *Closure<sub>pseudo</sub>* are close to zero and statistically insignificant, supporting the conclusion that unobserved county characteristics do not drive our findings. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1st and 99th percentiles. t-statistics (in parentheses) are based on heteroscedasticity-robust standard errors clustered at the firm level. \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

	LN Pay ratio	
	(1)	(2)
<i>Closure<sub>pseudo</sub></i>	0.000 (0.012)	-0.001 (-0.049)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State $\times$ year FE	Yes	Yes
Observations	13,799	13,799

**Table OA9. Neighboring county matching**

This table presents the results of the newspaper closure effect on pay disparity using a neighboring-county matched sample. In constructing the sample for this analysis, we match each county where a closure occurs with a neighboring control county (within a 50-mile radius) that does not experience a closure but has similar population size and GDP. The dependent variable *LN Pay ratio* is the natural logarithm of one plus the pay ratio reported in the firm's proxy statement. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. *Population* is the natural logarithm of one plus the county's population. *GDP* is the natural logarithm of one plus the county's GDP. Panel A reports diagnostic statistics for the differences in means between the treatment and control counties, while Panel B presents the regression results based on the neighboring-county matched sample. Panel C presents the regression results based on the inverse probability of treatment-weighted sample. *Unemployment rate* is the county's unemployment rate. *Wage* is the natural logarithm of one plus the county's average annual wage. *Industry concentration* is a measure of local industry employment concentration, defined as the Herfindahl-Hirschman Index (HHI) calculated from the share of an industry's employment in a county relative to the county's total employment. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

*Panel A: Diagnostic statistics of the difference in means of variables*

Variable	Treated	Control	<i>t</i> -stat.	<i>p</i> -value
Population	16.938	16.896	0.010	0.990
GDP	12.671	12.477	0.070	0.943

*Panel B: Regressions based on the neighboring-county matched sample*

	LN Pay ratio	
	(2)	(3)
Closure	0.126** (2.462)	0.109** (2.122)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	3,524	3,524
Adjusted R <sup>2</sup>	0.847	0.849

*Panel C: Inverse probability of treatment-weighted regressions*

	LN Pay ratio	
	(1)	(2)
Closure	0.076** (2.027)	0.077** (2.048)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State×year FE	Yes	Yes
Observations	8,731	8,731
Adjusted R <sup>2</sup>	0.858	0.858

**Table OA10. The effect of closures on worker pay after controlling for county characteristics**

This table examines the effect of newspaper closures on worker pay. The dependent variable *LN Worker pay* is the natural logarithm of the total annual median worker pay. The main explanatory variable *Closure* takes the value of one for the years following a newspaper closure in county *l*, and zero for the years prior to the closure. *GDP growth* is measured as the percentage change in the county's GDP.  $\Delta$ *Population* is the percentage change in the county's population.  $\Delta$ *Wage* is the percentage change in the county's average annual wage.  $\Delta$ *Unemployment* is the percentage change in the county's unemployment rate.  $\Delta$ *Industry concentration* is the percentage change in *Industry concentration*, where *Industry concentration* is defined as the Herfindahl-Hirschman Index (HHI) calculated based on the share of an industry's employment in a county relative to the county's total employment. Panel A controls for these county-level change variables. Panel B includes decile fixed effects for each county-level variable to account for potential nonlinear relations between local economic conditions and pay disparity. Panel C examines whether newspaper closures predict subsequent changes in local economic conditions. All other variables are defined in the Appendix. Continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. All specifications include firm and state-year fixed effects. The *t*-statistics reported in parentheses are based on the heteroscedasticity-robust firm-clustered standard errors. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

*Panel A. Controlling for county-specific characteristics*

	LN Worker pay	
	(1)	(2)
Closure	-0.030** (-2.319)	-0.029** (-2.245)
GDP Growth	0.021 (0.940)	0.021 (0.945)
$\Delta$ Population	-0.110 (-0.515)	-0.133 (-0.616)
$\Delta$ Wage	-0.027 (-0.323)	-0.034 (-0.407)
$\Delta$ Unemployment	-0.025 (-0.507)	-0.023 (-0.473)
$\Delta$ Industry concentration	-0.011 (-0.088)	-0.017 (-0.142)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
Firm FE	Yes	Yes
State $\times$ year FE	Yes	Yes
Observations	13,459	13,459
Adjusted R <sup>2</sup>	0.928	0.929

*Panel B. Including decile fixed effects for county-specific characteristics*

	LN Worker pay	
	(1)	(2)
Closure	-0.024* (-1.776)	-0.023* (-1.732)
Control for disclosure details	No	Yes
Control for firm characteristics	Yes	Yes
GDP-decile FE	Yes	Yes
Population-decile FE	Yes	Yes
Wage-decile FE	Yes	Yes
Unemployment rate-decile FE	Yes	Yes
Industry concentration-decile FE	Yes	Yes
Firm FE	Yes	Yes

State-year FE	Yes	Yes
Observations	13,180	13,180
Adjusted R <sup>2</sup>	0.929	0.930

*Panel C. Newspaper closures and local economic conditions*

	GDP Growth	$\Delta$ Population	$\Delta$ Wage	$\Delta$ Unemployment	$\Delta$ Industry concentration
	(1)	(2)	(3)	(4)	(5)
Closure	-0.005 (-0.896)	0.002 (1.545)	-0.002 (-0.580)	0.000 (0.123)	0.000 (0.181)
State-year FE	Yes	Yes	Yes	Yes	Yes
Observations	2,505	2,505	2,505	2,505	2,505
Adjusted R <sup>2</sup>	0.285	0.097	0.870	0.449	0.010

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