# **Bank M&As and Workplace Safety for Local Entrepreneurs**

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# Bank M&As and Workplace Safety for Local Entrepreneurs

#### Abstract

In this paper, we examine how mergers and acquisitions (M&As) among large banks, along with the resulting structural changes in local credit market conditions, affect workplace safety for local entrepreneurs. We find that workplace safety at local business establishments tends to deteriorate, as evidenced by increased occupational injuries and illnesses, following M&As among large banks. This decline is primarily driven by increased local credit availability from small banks following bank M&As, along with the resulting intensified competition among small businesses. However, this deterioration is significantly mitigated in counties with higher levels of social capital, industries more sensitive to environmental, social, and governance issues, and more politically liberal states. Overall, our findings highlight how structural changes in local credit markets, triggered by bank M&As, can create spillover effects on human rights protections, particularly concerning workplace safety for local entrepreneurs.

Keywords: Bank M&A, Workplace Safety, Business Establishment, Small Business Lending JEL Codes: G21, J81

## 1. Introduction

The extensive literature in economics and finance examines the effects of mergers and acquisitions (M&As) among banks on various aspects of local credit markets and economic activity. For example, these studies explore their impact on corporate borrowers' credit availability (Erel, 2011; Di Patti and Gobbi, 2007; Degryse et al., 2011), their equity values (Karceski et al., 2005), and real economic outcomes, such as local construction and real estate prices (Garmaise and Moskowitz, 2006). While previous research has predominantly focused on the financial or economic consequences of bank M&As, the growing emphasis on sustainability in business highlights the increasing importance of considering their social impact.

Among various socioeconomic concerns, our analysis focuses on the workplace safety of local entrepreneurs, a crucial issue tied directly to human rights protections and, more broadly, to sustainability.<sup>1</sup> Despite the prevalence of bank M&As<sup>2</sup> and growing attention to occupational health, the effect of bank M&As on workplace injuries and illness among local entrepreneurs remains largely unexplored. While prior research examines how various aspects of the business environment affect workplace injury and illness rates—exploring factors such as firm leverage (Cohn and Wardlaw, 2016), the publication of firms' safety and health regulation violations (Johnson, 2020), analyst coverage (Bradley et al., 2022), and diversity in corporate boards (Haidar and Hossain, 2024)—no studies address the impact of bank M&As *per se* on workplace safety of

<sup>&</sup>lt;sup>1</sup> Workplace safety issues are gaining increased media attention, even in developed economy like the U.S. For example, a recent study reveals that over two-thirds of Amazon warehouse workers in the U.S. reported taking unpaid leave to recover from pain or exhaustion related to their work. For more details, see *Fortune's* report (October 2023): <u>Half of</u> <u>Amazon's warehouse workers are injured after just 3 years, according to study that revealed far more 'injury and pain'</u> <u>than previously known</u>. Similarly, <u>Reuters</u> (November 2023) uncovered that SpaceX had at least 600 workplace injuries in the U.S. that had not been previously reported. For more information, see: <u>At SpaceX, worker injuries soar</u> <u>in Elon Musk's rush to Mars</u>.

<sup>&</sup>lt;sup>2</sup> According to the Institute for Mergers, Acquisitions, and Alliances (IMAA), the number of bank M&As reached approximately 1,300 globally in 2020 (Hasan, 2022).

local businesses.

Against this backdrop, we aim to fill this gap by empirically examining how M&As among large banks impact workplace safety for local entrepreneurs in the U.S. over the period from 2002 to 2011. Our findings show that workplace safety significantly declines over the two years following M&As among large banks in counties where the acquiring and target banks have overlapping market shares, compared to nearby counties without such M&As. Specifically, we find that the rate of occupational injuries and illnesses significantly increases, rising by 10 percent of the mean rates in counties with bank M&As following the events. Further tests show that increased competition among business establishments and greater local credit availability from small banks following the events are the main drivers of these findings.

The detailed mechanisms driving these effects are outlined as follows. Bank M&As are frequently followed by branch divestitures and closures, which can occur either through voluntary restructuring or mandatory antitrust remedies (Nguyen, 2019). In these instances, nearby small banks may absorb the local deposit market shares of the merging banks, especially if there is a substantial overlap in market shares between the acquiring and target banks. As a result, these nearby small banks may have a better chance of extending additional credit to local borrowers, thereby increasing the opportunities for local entrepreneurs to obtain bank financing (e.g., Ely and Robinson, 2009). Improved credit conditions may encourage new entrepreneurs to enter local markets, ultimately intensifying competition among small businesses.<sup>3</sup> The escalating competitive environment presents a challenge for local businesses, especially recent entrants, who might

<sup>&</sup>lt;sup>3</sup> For example, a report by the Kauffman Foundation (June 2023) emphasizes that many entrepreneurs, especially those from marginalized backgrounds, often relocate to areas with better funding opportunities. Cities with a robust network of community development financial institutions and supportive local policies tend to attract small businesses seeking capital. For further details, see <u>Access to Capital for Entrepreneurs</u>: <u>Removing Barriers</u>.

encounter amplified performance expectations. As a result, these businesses may allocate a greater proportion of their resources to profitable projects with immediate results, potentially neglecting less prominent investments, such as those in working conditions, and ultimately jeopardizing workplace safety. This mechanism aligns with prior studies, such as Pagell et al. (2020), which document the inverse relationship between worker safety and organizational survival.

To test the prediction described above, we first identify M&A events among large banks, defined as mergers where the acquiring and target banks each had total assets of \$10 billion USD or more prior to the merger, using data from the Federal Reserve Bank of Chicago. We then use the Summary of Deposits (SoD) from the Federal Deposit Insurance Corporation (FDIC) to identify counties where both the acquiring and target banks had a significant overlap in their market shares before the M&A. Finally, we compare workplace safety in local business establishments across counties with large bank M&As (treated counties) to their adjacent counties without any bank M&A events (control counties). For this comparison, we use data from the Occupational Safety and Health Administration (OSHA) for the period before and after the M&As and apply the stacked difference-in-differences (DiD) approach.

In our analyses, we focus on workplace injuries and illness, specifically establishmentlevel *Total Case Rate (TCR), Days Away, Restricted, or Transferred (DART)*, and *Days Away from Work Injury and Illness (DAFWII)*.<sup>4</sup> For these analyses, we calculate the zip code-level averages of TCR, DART, and DAFWII for our independent variables. Our DiD regressions show that, following M&As among large banks, average workplace safety at the zip code level in the treated counties significantly declines over the next two years compared to nearby control counties. This

<sup>&</sup>lt;sup>4</sup> The definitions of TCR, DART, and DAFWII are provided in Section 3 (Data and Summary Statistics). TCR includes all workplace injury and illness cases, DART focuses on more severe cases, and DAFWII targets the most severe cases.

decline is evident from the increase in TCR and DART among business establishments in the treated counties post-merger. DAFWII also increases in the treated counties following the M&As though the coefficient estimate is not statistically significant. Dynamic DiD regressions confirm that all three cases (TCR, DART, and DAFWII) begin to rise following the bank M&A events. Split-sample tests reveal that this deterioration in workplace safety is primarily due to newly established business in the local markets. Through a series of split-sample tests, we find that the decline in workplace safety among business establishments in the treated counties post-merger, is primarily driven by regions with lower social capital. Additionally, if the industry to which a business establishment belongs is less sensitive to environmental, social, and governance (ESG) issues, workplace safety is more likely to deteriorate post-merger. This deterioration is more pronounced in politically more liberal states.

Our next question concerns the underlying mechanisms through which large bank M&As contribute to deteriorating occupational safety among business establishments. The mechanism we explore is that the easing of credit conditions from small banks following large bank M&As leads to an increase in the number of business establishments. As mentioned earlier, bank M&As are typically accompanied by branch divestitures and closures by merging banks, which incentivize small banks to expand their business. As expected, following large bank M&As, small banks with total assets of \$2 billion USD or less tend to expand their local deposits and increase the number of branches, resulting in an approximately 2-percentage-point increase in their local deposit market shares in the treated counties. Since small banks are more specialized in providing loans to local small businesses (Jayaratne and Wolken, 1999), it is expected that the additional deposit flows to these banks will lead to increased small business lending in the treated counties post-merger. Consistent with this prediction, we find that following the M&As, aggregate small business

lending in the treated counties increases by 7.5 percent annually, with the annual growth rate of small business loans from small banks reaching 21 percent within two years after the events. The improvement in credit availability for small businesses is expected to encourage the entry of new ones, and indeed we find that the number of business establishments increases by 1 percent in the treated counties following the M&As. Additionally, the number of employees hired in smaller companies significantly increases in the treated counties after the bank merger.

Based on the regression results, we conclude that the easing of credit conditions from small banks following large bank M&As leads to an increase in the number of business establishments. This growth, in turn, negatively impacts overall workplace safety in these regions. Our study highlights how structural changes in local credit markets, driven by bank M&As, create spillover effects on local firms' working conditions, adversely affecting their injury and illness rates.

Our study contributes to several strands of literature. First, it is closely related to prior research on the determinants of workplace safety. Cohn and Wardlaw (2016) show that financing frictions faced by firms, as indicated by their financial leverage and cash balances, negatively affect investment in workplace safety, thereby increasing work-related injury rates. Johnson (2020) finds that publication of firms' violations of safety and health regulations in the U.S. reduce overall occupational injuries. Bai et al. (2020) demonstrate that a heightened short-selling pressures lead to a significant increase in work-related injury rates. Bradley et al. (2022) document a negative association between the level of analyst coverage and the firm's work-related injury rates. Haga et al. (2022) demonstrate that employees at firms with powerful CEOs encounter fewer workplace injuries and illnesses. Haider and Hossain (2024) find that gender quotas on corporate boards are associated with a decline in workplace safety: the easing of financing conditions in local credit markets

following large bank M&As. While prior studies have primarily focused on firm-specific factors as determinants of workplace safety, our paper highlights the immediate impact of external changes in the financing and competitive environment—specifically those triggered by bank M&As—on the occupational safety levels of local enterprises.

Second, our study is related to the literature on the socioeconomic consequences of bank M&As. Erel (2011) documents that loans spread can either increase or decrease following bank M&As, depending on whether the enhanced market power dominates the efficiency gains. Di Patti and Gobbi (2007) find that bank M&As have an adverse impact on credit for borrowers due to the termination of existing banking relationships. Garmaise and Moskowitz (2006) examine the spillover effects of large banks M&As on real economy as well as property crimes. They find that the regions experiencing bank M&As are more likely to face higher interest rates, reduced local construction, lower property values, and an influx of poorer households, along with increased property crimes in subsequent years. Similar to these prior studies, our paper also highlights the spillover effects of large bank M&As on socioeconomic conditions, specifically noting the increase in occupational injury and illness rates among local entrepreneurs in the treated counties.<sup>5</sup>

The rest of the paper is organized as follows. Section 2 reviews literature and suggests theoretical motivation of our study. Section 3 describes the data sources and provides summary statistics. Section 4 presents empirical methodologies and results. Section 5 concludes.

# 2. Literature Review and Theoretical Motivation

In this research, we employ M&As among large banks as exogenous events that impact local credit market structures. Bank M&As are often followed by branch divestitures and closures

<sup>&</sup>lt;sup>5</sup> Other papers that study the effects of bank M&As include Berger et al. (1998); Nguyen (2019); Bonfim et al. (2020) among others.

due to both voluntary restructuring and compulsory antitrust remedies (e.g., Nguyen, 2019; Bonfim et al., 2020). These changes can directly impact the merging banks' credit supply and interbank competition in local credit markets (e.g., Berger et al., 1999; Carletti et al., 2007). This will create significant spillover effects on borrowers, which include changes in credit availability (Berger et al., 1998; Avery and Samolyk, 2004; Di Patti and Gobbi, 2007), funding costs (Erel, 2011), and equity values (Karceski et al., 2005). Beyond borrower-specific financial impacts, bank M&As also influence broader economic activity, such as local construction and real estate prices, by altering credit conditions in local markets (Garmaise and Moskowitz, 2006).

The impact of bank M&As may extend beyond financial and economic effects on banking industry, credit markets, borrowers, and the local economy. Since various social issues are directly linked to financial sectors, the effects of bank M&As can also influence social aspects. For example, Garmaise and Moskowitz (2006) find that merger-induced banking concentration leads to an influx of poorer households and an increase in property crime in the regions. Houston and Shan (2022) highlight that bank M&As influence borrowers' ESG policies when the banks' own ESG policies are affected by mergers. In line with this literature, we further explore the social impacts of bank M&As from the perspective of workplace safety for local entrepreneurs, a topic that is gaining increasing attention in both academia and the media. Recent studies show that the level of occupational safety can be influenced by various factors, such as firms' financial frictions (Cohn and Wardlaw, 2016), managers' attempts to meet earnings' expectation (Caskey and Ozel, 2017), the relaxation of short-selling constraints (Bai et al., 2020), analyst coverage (Bradley et al., 2022), CEO power (Haga et al., 2022), and board gender diversity (Haidar and Hossain, 2024). The M&As among large banks may also significantly affect workplace safety for the following reasons.

As a result of the M&As among large banks, non-merging small banks in the same local

markets may experience expanded loan capacity as they absorb deposits from the merging banks following branch divestitures or closures post-merger. As their loan capacity expands, these small banks may be able to actively meet the unmet loan demand in the local markets following the bank M&As (Berger et al., 1998). As a result, credit market shares can shift from large banks to nearby smaller banks. Since smaller banks typically specialize in providing credits to local enterprises (Jayaratne and Wolken, 1999), their expanded loan capacity can improve credit conditions for local entrepreneurs after bank M&A events (Ely and Robinson, 2009). However, this may encourage the entrance of new local entrepreneurs into the market, increasing local competitions (Herkenhoff et al., 2021). In such cases, local enterprises may experience significant performance pressure, which can lead to reduced investment in workplace safety as they seek to maximize profits and remain competitive, as evidenced in Bai et al. (2020) and Pagell et al. (2020). This, in turn, can exacerbate workplace safety issues, increasing the risk of occupational injuries and illnesses.

## 3. Data and Summary Statistics

For this study, we use a diverse set of financial and non-financial data. First, following prior studies (for example, Caskey and Ozel, 2017), we obtain establishment-specific injury and illness data from the OSHA. The OSHA provided three types of establishment-level workplace safety data for the period from 2002 to 2011.<sup>6</sup> Those are *Total Case Rate (TCR), Days Away, Restricted, or Transferred (DART)*, and *Days Away from Work Injury and Illness (DAFWII)*. TCR is the number of injuries and illnesses divided by the total hours worked by all employees at an establishment over a year, multiplied by 200,000. TCR covers all occupational injuries and illnesses, regardless of the severity of their consequences. DART is calculated as the number of

<sup>&</sup>lt;sup>6</sup> This study utilizes the same data period as the sample timeframe examined by Bradley, Mao, and Zhang (2022). OSHA terminated the Data Initiative program in 2011 due to funding cuts.

injuries and illnesses resulting in days away from work or job restrictions or transfers, divided by the total hours worked by all employees at an establishment over a year, then multiplied by 200,000. In other words, DART is limited to relatively more severe workplace injuries and illnesses among those classified under TCR. Finally, DAFWII is the number of injuries and illnesses resulting in days away from work, divided by the total hours worked by all employees at an establishment over a year, then multiplied by 200,000. This means that DAFWII captures only the most severe occupational injuries and illnesses.

Second, we use data on M&As among U.S. banks, sourced from the Federal Reserve Bank of Chicago. This data allows us to identify M&A events among large U.S. banks, which can trigger structural shifts in local credit markets. By combining this data with Call Reports, also provided by the Federal Reserve Bank of Chicago, we identify the size of both acquiring and target banks, as well as M&As involving large banks, defined as those with total assets exceeding \$10 billion, following Nguyan (2019).

Third, by using bank branch-level data from the SoD, provided by the FDIC, we identify whether counties have experienced M&As among large banks and track the resulting structural changes in local banking markets. By combining the SoD data with Call Reports, we identify small banks located in counties with M&As among large banks. Small banks are defined as those with total assets below \$2 billion, following prior studies such as Dlugosz et al. (2024).

Our regressions incorporate various county-level control variables obtained from multiple sources. County GDP data is sourced from the Bureau of Economic Analysis. Data on the number of business establishments in each county comes from the U.S. Census Bureau's County Business Pattern. Data on the number of employees by firm size is also sourced from the U.S. Census Bureau. Population size and demographic details are provided by the National Bureau of Economic Research, while unemployment rates are sourced from the Bureau of Labor Statistics.

Table 1 provides summary statistics for key dependent and independent variables. In Panel A, we present the summary statistics for the variables used in the regressions examining the effects of bank M&As on workplace safety. In this study, we use the zip-code average value for establishment-level workplace injury and illness rates. The mean zip-code average TCR is approximately 8.5, consistent with prior studies that rely on the same data source for this variable (for example, Caskey and Ozel, 2017; Bai et al., 2020; Bradley et al., 2021). About 47 percent of the observations come from counties experiencing M&As among large banks. The average number of business establishments, GDP, and populations are 7,243, \$12 billion, 0.3 million, respectively. On average, the percentage of senior citizens (age 65 and above) is 13 percent, while the percentage of White residents is around 82 percent. County-level unemployment averages around 5.7 percent during our sample period. We include these county-level socioeconomic characteristics as control variables in our regressions.

### [Insert Table 1 about here]

In Panel B, we present the summary statistics for the dependent variables used in the regressions exploring the changes to credit market structures following bank M&As among large banks. On average, small banks hold 55 percent of the county market share, with total deposits amounting to \$365 million (12.4 in log form). The average number of business establishments in our sample is 2,114 (6.9 in log form). The average total number of employees hired by smaller firms (with 20-49 employees) within a county is 3,096 (7.2 in log form).

# 4. Empirical Results

### 4.1. The effects of bank M&As on workplace safety

This section presents empirical results. First, we examine how M&As among large banks

impact workplace safety for local entrepreneurs, using a stacked DiD approach. The regression model is specified as follows:

$$Y_{i,t,c} = \alpha_0 + \alpha_1 BankMergerCnty_{j,t,c} + \alpha_2 Post_{j,t,c} + \alpha_3 BankMergerCnty_{j,t,c} \times Post_{j,t,c} + \Gamma X_{j,t,c} + FEs + \varepsilon_{i,t,c}$$
(1)

(1)

The subscripts *i*, *j*, *t*, and *c* refer to zip-code (5-digit), county, year, and cohort, respectively. In this test, each zip-code is assigned to a single primary county. For this regression, we use a fouryear event window around M&A events among large banks. This four-year window includes two years for the pre-period prior to the M&A events and two years for the post-period following the events. We limit our sample to the counties involved in the bank M&A, where both the large acquiring and target banks individually hold at least 1 percent of deposit market share prior to the merger, as well as adjacent counties that do not experience any bank merger events during the event window. A cohort consists of a four-year window, including one M&A county (the treated county) and its adjacent non-M&A counties (the control counties). The outcome variables we use are ZipAveTCR, the zip-code level average for establishments' TCR during a year, ZipAveDART, the zip-code level average for establishment's DARTs during a year, and ZipAveDARWII, the zipcode level average of establishments' DAFWII during a year. As the key independent variable, we use *BankMergerCnty*, a dummy variable that identifies treated counties where both acquiring and target banks have at least 1 percent deposit market shares before the M&A. Post is a time dummy variable for the post-period. As control variables, we include a set of county-level socioeconomic variables, such as county size in terms of GDP (with a log), population (with a log), the number of establishments (with a log), demographics (percentages of seniors aged 65 and above, White individuals, Black individuals, and Hispanics), banking market competition (measured by deposit market Herfindahl-Hirschman Index), and the county-level unemployment rate. These control

variables are fixed as of the first year of the event window and are time-invariant within that window. The interaction terms between each socioeconomic variable and *Post* are also included in the regressions as control variables. In this regression, we add *cohort-by-year* and *cohort-by-zip code* fixed effects. The same cohort identifier is assigned to all zip codes within a cohort. This set of fixed effects addresses any time-varying regional characteristics shared among nearby counties during the periods studied. We cluster the standard errors at the county level.

Table 2 presents the DiD regression results for the effect of large bank M&As on zip-code average workplace safety. In Column (1), we find that the interaction term, *BankMergerCnty* × *Post*, is positive and statistically significant for total case rates (TCR). This implies that zip-code average workplace injury and illness rates significantly increase for two years following large bank M&As. The economic significance is also substantial, with the coefficient of the interaction term at 0.876, which is approximately 10.3 percent of the mean value and 15.7 percent of the standard deviation of the zip-code-average TCR. Similar results were obtained for DART, as reported in Column (2). For DARWII, while we find positive coefficients for the interaction term, the statistical significance is weaker.<sup>7</sup>

## [Insert Table 2 about here]

In Table 3, we present the results of dynamic DiD regressions within the four-year window. In this test, we replace the *Post* dummy variable with a set of time dummy variables, *Post* (k), where k ranges from -2 to +1. These variables take a value of one if they are k years prior to (minus sign) or following (plus sign) the bank M&As, and zero otherwise. We do not find any significant differences in workplace injury and illness rates between business establishments in the treated

<sup>&</sup>lt;sup>7</sup> The coefficients on county-level control variables are not reported for the sake of compactness in this table but can be found in Table B.1 of the Appendix.

counties and those in the control counties prior to the bank M&As, confirming parallel pre-trends. However, following the M&A events among large banks in the treated counties, workplace injury and illness rates begin to increase in business establishments in the treated counties compared to those in the control counties for all three outcome variables. These dynamic DiD regression results suggest that large bank M&A events lead to a deterioration in overall workplace safety at business establishments located in the treated counties.

## [Insert Table 3 about here]

Next, we categorize the business establishments into those newly established during the year and those established earlier, and then perform the regression in Equation (1). The results are reported in Table 4. As reported in Panel A, we find that the deterioration of workplace safety is primarily driven by the newly established business establishments. In contrast, when we limit the sample to existing establishments, we do not find any significant results for the interaction terms, as reported in Panel B. Based on these results, we conclude that workplace safety is more likely to be sacrificed by newly established businesses, as organizational survival may be a greater priority for them in a competitive business environment, aligning with the findings of Pagell et al. (2020).

#### [Insert Table 4 about here]

We perform several robustness checks as follows. First, there may be concerns that the mean value of establishments' workplace safety at the zip-code level could be influenced by outliers, potentially biasing our results. To address this issue, we replace the zip-code-level mean values of workplace safety with their median values, which are not affected by outliers, as the outcome variables. The results, presented in Panel A of Table B.2 in the Appendix, show consistent findings, alleviating concerns about outlier-induced bias. In the same table, we also report results using the maximum (Panel B) and minimum (Panel C) values of establishment-level workplace

safety at the zip-code level. As shown in the table, both the maximum and minimum values increase significantly in counties experiencing bank M&As, with the maximum values showing a more pronounced rise.

Second, we use the raw numbers of establishments' workplace safety variables instead of their zip-code-level averages. As shown in Table B.3 of the Appendix, our results remain robust when using the establishment-level raw numbers for workplace safety.

Finally, we collapse the data into one observation for the pre-period and one for the postperiod per zip code within the four-year event window (cohort), following the approach suggested by Bertrand et al. (2004) to address concerns about the underestimation of standard errors in DiD analyses with large time series. As reported in Table B.4 of the Appendix, our results remain consistent with the collapsed sample.

#### 4.2. Structural changes in banking markets following bank M&A

In the previous section, we find that large bank M&As are more likely to negatively impact workplace safety among business establishments located in counties where both the acquiring and target banks had highly overlapping market shares prior to the M&A. Next, we will investigate the specific channels driving these findings. We begin by examining how the banking market structure changes after the bank M&A, with a focus on shifts in the market shares of small banks. For this analysis, we apply Equation (1) to county-year banking market structures specifically for small banks. We employ three outcome variables: *Small Bank Deposit Shares*, which represent the deposit market shares of small banks in each county; *Ln(Small Bank Deposits)*, the natural log of small banks' deposits in the county; and *Ln(Small Bank NumBranch)*, the natural log of the number of branches of small banks in the county. Since we are using year-county panel data for this test, we replace *cohort-by-zip code* fixed effects with *cohort-by-county* fixed effects. Table 5 presents the results of the structural changes in the banking market for small banks following the M&As among large banks. Across all three columns, we find significantly positive coefficients for small bank deposit shares, deposit volume, and the number of small bank branches. In the two years following the M&As, small banks' county-level deposit market shares increase by 1.9 percent compared to the two years preceding the M&As. During the same period, the size of small banks' deposits and the number of small bank branches in the county increases by 7.7 percent and 6.5 percent, respectively. Based on these results, we conclude that the market shares and size of small banks expand following bank M&As in the same counties. This expansion may result from voluntary or compulsory branch restructuring of the merging banks after the M&As. Consequently, the lending capacity of small banks may improve in the post-M&A period.

## [Insert Table 5 about here]

Next, we examine how small banks' lending activities change following M&As among large banks, focusing specifically on the size of small business lending. For this analysis, we use *Ln(SBLs)*, the natural log of small business lending in a county during a year, as the outcome variable in Equation (1). Again, we replace *cohort-by-zip code* fixed effects with *cohort-by-county* fixed effects for this analysis. The results are reported in Table 6. In Column (1), we analyze data from all banks in the county. In Columns (2) and (3), we limit our analysis to small banks and non-small banks, respectively, when aggregating small business lending in the county during the year. Following M&As among large banks, the volume of small business lending expands by 7.5 percent in the treated counties, as reported in Column (1). This growth is primarily driven by small banks, as the growth rate of small business lending by small banks exceeds 20 percent in the years following the bank M&As, as presented in Column (2). In contrast, we do not find any significant growth in small business lending by non-small banks in Column (3). We conclude that the

increased deposit market shares of small banks contribute to the expansion of small business lending in these counties. This expansion may be attributed to the fact that small banks are more specialized in small business lending than larger banks, a phenomenon known as the "small bank advantage" (e.g., Berger, Bouwman, and Kim, 2017).

## [Insert Table 6 about here]

One counterargument is that the increase in deposits and the resulting credit supply from small banks may reflect heightened credit demand from local enterprises, driven by local economic conditions that coincide with bank M&As. To address this possibility, we conduct a robustness check by examining the deposit interest rates at small bank branches in the treated counties. If local credit demand, rather than deposit windfalls from merging banks, primarily drives the rise in deposits and credit supply, we would expect deposit interest rates to increase in the post-merger period. This is because small banks would need to attract more liquidity to meet the heightened loan demand by raising deposit rates. For this robustness test, we use branch-level deposit interest rates from RateWatch and calculate branch-year average deposit interest rates for various deposit products as the outcome variable in Equation (1).<sup>8</sup> In this analysis, we replace *cohort-by-zip code* fixed effects with *cohort-by-county* fixed effects. For this test, we limit the sample to small banks. The results in Table 7 show no evidence that small banks actively attract more deposits by raising their deposit interest rates. Based on these findings, we conclude that the deposit expansion among small banks in the treated counties during the post-period, as reported in Table 5, may stem from deposit windfalls from merging banks due to branch divestitures associated with post-merger restructuring.

<sup>&</sup>lt;sup>8</sup> We focus on the deposit interest rates for 12-month certificate of deposits and money market accounts with a balance of \$10,000 following prior studies (for example, Dlugosz et al., 2024).

#### [Insert Table 7 about here]

### 4.3. Competitive environment among small businesses following bank M&A

Our next question is how the increase in small banks' deposit market shares and subsequent expansion of small business lending by these banks in the counties following bank M&A affect the number of business establishments. For this analysis, we use Ln(#Establishment), which represents the natural log of the total number of business establishments in a county each year, and we include *cohort-by-county* fixed effects instead of *cohort-by-zip code* fixed effects, in Equation (1). In Table 8, we find that the interaction term *BankMergerCnty* × *Post* is 0.01 and statistically significant. This implies that following M&As among large banks, the number of business establishments increases by 1% in the post-period compared to the pre-period. We confirm that the structural changes in the banking market following bank M&As, in terms of deposits and credits, positively affect the number of business establishments. Based on these results, we conclude that the increase in the number of establishments may lead to more intense competition, ultimately compromising the overall workplace safety of these establishments in the regions.

## [Insert Table 8 about here]

An increase in the number of establishments may lead to a rise in the number of employees working in small businesses, potentially resulting in weakened working conditions. To test this prediction, we examine the relationship between the number of employees and M&As among large banks by categorizing the samples into small and larger firms based on employee count. The results are reported in Table 9. As shown in Column (1), the number of employees hired by small companies with 20-49 employees increases by 3.0% in counties that experience M&As among large banks during the post-period. In contrast, as shown in Columns (2) to (4), we do not observe any significant increase in the number of employees in larger companies with 50+ employees. The

shift in the competitive environment among small businesses, evidenced by the sudden increase in the number of employees in smaller companies, along with the rise in the number of business establishments in counties experiencing bank M&As, may lead to a deterioration in workplace safety for employees.

### [Insert Table 9 about here]

## 4.4. Examine moderating factors

In previous sections, we find that M&As among large banks lead to structural changes in local credit markets, characterized by the enhanced credit capacity of small banks, which in turn results in an increase in business establishments in the regions. This ultimately deteriorates overall workplace safety by increasing injury and illness rates, primarily due to intensified competition among local entrepreneurs. While we present clear evidence of competition-driven deterioration in workplace safety for business establishments following bank M&As, this phenomenon may vary based on local socioeconomic conditions or industry-specific characteristics related to workplace safety concerns. This section analyzes how regional and industry-specific factors influence the effects of bank mergers on the workplace safety of local entrepreneurs.

First, we focus on the level of social capital as a potential factor affecting workplace safety in the regions. Social capital is broadly defined as the norms and networks that facilitate collective action (Woolcock, 2001). As a normative concept, social capital fosters cooperation and efficiency within social structures by building trust (Guisio et al., 2004; Portes, 1998). As a network, it provides benefits to participants through shared resources and connections (Payne et al., 2011; Coleman, 1990). Over time, social capital establishes a societal code of conduct that strengthens the commitment to fulfilling obligations and cultivating mutual trust. According to Coleman (1990) and Spagnolo (1999), strong social capital amplifies the repercussions for deviant behavior, thereby encouraging positive actions within a community. Similarly, La Porta et al. (1997) suggest that strong social capital reduces opportunistic behaviors, such as corruption. In the corporate context, community social capital acts as an informal monitoring system, reducing opportunistic behavior by firms (Jha, 2019; Hasan et al., 2017; Li et al., 2017; Jha and Chen, 2015). From a broader social perspective, research indicates that firms in regions with higher levels of social capital are more likely to adopt socially responsible policies and practices, exhibiting greater altruistic behavior that benefits both internal and external stakeholders (Hoi et al., 2018; Jha and Cox, 2015; Marquis et al., 2007). Building on these insights, we examine whether reginal social capital can mitigate the deterioration of workplace safety among business establishments following bank M&As.

To identify how regional social capital influences the post-bank merger effects on workplace safety in local business establishments, we categorize counties into high and low social capital groups and perform a split-sample DiD regressions. If social capital is above (below) the median, we assume that the level of social capital is high (low) in the county. The results are presented in Table 10. We find that the positive effects of bank M&As on workplace injury and illness rates are strongly significant only in counties with lower social capital across all outcome variables (*ZipAveTCR*, *ZipAveDART*, and *ZipAveDAFWII*), as reported in Columns (2), (4), and (6). For counties with high social capital, the results are either insignificant or weaker, as presented in Columns (1), (3), and (5). Based on these findings, we conclude that county-level social capital capital capital is high, local entrepreneurs remain attentive to workplace safety issues despite intensified local competition resulting from the easing of local credit market conditions following M&As among large banks.

#### [Insert Table 10 about here]

Next, we turn to an industry-specific factor that may affect workplace safety among local entrepreneurs. We specially focus on industry-specific ESG sensitivity. Prior studies highlight that industries classified as ESG-sensitive often face heightened scrutiny and expectations from stakeholders, along with intense regulatory and societal pressures that necessitate robust ESG practices (Garcia et al., 2017). This pressure compels companies to allocate resources toward ESG-related initiatives, ensuring compliance and safeguarding their legitimacy in the eyes of stakeholders. According to legitimacy theory, firms in ESG-sensitive industries prioritize ESG disclosures and practices to mitigate reputational risks, which directly affect their access to resources and long-term survival (Cho and Patten, 2007; Palazzo and Scherer, 2006; Mitchell et al., 1997). For example, industries, such as mining, oil exploration, chemicals, utilities and basic resource sectors, despite their inherent environmental risks, consistently demonstrate superior ESG performance. This is driven by the need to mitigate reputational damage and align with societal expectations (Cho and Patten, 2007; Brammer and Millington, 2005; Brammer and Pavelin, 2004).

As workplace safety is an important social issue and a key component of ESG topics, we expect that local entrepreneurs in ESG-sensitive industries will remain concerned about and take measures to control workplace injury and illness rates, even when facing intensified competitions due to structural changes in local credit markets. For this analysis, we categorize industries based on their level of ESG-sensitivity as suggested in prior studies (Brammer and Millington, 2005; Cho and Patten, 2007). Using two-digit SIC codes, the following industries are classified as ESG-sensitive: mining (SIC-10), oil exploration (SIC-13), paper (SIC-26), chemical and allied products (SIC-28), petroleum refining (SIC-29), metals (SIC-33), utilities (SIC-49), and wholesale distribution of non-durable goods (SIC-51). Similar to the tests in Table 10, we perform split-

sample tests by sorting the industries according to their ESG sensitivities. The results are reported in Table 11. We find that the effects of bank M&As on workplace injury and illness rates are significant only in industries that are less sensitive to ESG factors. We conclude that, due to potential market or customer pressures, entrepreneurs in more ESG-sensitive industries do not allow workplace safety levels to deteriorate, even after facing increased competitions following bank mergers.

#### [Insert Table 11 about here]

Finally, we examine how state-level political ideology influences our results, building on prior studies that suggest political ideology shapes views on sustainability and ESG issues (for example, Aiken et al., 2020). These ideological differences may affect the degree of workplace safety deterioration under intense local entrepreneurial competition following bank M&As. Using Berry et al. (1998), we measure state-level political ideology—either through state-government or state-citizen political ideology—and classify regions as more politically conservative or liberal. Table 12 shows that post-merger workplace safety deterioration in counties with bank M&As is significantly mitigated in more politically liberal states, where local entrepreneurs are believed to prioritize sustainability and ESG issues, including workplace safety. However, the statistical differences between politically conservative and liberal states are less pronounced than those reported in Tables 10 and 11.

## [Insert Table 12 about here]

## 5. Conclusion

In this study, we investigate the impact of large bank M&As on occupational safety for local entrepreneurs. Our analysis shows that workplace safety in local businesses declines, as indicated by an increase in occupational injuries and illnesses, following these M&As. This decline is primarily linked to the surge in business establishments and the increase in employment at local businesses, fueled by greater credit availability from small banks after the M&As. However, this negative trend is notably less pronounced in regions characterized by higher levels of social capital and political liberalism, as well as in industries that are more attuned to ESG issues.

Our results underscore that workplace safety is influenced not only by internal factors, such as corporate culture and management styles that shape working conditions of the firms, but also by external factors, including financing conditions and the broader business environment. In this context, we provide important implications for practitioners and policymakers, highlighting the interdisciplinary connections between changes in local credit market conditions and their potential impact on the public health system.

Another key implication of this study is that the deterioration of occupational safety resulting from intense competition among local entrepreneurs following bank M&As can be significantly mitigated when high standards regarding social issues are embraced within the local community or industries. This finding underscores that stakeholders' concerns for sustainability and ESG issues influence not only direct financial outcomes, such as stock returns and firms' financial distress, but also the indirect spillover effects of the financial sectors on societal challenges, such as workplace safety among local entrepreneurs.

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## Table 1: Summary statistics

This table presents summary statistics for key dependent and independent variables. The sample period covers 2002 to 2011. Variable definitions are provided in Appendix A.

				Per	rcentile Distribut	ion
	Ν	Mean	S.D.	25th	Median	75th
ZipAveTCR	8996	8.472	5.593	5.114	7.678	10.742
ZipAveDART	8996	5.006	3.733	2.727	4.380	6.450
ZipAveDAFWII	8996	2.586	2.426	1.100	2.073	3.400
BankMergerCnty	8996	0.469	0.499	0.000	0.000	1.000
Post	8996	0.500	0.500	0.000	0.500	1.000
HHI	8996	0.226	0.115	0.152	0.196	0.272
Ln(Establishment)	8996	7.930	1.448	6.739	7.854	8.961
Ln(GDP)	8996	15.212	1.585	13.961	15.047	16.461
Ln(Pop)	8996	4.893	1.293	3.855	4.750	5.932
SeniorFrac	8996	12.847	3.593	10.745	12.776	14.386
WhiteFrac	8996	81.822	15.216	74.213	87.650	92.175
BlackFrac	8996	15.359	15.192	4.190	9.059	21.439
HispanicFrac	8996	10.227	13.965	1.895	4.046	12.322
UnemploymentRate	8996	5.714	1.470	4.700	5.400	6.600

Panel A: Regressions on workplace safety

## Panel B: Regressions on credit market structural changes

				Percentile Distribution		
	Ν	Mean	S.D.	25th	Median	75th
Small Bank Deposit Shares	2532	0.548	0.289	0.306	0.531	0.791
Ln(Small Bank Deposits)	2532	12.373	0.988	11.821	12.501	12.957
Ln(Small Bank NumBranch)	2532	2.213	0.707	1.792	2.197	2.639
Ln(SBLs)	2592	10.185	1.394	9.247	10.068	11.153
Ln(SBLs) [Small Banks]	2508	8.585	1.628	7.426	8.665	9.756
Ln(SBLs) [Non-Small Banks]	2592	9.828	1.498	8.824	9.747	10.825
CD rates	4422	2.786	1.222	1.716	2.710	3.859
MM rates	4310	1.023	0.706	0.528	0.857	1.260
Ln(#Establishment)	2592	6.874	1.145	6.100	6.711	7.580
Ln(#Employees) [20-49 emp.]	2571	7.179	1.212	6.351	7.021	7.964
Ln(#Employees) [50-249 emp.]	2571	7.572	1.227	6.759	7.422	8.357
Ln(#Employees) [250-499 emp.]	2571	6.231	1.807	5.435	6.428	7.363
Ln(#Employees) [5+ emp.]	2571	8.501	1.413	7.644	8.454	9.473

#### Table 2: Bank M&As and workplace safety in local business establishments

The table presents regression results examining the effects of bank M&As among large banks on workplace safety in business establishments located in treated counties. Large banks are defined as those with total assets exceeding 10 billion USD. Treated counties are those where both acquiring and target banks had nonzero deposit market shares prior to the M&As. The sample consists of four-year windows around the bank M&A, encompassing two years before the event and two years after (including the year of the bank M&A), spanning from 2002 to 2011. The samples are limited to treated counties and their adjacent control counties, where no bank M&As occurred during these four-year windows. We assign a cohort identifier by pairing each treated county with its adjacent control counties that did not experience bank M&As. ZipAveTCR is the zip code-level average of establishments' TCRs. ZipAveDART is the zip code-level average of establishments' DARTs. ZipAveDAFWII is the zip code-level average of establishments' DAFWIIs. BankMergerCnty is a dummy variable that takes a value of one if a large bank M&A occurs during the event window and zero otherwise. Post is a dummy variable that identifies the post-period. The regression also includes a set of control variables for county characteristics, as listed in Table 1. Variable definitions are provided in Appendix A. The coefficients for these variables are not reported for the sake of compactness but can be found in Table B.2 of the Appendix. The regression includes cohort-year and cohort-zip code fixed effects. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAveTCR	ZipAveDART	ZipAveDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.876***	0.585***	0.131
<b>C</b> .	(3.30)	(3.64)	(1.15)
Observations	8996	8996	8996
Adjusted $R^2$	0.336	0.347	0.322
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y

#### Table 3: Bank M&As and workplace safety in local business establishments (Dynamic effects)

The table presents regression results examining the dynamic effects of bank M&As among large banks on workplace safety in business establishments located in treated counties. *Post (k)*, where *k* ranges from -2 to +1, represents a set of dummy variables that take a value of one if the observation is *k* years prior to (minus sign) or following (plus sign) the bank M&As, and zero otherwise. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAveTCR	ZipAveDART	ZipAveDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post (-2)	-0.309	0.086	0.167
	(-1.00)	(0.46)	(1.33)
BankMergerCnty × Post (-1)	Reference	Reference	Reference
BankMergerCnty $\times$ Post (0)	0.460	0.503**	0.106
	(1.40)	(2.52)	(0.68)
BankMergerCnty × Post (+1)	0.983***	0.752***	0.323**
	(3.02)	(3.58)	(2.24)
Observations	8996	8996	8996
Adjusted $R^2$	0.336	0.347	0.322
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Υ	Y	Y

## Table 4: Bank M&As and workplace safety in local business establishments (Newly established vs. existing establishments)

The table presents regression results examining the effects of bank M&As among large banks on workplace safety in business establishments located in treated counties, with samples sorted into newly established (Panel A) and existing (Panel B) establishments. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAveTCR	ZipAveDART	ZipAveDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	1.677***	0.714***	0.109
	(3.93)	(2.73)	(0.55)
Observations	6175	6175	6175
Adjusted $R^2$	0.154	0.114	0.073
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y

#### Panel A: Newly established establishments

#### Panel B: Existing establishments

	ZipAveTCR	ZipAveDART	ZipAveDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.043	0.258	0.046
	(0.14)	(1.29)	(0.33)
Observations	7817	7817	7817
Adjusted $R^2$	0.325	0.337	0.337
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Y	Υ	Y

#### Table 5: Bank M&As and local deposit market shares of small banks

The table presents regression results examining the effects of bank M&As among large banks on the deposit market shares of small banks in treated counties. Small banks are defined as those with total assets of less than 2 billion USD. *Small Bank Deposit Shares* refers to the average deposit market shares of small banks in the county as of June 30<sup>th</sup> each year. *Ln(Small Bank Deposits)* is the natural log of the aggregated deposits of small banks in the county as of June 30<sup>th</sup> each year. *Ln(Small Bank NumBranch)* is the natural log of the number of small banks branches in the county as of June 30<sup>th</sup> each year. *Ln(Small Bank NumBranch)* is the natural log of the number of small banks branches in the county as of June 30<sup>th</sup> each year. The regression includes cohort-year and cohort-county fixed effects. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	Small Bank Deposit Shares	Ln(Small Bank Deposits)	Ln(Small Bank NumBranch)
	(1)	(2)	(3)
BankMergerCnty × Post	0.019**	0.077***	0.065***
<b>C</b> <i>I</i>	(2.05)	(2.69)	(3.37)
Observations	2532	2532	2532
Adjusted $R^2$	0.956	0.956	0.969
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-County FE	Υ	Y	Y

#### Table 6: Bank M&As and local small business lending

The table presents regression results examining the effects of bank M&As among large banks on small business lending (SBL) in treated counties. Ln(SBLs) is the natural log of the aggregated small business lending in the county for each year. In Columns (2) and (3), we sort the samples by small business lending from small banks and non-small banks, respectively. Small (non-small) banks are defined as those with total assets of less than (more than) 2 billion USD. The regression includes cohort-year and cohort-county fixed effects. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	Ln(SBLs)				
	(1)	(2)	(3)		
	Total	Small Banks	Non-small Banks		
BankMergerCnty × Post	0.075**	$0.207^{**}$	-0.050		
	(2.16)	(2.56)	(-1.51)		
Observations	2592	2508	2592		
Adjusted $R^2$	0.970	0.872	0.970		
County controls	Y	Y	Y		
Cohort-Year FE	Y	Y	Y		
Cohort-County FE	Y	Y	Y		

#### Table 7: Bank M&As and deposit interest rates of small banks

The table presents regression results examining the effects of bank M&As among large banks on the deposit interest rates of small banks in treated counties. Small banks are defined as those with total assets of less than 2 billion USD. *CD rates* and *MM rates* refer to the branch-year average deposit interest rates (percentage) for 12-month certificates of deposits and money market accounts with a balance of \$10,000, respectively. The regression includes cohort-year and cohort-county fixed effects. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	CD rates	MM rates
	(1)	(2)
BankMergerCnty × Post	-0.023	-0.042
	(-0.58)	(-0.88)
Observations	4422	4310
Adjusted $R^2$	0.885	0.438
County controls	Y	Y
Cohort-Year FE	Y	Y
Cohort-County FE	Y	Y

## Table 8: Bank M&As and the number of local business establishments

The table presents regression results examining the effects of bank M&As among large banks on the total number of business establishments in treated counties. Ln(#Establishment) is the natural log of the number of establishments in the county at year-end. The regression includes cohort-year and cohort-county fixed effects. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	Ln(#Establishment)
	(1)
BankMergerCnty × Post	0.010**
	(2.00)
Observations	2592
Adjusted $R^2$	0.999
County controls	Y
Cohort-Year FE	Y
Cohort-County FE	Y

### Table 9: Bank M&As and the number of employees

The table presents regression results examining the effects of bank M&As among large banks on the number of employees in treated counties by firm size. Ln(#Employees) is the natural log of the annual average number of employees in the county, calculated based on the quarter-end figures. The regression includes cohort-year and cohort-county fixed effects. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	Ln(#Employees)				
	(1)	(2)	(3)	(4)	
Firm size:	20-49 employees	50-249 employees	250-499 employees	500+ employees	
BankMergerCnty × Post	0.030**	0.001	0.015	0.003	
	(2.07)	(0.05)	(0.16)	(0.23)	
Observations	2592	2592	2565	2592	
Adjusted $R^2$	0.989	0.985	0.876	0.994	
County controls	Y	Y	Y	Y	
Cohort-Year FE	Y	Y	Y	Y	
Cohort-County FE	Y	Y	Y	Y	

## Table 10: Bank M&As and workplace safety in local business establishments (sorted by county-level social capital)

The table presents regression results examining the effects of bank M&As among large banks on workplace safety in business establishments located in treated counties, sorted by county-level social capital (above vs. below the median). All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAveTCR		ZipAv	ZipAveDART		ZipAveDAFWII	
	(1)	(2)	(3)	(4)	(5)	(6)	
Social capital:	High	Low	High	Low	High	Low	
BankMergerCnty × Post	0.348	1.792***	$0.459^{*}$	1.114***	-0.030	0.443**	
	(0.87)	(3.62)	(1.67)	(3.81)	(-0.18)	(2.40)	
Observations	4081	4064	4081	4064	4081	4064	
Adjusted R <sup>2</sup>	0.288	0.364	0.356	0.304	0.328	0.306	
County controls	Y	Y	Y	Y	Y	Y	
Cohort-Year FE	Y	Y	Y	Y	Y	Y	
Cohort-Zip code FE	Y	Y	Y	Y	Y	Y	
Coefficient Equality (p-value)	0.	023	0.	104	0.0	)57	

## Table 11: Bank M&As and workplace safety in local business establishments (sorted by industry-level ESG sensitivity)

The table presents regression results examining the effects of bank M&As among large banks on workplace safety in business establishments located in treated counties, sorted by industry-level ESG sensitivity. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAy	veTCR	ZipAv	eDART	ZipAvel	DAFWII
	(1)	(2)	(3)	(4)	(5)	(6)
ESG sensitivity:	High	Low	High	Low	High	Low
BankMergerCnty × Post	-0.310	0.869***	0.108	0.391***	0.024	0.116
	(-0.92)	(4.17)	(0.51)	(3.30)	(0.18)	(1.40)
Observations	10796	35334	10796	35334	10796	35334
Adjusted $R^2$	0.189	0.096	0.153	0.092	0.170	0.080
County controls	Y	Y	Y	Y	Y	Y
Cohort-Year FE	Y	Y	Y	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y	Y	Y	Y
Coefficient Equality (p-value)	0.0	004	0.	240	0.5	575

## Table 12: Bank M&As and workplace safety in local business establishments (sorted by state-level political ideology)

The table presents regression results examining the effects of bank M&As among large banks on workplace safety in business establishments located in treated counties. In this analysis, we categorize regions by state-level political ideology using the measures developed by Berry et al. (1998). If the measure is above (below) the median, the state is classified as a more liberal (conservative) region. In Panel A, state-government political ideology is used, while in Panel B, state-citizen political ideology is employed to categorize samples into two subgroups. All other regression specifications are the same as those in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipA	AveTCR	ZipA	veDART	ZipAv	reDAFWII
	(1)	(2)	(3)	(4)	(5)	(6)
Political ideology:	Liberal	Conservative	Liberal	Conservative	Liberal	Conservative
BankMergerCnty × Post	0.639	$1.089^{***}$	0.483**	0.716**	0.062	$0.377^{*}$
	(1.60)	(2.74)	(2.19)	(2.55)	(0.37)	(1.90)
Observations	2945	4287	2945	4287	2945	4287
Adjusted $R^2$	0.306	0.319	0.292	0.345	0.314	0.330
County controls	Y	Y	Y	Y	Y	Y
Cohort-Year FE	Y	Y	Y	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y	Y	Y	Y
Coefficient Equality (p-value)	0	.424	0	.513	C	0.230

Panel A: Based on state-government political ideology

Panel B: Based on state-citizen political ideology

	ZipA	veTCR	ZipAy	veDART	ZipAv	eDAFWII
	(1)	(2)	(3)	(4)	(5)	(6)
Political ideology:	Liberal	Conservative	Liberal	Conservative	Liberal	Conservative
BankMergerCnty × Post	$0.809^{**}$	1.131**	0.522**	$0.776^{**}$	0.046	0.206
	(2.16)	(2.01)	(2.12)	(2.39)	(0.26)	(0.91)
Observations	3553	3478	3553	3478	3553	3478
Adjusted R <sup>2</sup>	0.312	0.273	0.268	0.350	0.322	0.304
County controls	Y	Y	Υ	Y	Y	Y
Cohort-Year FE	Y	Y	Υ	Y	Y	Y
Cohort-Zip code FE	Υ	Y	Υ	Y	Y	Y
Coefficient Equality	0	.636	0	.535	0	.573
(p-value)						

#### Variable Definition Level Key dependent variables Zip code-level average of business establishments' TCRs (total case ZipAveTCR Year-Zip code rate). TCR is the number of injuries and illnesses divided by the total hours worked by all employees at an establishment over the course of a year, multiplied by 200,000. ZipAveDART Zip code-level average of business establishments' DARTs (days Year-Zip code away, restricted, and transfer). DART is calculated as the number of injuries and illnesses resulting in days away from work or job restrictions or transfers, divided by the total hours worked by all employees at an establishment over the course of a year, then multiplied by 200,000 ZipAveDAFWII Zip code-level average of business establishments' DAFWIIs (days Year-Zip code away from work). DAFWII represents the number of injuries and illnesses resulting in days away from work, divided by the total hours worked by all employees at an establishment over the course of a year, then multiplied by 200,000. Average deposit market shares of small banks in the county as of Small Bank Deposit Shares Year-County June 30<sup>th</sup> each year. Natural log of the aggregated deposits of small banks in the county Ln(Small Bank Deposits) Year-County as of June 30<sup>th</sup> each year. Natural log of the number of small banks branches in the county as Ln(Small Bank NumBranch) Year-County of June 30th each year. Natural log of the aggregated small business lending in the county Ln(SBLs) Year-County for each year. CD rates Branch-year average deposit interest rates for 12-month certificates Year-Branch of deposits with a balance of \$10,000. MM rates Branch-year average deposit interest rates for money market Year-Branch accounts with a balance of \$10,000. Ln(#Establishment) Natural log of the number of establishments in the county at year-Year-County end. Ln(#Employees) Natural log of the annual average number of employees in the Year-County county, calculated based on the quarter-end figures Key independent variables BankMergerCnty Dummy variable that takes a value of one if there is a large bank Cohort-County M&A during the event window, zero otherwise. Post Dummy variable that identifies the post-period. Cohort-Year *Control variables (Fixed during the event window)* HHI Herfindahl-Hirschman Index for a county-level deposit market as of Year-County June 30 each year Ln(#Establishment) Natural log of the number of business establishments in the county Year-County at year-end. Ln(GDP) Natural log of county aggregate gross domestic products for the Year-County year. Ln(Pop) Natural log of county aggregate population for the year. Year-County

## **Appendix A: Variable Definitions**

Variable	Definition	Level
SeniorFrac	The ratio of the number of senior individuals (age $> 65$ ) to the total number of populations in the county each year.	Year-County
WhiteFrac	The ratio of White people to the total population of the county each year.	Year-County
BlackFrac	The ratio of Black people to the total population of the county each year.	Year-County
HispanicFrac	The ratio of Hispanic people to the total population of the county each year.	Year-County
UnemploymentRate	County-level unemployment rate for each year	Year-County

# **Appendix B: Additional Tables**

# Table B.1: Bank M&As and workplace safety in local business establishments (with control variables)

The table presents regression results examining the effects of M&As among large banks on workplace safety in business establishments located in treated counties. In this table, we provide the coefficients of control variables. Variable definitions are provided in Appendix A. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAveTCR	ZipAveDART	ZipAveDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.876***	0.585***	0.131
	(3.30)	(3.64)	(1.15)
HHI × Post	0.224	0.298	-0.536
	(0.16)	(0.33)	(-0.88)
Ln(Establishment) × Post	0.032	-0.020	0.231
	(0.04)	(-0.04)	(0.69)
$Ln(GDP) \times Post$	-0.969**	-0.644**	-0.554***
	(-2.15)	(-2.15)	(-2.76)
$Ln(Pop) \times Post$	0.635	0.506	0.263
· •	(0.77)	(1.06)	(0.85)
SeniorFrac × Post	0.080	0.045	0.004
	(1.36)	(1.30)	(0.18)
WhiteFrac × Post	-0.090	-0.021	-0.009
	(-1.19)	(-0.61)	(-0.35)
BlackFrac × Post	-0.087	-0.015	-0.009
	(-1.11)	(-0.40)	(-0.37)
HispanicFrac × Post	0.046*	0.074***	0.024*
	(1.78)	(4.31)	(1.72)
UnemploymentRate × Post	-0.102	-0.152*	-0.123**
	(-0.69)	(-1.91)	(-2.13)
Observations	8996	8996	8996
Adjusted $R^2$	0.336	0.347	0.322
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Υ	Y	Y

## Table B.2: Bank M&As and workplace safety in local business establishments (use zip-code-level median, maximum, and minimum values)

The table presents regression results examining the effects of M&As among large banks on workplace safety in business establishments located in treated counties. In this analysis, we use zip-code level median (Panel A), maximum (Panel B), and minimum (Panel C) values for workplace safety as the outcome variables. *ZipMedTCR, ZipMaxTCR*, and *ZipMinTCR* are the zip-code-level median, maximum, and minimum values of establishments' TCRs, respectively. *ZipAveDART, ZipAveDART*, and *ZipAveDART* are the zip-code-level median, maximum, and minimum values of establishments' DCRs, respectively. *ZipAveDART, ZipAveDART*, and *ZipAveDART* are the zip-code-level median, maximum, and minimum values of establishments' DARTs, respectively. *ZipAveDAFWII, ZipAveDAFWII*, and *ZipAveDAFWII* are the zip-code-level median, maximum, and minimum values of establishments' DAFWIIs, respectively. All other regression specifications are the same as those used in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

-	ZipMedTCR	ZipMedDART	ZipMedDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.876***	0.585***	0.131
	(3.30)	(3.64)	(1.15)
Observations	8996	8996	8996
Adjusted $R^2$	0.336	0.347	0.322
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y

Panel A: Use median values for workplace safety measures at each zip-code

Panel B: Use maximum values for workplace safety measures at each zip-code

	ZipMaxTCR	ZipMaxDART	ZipMaxDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	1.894***	1.341***	0.364
	(2.99)	(3.91)	(1.32)
Observations	8996	8996	8996
Adjusted R <sup>2</sup>	0.409	0.406	0.366
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y

Panel C: Use minimum values for workplace safety measures at each zip-code

	ZipMinTCR	ZipMinDART	ZipMinDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.798***	0.477***	0.080
	(3.56)	(2.84)	(0.81)
Observations	8996	8996	8996
Adjusted $R^2$	0.363	0.376	0.345
County controls	Y	Y	Y
Cohort-Year FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y

# Table B.3: Bank M&As and workplace safety in local business establishments (Use establishment-level TCR, DART, and DAFWII)

The table presents regression results examining the effects of M&As among large banks on workplace safety in business establishments located in treated counties. In this analysis, we use establishment-level workplace safety variables instead of their zip-code-level average. All other regression specifications are the same as those used in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	TCR	DART	DAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.640***	0.369***	0.080
<b>C I</b>	(3.74)	(3.66)	(1.14)
Observations	46460	46460	46460
Adjusted $R^2$	0.097	0.085	0.077
County controls	Y	Y	Y
Cohort-Post FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y

# Table B.4: Bank M&As and workplace safety in local business establishments (collapse the four-year window into two observations: one in the pre- and one in the post-period)

The table presents regression results examining the effects of M&As among large banks on workplace safety in business establishments located in treated counties. In this analysis, we collapse the four-year event window into two observations per zip code within each cohort: one for the pre-period and one for the post-period. Cohort-Year fixed effects are replaced with Cohort-Post fixed effects. All other regression specifications are the same as those used in Table 2. Standard errors are clustered at the county level. Statistical significance at the 10%, 5%, and 1% levels is denoted by \*, \*\*, and \*\*\*, respectively. *t*-statistics are in parentheses.

	ZipAveTCR	ZipAveDART	ZipAveDAFWII
	(1)	(2)	(3)
BankMergerCnty × Post	0.873***	0.580***	0.127
	(3.30)	(3.62)	(1.15)
Observations	4498	4498	4498
Adjusted $R^2$	0.444	0.435	0.414
County controls	Y	Y	Y
Cohort-Post FE	Y	Y	Y
Cohort-Zip code FE	Y	Y	Y