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To cite this article:

Dongil Daniel Keum, Stephan Meier (2023) License to Layoff? Unemployment Insurance and the Moral Cost of Layoffs. Organization Science

Published online in Articles in Advance 27 Jul 2023

. <https://doi.org/10.1287/orsc.2022.16734>

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# License to Layoff? Unemployment Insurance and the Moral Cost of Layoffs

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Received: July 13, 2022

Revised: January 21, 2023

Accepted: June 6, 2023

Published Online in *Articles in Advance*:  
July 27, 2023

<https://doi.org/10.1287/orsc.2022.16734>

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**Abstract.** This study presents moral cost as a novel behavioral constraint on firm resource adjustment, specifically layoff decisions that can cause severe harm to employees. Revising the prevailing negative view of managers as purely self-interested, we propose that managers care about their employees and incur moral cost from layoffs. We leverage expansions in unemployment insurance as a quasi-natural experiment that reduces economic hardship for laid-off workers and, in turn, the moral cost of layoffs to managers. We find that these expansions license larger layoffs. The effects are stronger for chief executive officers (CEOs) with stronger prosocial preferences who dismiss fewer workers despite low performance, such as non-Republican, internally promoted, small town, or family firm CEOs, and weaker for CEOs who lack the discretion to avoid moral cost due to shareholder or financial pressures. Our findings suggest that the role of moral cost is substantial but also highly heterogeneous and readily suppressed by external pressures.

**Supplemental Material:** The online appendices are available at <https://doi.org/10.1287/orsc.2022.16734>.

**Keywords:** managerial prosocial preferences • moral cost • layoffs • unemployment insurance • resource adjustment

*[Laying off workers] was probably the most difficult moment of my life. I think most CEOs say that was the hardest, most difficult, emotional thing to do.*

—Brian Chesky, CEO of Airbnb<sup>1</sup>

## 1. Introduction

Humans are social animals who strive to be moral and fair (Fehr and Fischbacher 2003). A growing body of research explores the role of prosocial preferences in the labor market and organizations (Brief and Motowidlo 1986, Meier 2007, Fehr et al. 2009, Bolino and Grant 2016). An influential line of research examines the role of fairness considerations in downward wage rigidity (Akerlof 1980, Kahneman et al. 1986a), namely why firms do not reduce wages during periods of declining demand.<sup>2</sup> We examine moral cost, the cost of violating the desire not to harm others, as a novel behavioral constraint that can cause layoff rigidity and its mitigation from expansions in unemployment insurance (UI) programs.<sup>3</sup>

Humans, including managers of course, engage in both selfish competitive behaviors and selfless cooperative behaviors to survive (Fehr and Schmidt 1999, Nowak 2006). However, current behavioral, agency, and chief executive officer (CEO) research has focused almost singularly on self-regarding aspects of managers

and their wrongdoing, showing that they are greedy, lazy, narcissistic, jealous, deceitful, and willing to engage in financial misrepresentation for personal gain.<sup>4</sup> We show that managers also care for their employees, albeit with significant individual-level differences. Taking this balanced view that incorporates prosociality is critical to examining the full range of human behaviors and behavioral underpinnings of managerial decision making. In particular, we show how shirking from downsizing unproductive plants and workers (Bertrand and Mullainathan 2003) may in fact stem from managerial prosocial preferences and the desire to avoid causing harm to employees instead of from laziness and the pursuit of a quiet life as considered in agency research.

We focus on layoffs as a morally costly decision that involves the acute and salient violation of managers' desire not to harm others. Managers point to layoffs as one of the most stressful parts of their jobs (Horowitz and Kenerly 2014, Knight 2020), and we expect moral cost to play a significant role in their layoff decisions. Getting laid off not only affects employees profoundly in terms of lost income but also imposes physical and psychological costs (Winkelmann and Winkelmann 1998), such as reduced food consumption (Gruber 1997) and increased risk of suicide (Wanberg 2012). Although these costs to employees are difficult to observe, we take

advantage of expansions in UI programs that provide a greater cushion for at-risk workers on which to fall back and reduce the cost of losing one's job. Prior research suggests that the expansion of UI benefits could reduce layoffs because UI is funded by an experience-rated tax on firms, which makes layoffs more costly (Baily 1977, Brechling 1981). However, expansions in social insurance programs may lead to larger layoffs by reducing the moral cost of making layoffs to managers. As a case in point, the *Wall Street Journal* reported executives feeling that the boost in unemployment benefits during the COVID-19 pandemic made layoffs "more palatable" and "without feeling they are abandoning their employees" (Tomas and Cutter 2020).

Our research design exploits exogenous expansions in UI benefit amounts by U.S. state governments between 1977 and 2007 (Agrawal and Matsa 2013, Hsu et al. 2018). UI benefit amounts are determined by multiple economic and political factors, such as party preferences and logrolling within state legislatures, and states differ substantially in the timing, frequency, and magnitude of their expansions over time. We examine how UI expansions affect layoffs in response to negative economic shocks that reduce the demand for labor (Baily 1977, Davis et al. 2012). In our baseline specification, we find that firms with below-industry performance lay off 3.9% of their workforce. A 10% increase in UI benefits increases layoffs by 25.4%, or 0.99 percentage points.

A key challenge to our empirical approach is that changes to the UI program may be driven by state-level economic conditions that decrease both firm performance and the demand for labor. However, firms operating in the same state differ in their industry, performance, and need for layoffs over time. The incongruence in state and industry boundaries permits including firm, state  $\times$  year, and industry  $\times$  year fixed effects to flexibly and robustly control for state- and industry-level trends. We also obtain consistent results using industry-level shocks that are exogenous to the economic conditions of individual states, including Chinese import competition (Acemoglu et al. 2016). In addition, we find a null effect of UI expansions on firm capital investment, which would not pose any moral concerns. This falsification test helps rule out that mismeasurement of firm-specific investment opportunities drives our results.

Next, we conduct a series of cross-sectional tests to get closer to moral costs as the underlying mechanism and its boundary conditions. We expect moral costs to have a larger effect on managers with stronger prosocial preferences and the discretion to act on them. First, looking at managers and their characteristics, we find significant differences based on the personal political leanings of CEOs. Consistent with prior research that finds stronger prosocial preferences among Democrat managers (Chin et al. 2013, Di Giuli and Kostovetsky 2014, Gupta et al. 2019, Shi et al. 2022a, b), UI expansions license larger layoffs by

non-Republican CEOs who dismiss fewer workers despite low performance, whereas having a limited effect on Republican CEOs who make more aggressive layoffs regardless of the potential cost to employees. We find a consistent pattern when comparing internally promoted, small town, and family firm CEOs who tend to develop stronger social ties with their employees and incur greater moral cost relative to externally hired, large town, and non-family firm CEOs. Finally, using exogenous shocks to the strength of corporate governance and financial slack based on staggered adoptions of antitakeover laws (Bertrand and Mullainathan 2003) and long-term maturing debt (Almeida et al. 2009), we show that the licensing effects are stronger when managers have greater discretion to act on moral concerns and keep additional employees on the payroll. These results indicate that the role of moral cost is substantial but also highly heterogeneous, fragile, and readily suppressed by external pressures.

In a provocative assessment of the advances in behavioral research, Powell et al. (2011, p. 1370) lament that behavioral strategy research has lagged behind behavioral economics and finance "in generating new ideas and research methods and in building intellectual bridges with psychology." Our study draws from psychology and behavioral economics research on the individual- and employee-level prosocial preferences but extends them to *managerial* layoff decisions in a distinctively organizational, firm-level analysis. Our study contributes primarily to three streams of research. First, we provide one of the first studies with field evidence of managerial prosocial preferences and boundary conditions of when they do and do not affect firm-level decisions. Our findings on governance strength and financial slack provide field evidence for the experimental findings that performance pressures suppress prosocial preferences (Bartling et al. 2015, Cohn et al. 2015), even for high-stake decisions that involve severe costs to employees. Second, we contribute to strategic leadership literature on the role of managers in firm resource adjustment (Adner and Helfat 2003, Helfat and Martin 2015). Complementing prior research on managers' self-serving biases that lead to both over- and under-reaction to economic shocks (e.g., hubris, narcissism) (Malmendier and Tate 2005, Chin et al. 2013, Zhu and Chen 2015, Gupta et al. 2019), we suggest managers' prosocial concerns as a microfoundation for managerial decision making (Hodgkinson and Healey 2011), especially the reconfiguration of human resources. Our findings suggest that managerial prosocial preferences may be detrimental to firm financial performance by reducing necessary but morally costly downsizing activities. We discuss how managerial prosocial preferences can be viewed as an agency problem (Di Giuli and Kostovetsky 2014), whose governance raises unique challenges and may be better addressed through public policy interventions. Third, our findings caution that expanding social

insurance programs provides managers an excuse to reduce private prosocial behaviors. By reducing moral costs, UI expansions intended to help employees can, in fact, hurt them by contributing to their job loss and benefit firms by facilitating more efficient layoffs. We discuss the implications to designing social insurance program in the last section.

## 2. Moral Cost and Layoff Rigidity

Most individuals strive to be moral, fair, and well regarded by others (Meier 2007, Bolino and Grant 2016).<sup>5</sup> An influential and growing body of research demonstrates that these prosocial preferences have far-reaching organizational consequences, affecting employee performance and corporate citizenship behavior (Bateman and Organ 1983, Brief and Motowidlo 1986, Podsakoff et al. 2000), and wage setting and incentive structure (Bertrand 2004, Bénabou and Tirole 2006, Cohn et al. 2015, Burbano 2016). We shift the focus of prosocial preferences from individuals and employees to managers.

Current theories of managerial behavior, including agency theory, transaction cost economics, and game theory, explicitly or implicitly assume managers to be selfish with preferences solely based on the level of their own payoff (Fehr et al. 2009). Similarly, strategic leadership research focuses primarily on CEO misconduct and “dark” personality traits (Smith et al. 2018), such as narcissism, hubris, overconfidence, envy, and others marked by a lack of empathy (Bertrand and Mullainathan 2003, Malmendier and Tate 2005, Chatterjee and Hambrick 2007, Tang et al. 2015, Zhu and Chen 2015).<sup>6</sup> Even when CEOs invest in socially responsible activities, these studies suggest that it may reflect their narcissistic need for praise (Petrenko et al. 2016) or the strategic need for positive media attention or employee relations (Borghesi et al. 2014, Flammer and Luo 2017, Tsolmon and Ariely 2022). Accordingly, corporate governance focuses on channeling managers’ self-interest toward positive firm performance while punishing deviant behaviors (Westphal and Zajac 2013). In contrast, the behavioral theory of the firm research (Cyert and March 1963) takes an amoral (versus immoral) view of managers and focuses on biases stemming from bounded rationality. Our main contribution is to introduce a more balanced view by demonstrating that managers care about their employees and internalize their suffering when making layoff decisions.

In contrast to individuals, there is deep-seated skepticism about whether managers behave prosocially. Kahneman et al. (1986b, p. S286) point out that standard models of firm behaviors are often viewed like “a boxing ring or a poker game ... in which many of the rules that govern other human interactions are suspended,” including fairness, social conscience, and the welfare of strangers. Even if managers indeed have prosocial

preferences, questions remain about whether their individual preferences can influence firm-level decisions. CEOs do not operate with complete discretion (Hambrick and Finkelstein 1987, Gupta et al. 2019), as they face scrutiny by various internal and external stakeholders who may hold competing social and political values and preferences (Shi et al. 2022a, b). As a result, a behavioral and psychological analysis of managerial decision making must address how managers impose their preferences on more aggregate firm-level decisions (Levitt and List 2007, Powell et al. 2011, Westphal and Zajac 2013), especially when these preferences may conflict with firm financial or shareholder interests.

We expect that managerial prosocial preferences have the potential to play a critical role in layoff decisions based on two grounds. First, employees often enter employment relations based on unwritten understanding stemming from friendship networks and social norms (Bertrand 2004, Bidwell et al. 2013, Sterling 2014, Frydlinger et al. 2019, Gartenberg and Zenger 2022). Notably, one-third of employees work without a contract referencing discharge laws (Bird 2005). Combined with uncertainty in future firm performance and demand, the informal and relational nature of employer–employee relations creates room for moral obligations to affect layoff decisions. Second, losing a job often has dire economic consequences for the average American employee, who depends on employers to provide medical insurance for themselves and their family (Tsolmon and Ariely 2022) and struggle to cover an unexpected \$400 expense.<sup>7</sup> The salience and severity of the potential harm to employees make it difficult for managers to disengage from moral concerns when making layoff decisions. Executives often cite layoffs as the most stressful decision in their job (Horowitz and Kenerly 2014, Knight 2020), and frontline managers who implement layoffs experience higher incidences of emotional exhaustion and sleep and health-related problems (e.g., ulcers) (Grunberg et al. 2006). Internalizing the costs for laid-off employees can reduce layoffs and cause layoff rigidity.

### 2.1. UI and Reduced Moral Cost of Layoffs

In contrast to the extensive experimental evidence at the individual level, examining the role of prosocial preferences and moral costs in managerial decision making has remained elusive. CEOs rarely answer questions about their social preferences (Cycyota and Harrison 2006), leaving researchers to infer them based on publicly observable events and actions. Prior studies have developed indirect yet creative proxies, such as the size of a CEO’s signature or portrait on annual reports for narcissism (Zhu and Chen 2015), the birth of a male or female child for CEO generosity, political donations, or the death of a socially close director for egalitarian motivations (Dahl et al. 2012, Chin et al. 2013, Chen et al. 2020). Although offering more direct observations of prosocial preferences and rigorous



causal analysis, recent advances using field experiments focus on individuals and employees rather than on managers (Fehr and List 2004, Cohn et al. 2015). They also abstract away from the shareholder, financial, and social contexts under which managers develop and act on informal moral obligations to their workers.

We examine expansions in social insurance programs, specifically unemployment insurance, as a quasi-natural experiment based on a highly relevant public policy (Flammer and Luo 2017, Tsolmon and Ariely 2022). UI expansions reduce economic hardship for laid-off workers and allow us to examine how managers react when the moral cost of layoffs is externally and exogenously reduced in a real high-stakes setting that involves long-term employer–employee relations. The premise that strengthening social safety nets can facilitate layoffs finds support in the “flexicurity” model of Dutch and Danish labor markets. This national political strategy combines government-provided comprehensive safety nets for the unemployed with flexible labor market policies that permit easy layoffs (Kreiner and Svarer 2022). We highlight the moral cost of layoffs and its relaxation as little-discussed aspects of these social programs.

Our argument that UI expansions can increase layoffs finds a robust foundation in the psychological research on moral licensing (Bandura et al. 1996, Effron and Conway 2015). A recent positive act that increases credit in one’s “moral bank” provides an excuse to engage in questionable behaviors. For example, in the context of hiring decisions, Effron et al. (2009) find that endorsing Obama shortly before the 2008 election led to supporting potentially discriminatory hiring decisions that favor Whites over Blacks. Building on this earlier body of work on intraperson substitution, recent studies document vicarious moral licensing whereby people use not only their own good deeds but also those of proximate others to justify helping less or cheating more (Kouchaki 2011, Gino and Galinsky 2012). Expansion in UI, which is funded by prorated taxes on the firm, provides a salient justification (or an excuse) for managers to relegate their moral concerns and lay off more employees in responding to negative economic shocks that reduce the demand for labor. We hypothesize the following.

**Hypothesis 1.** *Expanding unemployment insurance increases layoffs in response to negative economic shocks.*

In probing moral costs as the underlying mechanism, we expect the moral cost and its reduction from UI expansions to vary significantly based on (a) the strength of managerial prosocial preferences and (b) the managerial discretion to act on them.

## 2.2. Heterogeneity in Managerial Prosocial Preferences

Prior experimental studies document that as the flipside of heterogeneity in narcissism and self-interest, people

differ significantly in the strength of their prosociality and care for others (Fehr and Schmidt 2006, Cohn et al. 2015, Hans and Vissa 2022). In characterizing prosocial preferences, Bolino and Grant (2016) indicate in their review that they can be both an innate trait that remains stable across time and situations and a state that is influenced by the situation or the desire to care for a specific group of people. We examine four proxies of CEO prosocial preferences: (1) CEO political orientation as a managerial trait and (2) career history, (3) the population size of a firm’s headquarters location, and (4) firm family ownership as a state based on the social distance to employees. These proxies are admittedly indirect and imperfect but are theoretically grounded in prior research and, collectively and taken together with plausibly exogenous expansions in UI, help us examine whether managerial prosocial preferences affect layoff decisions.

**2.2.1. Political Orientation.** A growing body of empirical evidence indicates that managers’ political orientation captures their deep-rooted personal values (Jost et al. 2009) that manifest in various firm decisions, including risk taking (Graffin et al. 2020), inequality in executive compensation (Chin and Semadeni 2017), firm tax avoidance (Christensen et al. 2015), and relative emphasis of shareholders over stakeholders (Tetlock 2000). Conservative-leaning CEOs place greater value on business needs and the efficient allocation of resources and less on employees and other stakeholders. Conversely, liberal-leaning CEOs place greater value on equality, aid to the disadvantaged, and social responsibilities (McClosky and Zaller 1984). Democrat or non-Republican managers tend to be more prosocial, spending an additional 10% of the firm’s net income on corporate social responsibility (CSR) activities on average despite limited evidence of their financial benefits (Di Giuli and Kostovetsky 2014). They are also less likely to be the subject of civil rights and labor litigations relative to Republican managers (Hutton et al. 2015) and show lower incidences of workplace injury and illness (Shi et al. 2022a, b). Most relevant to our argument, Gupta et al. (2019, p. 864) find that liberal CEOs are less likely to engage in downsizing and that they “assign relatively high importance to employees’ well-being and employment security.”

**2.2.2. Internal CEOs and Headquarters Population Size.** Previous experimental studies show that individuals behave more prosocially when social distance is reduced (Charness and Gneezy 2008). Charness et al. (2007) find that in-classroom participants interacting face-to-face are less likely to cheat in a game to return a lost wallet than virtual, online participants. Looking at actual managers, Yonker (2017) draws from the psychological theory of place attachment and shows that establishments near CEOs’ childhood homes undergo fewer layoffs and pay reductions. Similarly, Landier et al. (2009)

find that layoffs and divestitures are less likely in divisions located closer to the corporate headquarters due to stronger social ties, especially when corporate headquarters are located in a less populous county. We expect CEOs who are internally promoted or located in a small, less populous area to incur greater moral cost of layoffs due to a similar set of social factors; managers and employees are embedded in a denser network of social ties, and layoffs are more likely to fall on an “identifiable victim” rather than on some unknown individual (Schelling 1968).<sup>8</sup>

**2.2.3. Family Firms.** There is robust evidence that family firms are more employee-friendly and maintain better labor relations (Mueller and Philippon 2011, Kang and Kim 2020). Relative to nonfamily firms, family firms’ concentrated ownership and greater emphasis on reputation and socioemotional wealth (Gómez-Mejía et al. 2007) and reduce excessive reactions to short-term booms and busts (Anderson et al. 2012) and the propensity of layoffs (Bassanini et al. 2013, Ellul et al. 2018), resulting in longer average employee tenure. We expect these long-term management policies to cultivate closer social ties with their employees and to increase the moral cost of layoffs.

We expect managers with stronger prosocial preferences (non-Republican, internally promoted, small town, and family firm CEOs) to incur greater moral cost and hence to lay off fewer employees in response to negative economic shocks. As a corollary, we expect the proposed weakening of moral cost and the increase in layoffs from UI expansions (Hypothesis 1) to be stronger for high-prosociality managers. Conversely, UI expansions should have little effect on low-prosociality managers who behave in line with the standard models of self-interest and profit maximization and conduct aggressive layoffs with little regard for the costs to employees.<sup>9</sup> As an example of a low-prosociality manager, Jack Welch, a staunch Republican, justified his rule of removing the “bottom 10%” of employees by contending that retaining unproductive employees is “cruel” and amounts to “false kindness.”<sup>10</sup> We expect his layoff decisions to be little affected by moral cost and UI expansions. We thus hypothesize the following.

**Hypothesis 2a.** *CEOs with stronger (weaker) prosocial preferences conduct smaller (larger) layoffs in response to negative economic shocks.*

**Hypothesis 2b.** *The expansion in UI (Hypothesis 1) leads to larger (smaller) layoffs for CEOs with stronger (weaker) prosocial preferences.*

### 2.3. Managerial Discretion to Act on Moral Cost

Prior research on self-serving managerial characteristics and agency conflicts finds that monitoring by external stakeholders and financial pressure reduces managers’ discretion to act on their preferences and, in turn, their

effects on firm investments (Malmendier and Tate 2005, Giroud and Mueller 2010, Chin et al. 2013, Zhu and Chen 2015, Yonker 2017, Keum 2021). In other words, managerial preferences do not translate to firm behaviors unless managers have the discretion to act on their preferences. For example, Yonker (2017) finds the home bias only in weakly governed firms that are insulated against hostile takeovers. Kang and Kim (2020) find that short-term investors reduce investment in employee relations. Prior experimental studies similarly find that performance pressure suppresses prosocial preferences and induces participants to behave as if they only care about their own interests (Fehr and Schmidt 1999, Bolton and Ockenfels 2000).

If the increased layoffs from UI expansion (Hypothesis 1) indeed stem from reducing the moral cost to managers, we expect the effects to be greater in firms subject to weaker financial and shareholder pressures. Internal cash flows are not subject to the same degree of external monitoring and allow managers to deprioritize efficiency and pursue other personal goals (Jensen 1986, Harvey et al. 2004, John et al. 2017). Conversely, when a firm is running out of cash flows to repay its debt or when activist investors are closely monitoring, managers are forced to conduct more aggressive layoffs with less regard for their personal values or costs to employees. Analogous to Hypothesis 2b, we expect the increased layoffs from UI expansions (Hypothesis 1) to be stronger for managers who have the discretion to act on their moral concerns and retain additional employees despite negative economic shocks that reduce their demand. We hypothesize the following.

**Hypothesis 3a.** *CEOs under weaker (stronger) shareholder and financial pressures conduct smaller (larger) layoffs in response to negative economic shocks.*

**Hypothesis 3b.** *The expansion of UI (Hypothesis 1) leads to larger (smaller) layoffs for CEOs subject to weaker (stronger) shareholder or financial pressures.*

## 3. Data and Methods

### 3.1. Unemployment Insurance Program

The UI program is one of the largest social insurance programs in the United States (Nicholson and Needels 2006). It provides short-term cash provisions to workers who have become involuntarily unemployed, for example, through plant closures or declining demand from increased import competition. Prior research shows that managers are acutely aware of the effects of UI on employees (Shapiro and Stiglitz 1984) and actively manage them. For example, Flammer and Luo (2017) find that firms increase CSR investments to increase employee engagement and reduce potential adverse employee behaviors when UI reduces the cost of being laid off; Tsolmon and Ariely (2022) find that small firms

provide health insurance to reduce turnover in high-UI-benefit states. With these few exceptions, previous UI research focuses on how decreasing the economic burden of unemployment affects laid-off workers' efforts to search for a new job (Aghion et al. 2016, Xu 2022).<sup>11</sup> We shift the focus from employees to managers and explore how moral cost and its mitigation through increases in UI benefits affect decisions to lay off workers in the first place.

As a joint program between the federal and state governments, the federal government mandates the broad UI program features and ensures consistency across states, and individual states are responsible for setting three key policy parameters: eligibility, benefit duration, and weekly benefit amount. Weekly benefit amounts are set to compensate for approximately half the full-time weekly wage, subject to minimum and maximum bounds. We obtain information on the maximum weekly benefit amount and duration for each state from the U.S. Department of Labor's publication "Significant Provisions of State UI Laws." We focus on year-to-year changes in the maximum potential benefits, calculated as the product of the maximum benefit amount and the maximum duration, consistent with Agrawal and Matsa (2013) and Hsu et al. (2018).<sup>12</sup> Using only changes in the maximum weekly benefit amount, as in Kroft and Noto-widigdo (2016), yields consistent and sharper results (Online Appendix F.1). Most states set the regular maximum duration to 26 weeks prior to 2008 (93.35% of our state-year observations), and changes to the maximum potential benefits are driven by increases in the weekly benefit amount. States, on average, expand unemployment insurance by 4.3% per year but differ significantly in the frequency and magnitude of the expansions (see Panel A in Table 1 for summary statistics). The minimum and maximum values for  $\Delta UI$  are large (−0.52, 0.65) due to a few state-years with very large increases in UI amounts: for example, Arkansas increasing from \$120 to \$222 in 1981 or New York increasing from \$180 to \$245 in 1990. We verify that our results are robust to excluding them or dichotomizing  $\Delta UI$  at multiple feasible cutoff points (Online Appendix F.2).

UI programs are funded by federal and state UI payroll taxes, which show significant differences across firms, typically ranging from 0.6% to 6.0%. A higher UI payroll tax rate is applied to firms that laid off more workers. The "reserve ratio" used to determine the firm-specific UI tax rate is defined as the difference between tax credits collected and benefits disbursed, divided by the employer's average covered payroll in the last three to five years, subject to minimum and maximum rates (Monthly Labor Review 2020).<sup>13</sup> Such experience-based rating should work against our argument; by increasing the benefits paid to laid-off workers and decreasing the reserve ratio, UI expansions act as a de facto increase in the marginal UI tax rate and, in turn, the cost of layoffs (Brechling 1981, Anderson and Meyer 1993).

### 3.2. Sample

Our baseline sample consists of the universe of public firms in the Compustat database between 1977 and 2007. We restrict the sample window to 2007 because the federal Emergency Unemployment Compensation (EUC) program extended the maximum duration of benefits to 99 weeks for some states in response to the 2008 financial crisis, preventing meaningful comparison with prior periods. To reduce extreme values of employment changes and frequent delisting, we require that firms employ at least 500 workers for two consecutive years, a cutoff line to qualify for small business firms. We verify that our results are robust to including recent years (2007–2017) or small firms (Online Appendix F.5). In Section 4.4, we use Current Population Survey (CPS) databases from the Census Bureau and examine whether we observe a consistent pattern in individual-level layoff patterns. See Panel A of Table 1 for a summary of state-level UI sample statistics.

### 3.3. Empirical Specification

To test whether UI expansions lead to larger layoffs, we estimate the following two ordinary least squares regressions:

$$\begin{aligned} \Delta Emp_{iskt} = & \alpha_i + \alpha_{st} + \alpha_{kt} + \beta_1 \Delta UI_{st} \\ & + \beta_2 Low\ firm\ performance_{it} + \beta_3 \Delta UI_{st} \\ & \times Low\ firm\ performance_{it} + X_{iskt} + \varepsilon_{iskt}, \end{aligned} \quad (1)$$

$$\begin{aligned} \Delta Emp_{iskt} = & \alpha_i + \alpha_{st} + \beta_1 \Delta UI_{st} \\ & + \beta_2 Negative\ industry\ shock_{kt} + \beta_3 \Delta UI_{st} \\ & \times Negative\ industry\ shock_{kt} + X_{iskt} + \varepsilon_{iskt}, \end{aligned} \quad (2)$$

where  $i$  indexes the firm,  $s$  indexes the state of a firm's primary operation,  $k$  indexes a firm's primary industry of operation, and  $t$  indexes the year.  $\alpha_i$ ,  $\alpha_{st}$ , and  $\alpha_{kt}$  are firm, state-by-year, and industry-by-year fixed effects at the three-digit Standard Industrial Classification (SIC) code level;  $X$  is a vector of firm, state, and industry controls; and  $\varepsilon$  is an idiosyncratic error.  $\Delta UI_{st}$  captures UI expansion in a firm's primary state of operation  $s$  at year  $t$ .<sup>14</sup>  $\Delta Emp$  is the employment growth rate measured as  $\frac{emp_t - emp_{t-1}}{0.5 \times emp_t + 0.5 \times emp_{t-1}}$ , which captures a net change in firm employment that includes both layoffs and hiring, an issue we address later.<sup>15</sup> Our sample firms, on average, increase their workforce by 4.2% each year. See Panel B of Table 1 for a summary of firm-level sample statistics.

The variable  $\beta_2$  estimates layoffs in response to firm-level low performance in Equation (1) and industry-level negative shocks in Equation (2) in the absence of any changes to UI benefits. We expect UI expansions to affect managers when they must actively lay off workers but to have a limited effect when firms are actively expanding (Feldstein 1976, Baily 1977). Our specification



**Table 1.** Sample Statistics

	Variables	N	Mean	Standard deviation	Minimum	Maximum
Panel A: State-level characteristics (1977–2007)						
1.	$\Delta UI_t$	1,612	0.043	0.062	−0.52	0.65
2.	Maximum Weekly Benefit <sub>t</sub>	1,612	237.9	106.5	60	862
3.	Maximum Regular Duration (Week) <sub>t</sub>	1,612	26.3	1.5	20	39
4.	Max UI Benefit amount <sub>t</sub>	1,612	6260.0	2897.6	1,200	25,860
Panel B: Firm-level characteristics (1977–2007)						
1.	Employee growth <sub>t+1</sub>	66,718	0.042	0.214	−1.83	1.91
2.	Capital investment intensity <sub>t+1</sub>	66,208	0.072	0.063	−0.01	2.99
3.	$\Delta UI_t$	66,718	0.045	0.063	−0.52	0.65
4.	Low performance <sub>t</sub> (= 1)	66,718	0.383	0.486	0.00	1.00
5.	Tobin's Q <sub>t</sub>	66,718	1.547	1.495	0.20	203.47
6.	Industry revenue growth <sub>t</sub>	66,718	0.117	0.146	−1.96	2.78
7.	Debt ratio <sub>t</sub>	66,718	0.269	0.215	0.00	8.15
8.	Current ratio <sub>t</sub>	66,718	2.169	1.474	0.00	57.83
9.	Working capital to sales ratio <sub>t</sub>	66,718	0.263	13.584	−69.25	3453.4
10.	Distance to bankruptcy <sub>t</sub>	66,718	3.952	4.038	−80.40	190.96
11.	Total asset <sub>t</sub> (log)	66,718	5.898	1.698	0.62	12.53
12.	Industry concentration <sub>t</sub>	66,718	0.227	0.171	0.01	1.00
13.	Industry concentration <sub>t</sub> <sup>2</sup>	66,718	0.080	0.132	0.00	1.00

examining the conditional effect of  $\Delta UI$  in response to negative shocks draws a close parallel to wage rigidity research, which examines (un)responsiveness in wages to adverse labor market conditions, such as high unemployment (Kahneman et al. 1986b, Akerlof and Yellen 1990) or increasing import competition (Bertrand 2004).

As a primary measure of a firm-level negative shock, we use low firm performance based on return on assets (ROA) in Equation (1). *Low firm performance* is a binary variable equal to one if a firm's realized performance falls below the industry benchmark, calculated as the median ROA of a firm's primary four-digit SIC industry for each fiscal year.<sup>16</sup> The blunt binary measure is intuitive and insensitive to potential noise or to functional forms of a firm's need for layoffs. We obtain consistent results using alternative operationalizations of low firm performance, for example, replacing the binary *Low firm performance* with a continuous variable using a linear spline or basing performance on negative income (see Online Appendices F.1 and F.5). In estimating Equation (2), we examine three industry-level negative shocks that are unlikely to be influenced by the economic conditions of individual states while requiring layoffs from firms operating in affected industries: Chinese import competition, decline in industry revenue growth, and decline in industry value-add, further detailed in Section 4.2.

Our main variable of interest is the coefficient for the interaction term  $\beta_3$ , which estimates whether the intensity of layoffs varies with UI expansions. We predict  $\beta_3$  to be negative because increases in the UI benefit amount license the laying off of additional workers who would have been retained in the absence of UI expansion. UI reduces the managerial cost of layoffs, specifically its moral component, and increases the sensitivity of

layoffs to negative shocks. The key identifying assumption is that the two interacted variables, negative economic shocks and state-level UI expansions, are not systemically related (Goldsmith-Pinkham et al. 2020). In other words, the coefficient for the interaction term  $\Delta UI \times \text{Negative shock}$  should estimate how state-level UI expansions that happen to coincide with negative industry-level shocks affect layoffs. We validate this assumption in depth in Section 3.5.

Our estimation, focused on the interaction (i.e.,  $UI \times \text{Negative shock}$ ) between time-varying negative economic shocks and UI expansions, resembles but differs from the standard difference-in-differences estimation. The unique strength and the limitation of our empirical setting is that firms (a) vary in their need for layoffs over time and (b) are treated multiple times heterogeneously and continuously by UI expansions, departing from the standard differences-in-differences setup with a one-time shock (Callaway and Sant'Anna 2021). This prevents us from conducting the standard *pre* versus *post* comparison (i.e., there are no “post” periods) (Autor et al. 2013). We engage with the latest developments in addressing the potential pitfalls of the difference-in-differences estimation with two-way fixed effects (de Chaisemartin and D'Haultfoeuille 2020, Goodman-Bacon 2021, Baker et al. 2022, Roth et al. 2022), especially the potential bias arising from the compositional shifts and the varying weights (e.g., negative weights) given to the “control” observations, in Online Appendix C.

For Equation (2) that uses Chinese import competition or other industry-wide negative shocks, the design closely resembles the Bartik instrument approach adopted in Autor et al. (2013): There is an exposure variable (e.g., regional industry composition) that is being



interacted with a shock (e.g., import competition, or, in our case,  $\Delta UI$ ). Instead of regional differences, we use firm-level differences in exposure to these shocks based on a firm's primary industry of operation and, in turn, the declining demand for labor.<sup>17</sup>

The vector  $X$  includes an extensive set of firm- and industry-level controls that influence the demand for labor.<sup>18</sup> We control for industry revenue growth, calculated as the mean growth rate of all public firms in the same four-digit SIC code, Tobin's  $Q$  as a proxy for firm-specific growth opportunities reflected in a firm's stock price, firm size (log of total assets), and industry concentration (the Herfindahl index and its square) based on revenue of Compustat firms. Agrawal and Matsa (2013) show that unemployment benefits increase firm leverage by reducing workers' exposure to unemployment risk. Because low financial slack might reduce firms' ability to retain workers, we include four proxies for a firm's financial resources: leverage based on its debt ratio, current ratio, working capital-to-sales ratio, and Altman's  $Z$ -score. All standard errors are double-clustered at the firm and state levels to correct for potential cross-sectional and serial correlation in the error term (Petersen 2009).<sup>19</sup>

### 3.4. Identifying Involuntary Layoffs

Identifying layoffs is complicated by the fact that changes in firm-level employment have three components: involuntary layoffs, voluntary exits ("quits"), and new hires. Involuntary layoffs could also reflect distortions in employee incentives whereby they reduce efforts to strategically induce layoffs and collect increased UI benefits (Flammer and Luo 2017, Carvalho et al. 2018). The decrease in firm-level employment may also be driven by the shift to more temporary, non-full-time employment. Although we expect these alternative channels to be present, we conduct a series of analyses indicating that they are unlikely to drive our results. As the most direct redress, we repeat our firm-level analysis at the individual level using the CPS in Section 4.4. CPS is a monthly survey of approximately 60,000 U.S. households by the Census Bureau, which provides detailed information on the employment status of each member of the household, including industry, location of employment, and, most importantly, whether a job loss is voluntarily or involuntary, and, in the case of an involuntary layoff, indefinite or temporary (e.g., furlough). We obtain consistent results using this detailed individual-level data that allow us to isolate indefinite and involuntary layoffs of full-time workers without potential complications from voluntary exits and hiring. We provide more detailed discussion and evidence against other channels that can decrease firm employment as driving our results in Online Appendix D: Isolating Involuntary Layoffs (Online Appendix D.1: Voluntary Exits & Reduced Efforts, Online Appendix D.2: Decreased Hiring, Online Appendix D.3: Temporary

Layoffs, Online Appendix D.4: Reduction in Work Hours). Throughout the discussion, we refer to "layoffs" when presenting results based on decreases in firm-level employment.

### 3.5. Potential Endogeneity of UI Expansions

A state's decision to increase UI payments is thought to be influenced by local economic and political conditions, including the unemployment rate, incumbent officials' reelection prospects, and Republican control of state legislatures (Agrawal and Matsa 2013, Hsu et al. 2018). The potential role of a state's economic conditions raises concerns of omitted variable bias, as they likely reduce the demand for labor, especially among firms experiencing low performance. However, our empirical specification in Equations (1) and (2) provides several assurances against this concern.

First, prior studies that use UI expansions for causal identification conduct a battery of checks for their exogeneity. After controlling for state and year fixed effects, they find a small and statistically insignificant relation between UI benefits and various state-level economic indicators, including state unemployment rates, gross domestic product (GDP) per capita, UI payroll taxes, and other government transfer programs (Agrawal and Matsa 2013, Kroft and Notowidigdo 2016, Hsu et al. 2018). In Online Appendix A.1, we conduct additional firm-level tests and show that UI expansions are not a function of in-state firms' financial performance or investment activities. In other words, the coefficient for the interaction term  $\Delta UI \times \text{Negative shock}$  ( $\beta_3$ ) estimates whether UI expansions that happen to coincide with low firm performance lead to larger layoffs.

Second, our firm-level analysis controls for industry-by-year and state-by-year fixed effects in addition to the usual firm fixed effects. A firm's primary industry of operation (indexed with  $k$ ) differs from a firm's primary state of operation (indexed with  $s$ ), and firms operating in the same state and industry show significant differences in their performance and need for layoffs over time. For example, California as a whole may be experiencing a recession while most (but not all) of its high-tech firms are seeing increasing demand; the oil and gas sector may be contracting even as Texas as a whole shows strong economic growth. The incongruence in state and industry boundaries, combined with variations in firm performance over time, allows for estimating  $\beta_3$  (but not  $\beta_1$ ) while controlling for firm, industry  $\times$  year, and state  $\times$  year fixed effects. This means that any variation in layoffs that stems from unobserved common shocks affecting all firms in a given state or industry in a given year is not used to identify  $\beta_3$ .

Third, our firm-level analysis extends recent studies that take advantage of spatial variations across contiguous counties or commuting zones (Hagedorn et al. 2019). In addition to state-level policy differences, we

take advantage of variations in managerial and firm-level characteristics, for example, CEO personal history and exogenous shocks to a firm's corporate governance or financial constraints. These characteristics measure differences in managers' prosocial preferences and their discretion to act on them without being correlated with potential alternative mechanisms (e.g., state-level economic conditions) and provide important mechanism and robustness tests.

## 4. Baseline Results

### 4.1. Layoffs in Response to Low Firm Performance

We begin by estimating a version of Equation (1) that includes only  $\Delta UI$  in column 1 of Table 2 (see Online Appendix A.3 for a simple scatterplot of  $\Delta UI$  and changes in firm employment).<sup>20</sup> Firms lay off 0.27% of their workforce in response to a 10% increase in UI benefits ( $p = 0.062$ ). This weak average effect, however, obscures the contingent effect of UI expansions on layoffs, which should primarily affect firms when they need to lay off workers. In column 2, which includes only *Low firm performance*, firms reduce their workforce by 4.4% when their performance falls below the industry benchmark. Including  $\Delta UI$  and *Low performance* simultaneously makes little difference to the respective coefficients in column 3. However, in column 4, which includes their interaction,  $\Delta UI$  no longer increases layoffs independently but instead through its interaction with *Low firm performance*. The coefficient for  $\Delta UI \times \text{Low firm performance}$  is  $-0.099$  ( $p < 0.01$ ), suggesting that a 10% increase in UI increases layoffs by 0.99 percentage points. In marginal terms, firms increase layoffs by 25.4% compared with years when UI benefits remain flat.

Column 5 adds state-by-year fixed effects, and  $\Delta UI$  is subsumed and dropped from the estimation. There is little change in the statistical and economic significance of *Low firm performance* and  $\Delta UI \times \text{Low firm performance}$ . Controlling for state-specific industry trends using industry-by-state-by-year effects yields consistent and slightly sharper results in column 6 but results in significant sample attrition. The insensitivity of the coefficients for  $\Delta UI \times \text{Low firm performance}$  to these additional fixed effects is consistent with the low correlation between UI expansions and individual firm performance. We verify the lack of pretrends in Online Appendix C.2; the increased layoffs are driven by contemporaneous UI expansions and not by past expansions.

In columns 7 through 9, as a falsification test, we examine whether UI expansions affect firm capital investment intensity (capital investment normalized by total assets with a one-year lag) that do not pose moral concerns. As expected, firms reduce capital investment in response to low performance, but the coefficients for both  $\Delta UI$  and  $\Delta UI \times \text{Low firm performance}$  are small and insignificant. The

null result helps rule out mismeasurement of firm-specific investment opportunities that may be correlated with low firm performance or UI expansions as driving our results on layoffs. If that were the case, then the coefficient for  $\Delta UI \times \text{Low firm performance}$  should be negative and significant also with respect to capital investment. Taken together, these results provide robust support for Hypothesis 1: An expansion of UI benefits increases layoffs in response to low firm performance.

### 4.2. Layoffs in Response to Industry-Level Negative Shocks

In the previous analysis, we used firm-level low performance to identify the need for layoffs. In this section, we use three industry-level negative shocks that decrease demand for labor for firms operating in affected industries. A growing body of empirical evidence documents that import competition from China is responsible for a significant share of the decline in U.S. manufacturing employment (Autor et al. 2016). We expect firms to make larger layoffs from the increased import competition in state-years coinciding with UI expansions. In Table 3, we follow Acemoglu et al. (2016) and calculate Chinese import competition ( $\Delta IP$ ) for each four-digit SIC code but do it for each year rather than for five-year intervals.  $\Delta \text{Chinese import}_{kt}$  is the change in imports from China from the previous year, and the denominator is initial absorption measured as the sum of U.S. industry shipments and Chinese imports minus U.S. exports.

$$\Delta IP_{kt} = \frac{\Delta \text{Chinese import}_{kt}}{Y_{kt} + \text{Chinese import}_{kt} - \text{Export}_{kt}} \quad (3)$$

Using this industry-level shock helps to reduce endogeneity concerns related to state-level trends and generalize our results beyond firms with low performance, but one important limitation is that we cannot include industry-by-year fixed effects. The import competition data are available from 1991, and our sample period covers 1991 to 2007. In column 1 of Table 3, we find that a 10% increase in import penetration reduces firm employment by 0.24 points ( $p < 0.01$ ), replicating the industry-level result of Acemoglu et al. (2016) at the firm level. In column 2, the coefficient for the interaction between  $\Delta IP$  and  $\Delta UI$  is negative and significant, indicating that firms undertake larger layoffs in response to increasing Chinese import competition when states expand UI benefits. The inclusion of state-by-year fixed effects in column 3 makes little difference to the results.

We next use slowing industry growth as an alternative negative economic shock that requires firms to reduce their workforce. In columns 4–6, we use changes in total value-add from the NBER-CES Manufacturing Industry Database. *Negative shock* is a binary variable equal to one if total value-add declines relative to the previous year for each four-digit SIC code. In columns

**Table 2.** UI Expansion and Layoffs in Response to Low Firm Performance

	$\Delta \text{Employment}_t$						$\text{Capital investment}_t$		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\Delta UI_t$	−0.027* [0.014]		−0.030** [0.014]	0.009 [0.014]			−0.001 [0.003]		
$\text{Low performance}_t (= 1)$		−0.044*** [0.004]	−0.044*** [0.004]	−0.039*** [0.004]	−0.039*** [0.004]	−0.038*** [0.009]	−0.008*** [0.001]	−0.008*** [0.001]	−0.009*** [0.002]
$\Delta UI_t \times \text{Low performance}_t$				−0.099*** [0.026]	−0.110*** [0.027]	−0.121*** [0.026]	0.004 [0.005]	0.004 [0.005]	0.009 [0.009]
Adjusted $R^2$	0.176	0.183	0.183	0.183	0.182	0.146	0.579	0.582	0.572
Observations	66,718	66,718	66,718	66,718	66,591	37,488	66,166	66,039	37,150
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC3 $\times$ year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State $\times$ year fixed effects	No	No	No	No	Yes	Yes	No	Yes	Yes
SIC3 $\times$ state $\times$ year fixed effects	No	No	No	No	No	Yes	No	No	Yes

Note. Standard errors are clustered at the firm and state level and reported in brackets.

\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.

7–9, we use industry revenue growth, calculated as the mean revenue growth rate of public firms in Compustat for each four-digit SIC code.<sup>21</sup> Across both proxies, we obtain results that are in line with the earlier results from Table 2. Negative economic shocks decrease firm employment by 1.9%–3.0%, and a 10% increase in UI increases layoffs by 0.61–1.08 percentage points. The effect sizes are in line with but moderately smaller than those observed in Table 2 based on firm-level negative performance.

As a robustness check, we verify that there is little difference from excluding industries that represent more than 2%, 3%, or 5% of the state's economy and may influence UI and other local economic policies in Online Appendix F.3.<sup>22</sup>

### 4.3. Individual-Level Analysis: Current Population Survey Data

In Table 4, we use the CPS data from 1979 to 2007, which allows us to directly observe the involuntary layoffs of

full-time workers and addresses the concern that decreased hiring or increased voluntary exits may drive our results. Because CPS does not provide identifying information on the employing firm, we again use Chinese import competition and decline in industry value-add as industry-level negative shocks that prompt layoffs.<sup>23</sup> The overall empirical design closely follows Bertrand (2004), who examines how import competition erodes informal wage agreements and relaxes downward wage rigidity during periods of high unemployment (see the online appendix for more detailed information on sample construction and statistics).

We estimate a linear probability model where the dependent variable *Layoff* is equal to one if a respondent's employment status switches from employed to "on indefinite layoff." We find an empirical pattern consistent with the earlier firm-level results. As expected, the coefficient for *Negative shock* is positive and significant in columns 2 and 6, indicating a higher probability of losing a

**Table 3.** UI Expansion and Industry-Level Negative Economic Shocks

	Dependent variable: $\Delta \text{Employment}_t$								
	Chinese import competition			Industry value added			Industry revenue growth		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\text{Negative shock}_t$	−0.024*** [0.005]	−0.023*** [0.005]	−0.020*** [0.006]	−0.033*** [0.004]	−0.030*** [0.004]	−0.026*** [0.004]	−0.022*** [0.002]	−0.019*** [0.002]	−0.019*** [0.002]
$\Delta UI_t$		−0.080*** [0.025]			−0.021 [0.019]			0.004 [0.023]	
$\Delta UI_t \times \text{Negative shock}_t$		−0.012*** [0.003]	−0.014** [0.006]		−0.080* [0.046]	−0.108** [0.048]		−0.061** [0.024]	−0.061** [0.025]
Adjusted $R^2$	0.157	0.157	0.157	0.14	0.140	0.146	0.144	0.144	0.147
Observations	10,746	10,746	10,621	21,128	21,128	20,920	57,197	57,197	57,065
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State $\times$ year fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

Note. Standard errors are clustered at the firm and state level and reported in brackets.

\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.



**Table 4.** Individual-Level Analysis: Current Population Survey (CPS) Data

	Dependent variable: <i>Involuntary Layoff<sub>it</sub></i> (= 1) × 100							
	Chinese import competition				Industry value added			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\Delta UI_t$	−0.131 [0.121]		−0.160 [0.118]		−0.605 [0.579]		−1.506** [0.682]	
<i>Negative shock<sub>it</sub></i>		0.270** [0.113]	0.149* [0.077]	0.213 [0.139]		0.589*** [0.174]	0.450*** [0.141]	0.398*** [0.119]
$\Delta UI_t \times \textit{Negative shock}_{it}$			3.099*** [1.029]	2.273** [1.028]			3.111** [1.238]	2.355* [1.182]
Adjusted $R^2$	0.015	0.015	0.015	0.016	0.019	0.020	0.020	0.025
Observations	1,624,031	1,624,031	1,624,031	1,624,031	2,640,836	2,640,836	2,640,836	2,640,836
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × SIC fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × year fixed effects	No	No	No	Yes	No	No	No	Yes

Note. Standard errors are clustered at the state and year level and reported in brackets.  
\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.

job. The coefficient for  $\Delta UI \times \textit{Negative shock}$  is also positive and significant in columns 3–4, 7, and 8, indicating that UI expansions increase layoffs in state-years that experience negative economic shocks. These results are robust to additional controls, including household and occupation fixed effects, and help rule out that decreased hiring, temporary layoffs (Feldstein 1976, 1978; Topel 1983), and voluntary exits (or “quits”) (Albanese et al. 2020) are driving our results.

Although the individual-level results provide robust support to Hypothesis 1, it is important to qualify them. Our analysis requires state-by-industry-by-year observations rather than industry-by-year or state-by-year observations as in prior studies using CPS data (Bertrand 2004). Combined with comparatively rare layoff events, this leads to estimates based on a few observations. We interpret the CPS results as providing complementary evidence that reinforces our firm-level findings.

4.4. Change vs. Level of UI

Whether moral licensing should depend on the nominal UI amount (i.e., level) or its expansion (i.e., change or  $\Delta UI$ ) relates to a long-standing debate. Managers may focus on whether the overall UI amount is adequate to cushion economic hardship (e.g., \$862 in Massachusetts versus \$210 in Mississippi per week in 2007) or whether there is an increase that provides an improvement relative to the condition at the time of hiring or recent past years. Behavioral research on fairness emphasizes reference dependence and the resulting focus on change (Kőszegi and Rabin 2006). People have difficulty judging what is “fair” or “moral” in a vacuum and rely on deviations from what Kahneman et al. (1986b) term “reference transaction.” Our baseline specification uses  $\Delta UI$  as suggested by prosociality research, but we also explore UI amount as a critical contextual variable in Online Appendix E. In line with prior research on fair

wages and broader behavioral research (Kahneman and Tversky 1979, Kőszegi and Rabin 2006), we find that moral licensing is driven by the increase in benefit amount relative to the past (or the reference amount). At the same time, the absolute level of cash provisions for laid-off workers serves as a critical contextual variable. We do not find any effects at low levels of UI, where UI does not provide meaningful economic relief and, in turn, a credible excuse to disengage from moral concerns.

4.5. Robustness Tests

Online Appendix C discusses a series of standard tests for using state-level policy shocks. In Online Appendix F, we conduct a series of additional robustness checks. Notably, we obtain consistent and slightly sharper results when we disregard changes in the maximum duration and calculate UI expansions based solely on changes in the maximum weekly benefit amount. The effect on layoffs becomes stronger when we exclude firms that operate across multiple states, for which the effective UI expansions are measured with errors (Flammer and Luo 2017). In theory, the geographic dispersion works as a measurement noise that should work against finding a significant result. Moreover, our CPS analysis is precisely at the state level (i.e., we trace the location of both employees and UI expansions to the individual state) and shows consistent effects. We provide a more detailed discussion in Online Appendix F.6. Our results are also robust to (1) replacing the binary *Low firm performance* with a continuous variable using a linear spline or dichotomizing UI at multiple feasible cutoff points, (2) using inflation-adjusted nominal dollar-amount increases in the maximum weekly benefit amount (versus percentage increases), (3) using sample periods that include more recent years (2008–2015) and/or earlier years (1970–1975), (4) excluding state-years with a large share

**Table 5.** Political Orientation and Layoffs in Response to UI Expansion

	$\Delta Employment_t$			
	Republican CEO		Non-republican CEO	
	(1)	(2)	(3)	(4)
$\Delta UI_t$	−0.101 [0.068]		0.058 [0.041]	
$Low\ performance_t (= 1)$	−0.039*** [0.012]	−0.044*** [0.015]	−0.019** [0.009]	−0.020** [0.009]
$\Delta UI_t \times Low\ performance_t$	0.015 [0.079]	−0.098 [0.108]	−0.216*** [0.065]	−0.286*** [0.078]
Adjusted $R^2$	0.204	0.189	0.196	0.184
Observations	5,162	5,055	8,195	8,110
Controls	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
SIC3 $\times$ year fixed effects	Yes	Yes	Yes	Yes
State $\times$ year fixed effects	No	Yes	No	Yes

Note. Standard errors are clustered at the firm and state level and reported in brackets.

\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.

of firms with low performance (i.e., left-tail observations in Online Appendix Figure A.4) at various thresholds, (5) excluding the three largest states (California, New York, and Texas), and (6) using alternative specifications and control variables.

## 5. Mechanism

In this section, we further probe the moral cost of layoffs to managers as the mechanism by which UI expansion leads to larger layoffs. Specifically, we look at the strength of managers' prosocial concerns and shareholder and financial pressures as constraints on their discretion to act on them (see the online appendix for data sources and more detailed variable descriptions for subsample analyses).

### 5.1. Strength of Managerial Prosocial Preferences

To test Hypothesis 2, Table 5 divides our sample based on whether the CEO made personal political donations to Senate, House, and presidential candidates who are Republican (Hutton et al. 2014). Political donation data are collected from the Federal Election Commission (FEC) and span the period 1993–2007. Republican CEOs represent 40% of our sample. In response to low performance, non-Republican CEOs lay off 2.0% of workers (column 4) and Republican CEOs lay off 4.4% of workers (column 2), consistent with the former having stronger prosocial preferences and incurring greater moral costs which lead to smaller layoffs (Hypothesis 2a). However, the retention of additional workers by non-Republican CEOs leads to a significantly larger licensing effect in years with UI expansions (Hypothesis 2b). A 10% increase in UI increases layoffs by 2.86 percentage points ( $p < 0.01$ ) in contrast to 0.98 percentage points for Republican CEOs ( $p = 0.37$ ). These differences are significant at

10% based on z-statistics. We interpret these results with some caution because appointing a Republican CEO may be endogenous to the need for layoffs. However, the exogenous expansions in UI benefits ( $\Delta UI$ ) help mitigate this concern.

Table 6 looks at the three proxies of manager–employee social distance. Columns 1–2 and 3–4 divide the sample based on whether the CEO was promoted internally or hired externally. An external CEO is identified as one whose first year as CEO is the year they join the firm. Internal CEOs are nonexternal CEOs. We obtain CEO-related information from the Execucomp database, and the sample covers the period 1993–2007. External CEOs represent 36% of our sample firms. In line with the previous results based on political orientation, UI expansions have a three times larger effect on internal CEOs (Hypothesis 2b) who lay off fewer workers despite low performance (Hypothesis 2a). These differences are significant at 5% based on z-statistics.

Columns 5–6, 7–8, and 9–10 divide firms into the top 50%, bottom 50%, and bottom 25% based on population size of the headquarters' zip code, respectively. The sample covers the period 1993–2007. Firms in less populous zip codes conduct fewer layoffs in response to low firm performance but show a greater increase in layoffs from UI expansions.<sup>24</sup> The coefficient for *Low firm performance* decreases in magnitude from −0.33 to −0.23 and 0.05 as population size increases, but the coefficient of  $\Delta UI \times Negative\ shock$  in contrast increases in magnitude from −0.146 to −0.277 and −0.560. The differences in the coefficients between top- and bottom-population zip codes in columns 6 and 10 are statistically significant at 5% based on z-statistics, consistent with Hypothesis 2a and Hypothesis 2b.

In columns 11–12 and 13–14, we divide our sample based on family firm status from Anderson et al. (2012),

who collect data on the 2,000 largest firms between 2001 and 2010. Family firms with more than 5% ownership by family members comprise approximately one-third of the sample. The coefficient for  $\Delta UI \times Low\ performance$  is approximately two times larger and achieves statistical significance only in the family-firm sample. We do not observe differences in the coefficient for *Low performance* across the two subsamples.<sup>25</sup> The results in Tables 5 and 6 provide nuanced and consistent support for Hypothesis 2 and the reduction in the moral cost of layoffs from UI expansions as the underlying mechanism.

Although there are unique strengths to our research design using UI expansions, our analyses nonetheless rely on a series of indirect proxies of managers' prosocial preferences. Theoretical advances in whether and how CEOs affect firm behavior have rested critically on developing creative yet credible empirical measures of their personal characteristics (e.g., overconfidence, narcissism). A more direct measurement of managerial prosociality based on recent methodological advances, such as textual analysis of their speech patterns (Shi et al. 2022a, b) or videometric analysis of their public appearances (Petrenko et al. 2016), presents an important area of future research. The prominence of research on dark and self-centered CEO characteristics and surging interest in managerial ethics and social responsibility suggest that the potential impact from these undertakings can be enormous.

5.2. Managerial Discretion to Act on Moral Concerns

**5.2.1. Shareholder Pressure: Takeover Protection.** To test Hypothesis 3, we leverage the staggered adoption of antitakeover laws that insulate managers from activist investors and the performance pressures of the market for corporate control. Since the pioneering study by Bertrand and Mullainathan (2003), a vast body of empirical research documents that antitakeover laws allow managers to reduce efforts at restructuring and enjoy a "quiet life." Among the multiple types of antitakeover laws, we follow Giroud and Mueller (2010) and Keum (2021) and focus on the adoption of business combination laws. *Weak governance<sub>gt</sub>* is a binary variable equal to one if a business combination law was adopted in a firm's state of incorporation *g* by year *t* and sets up a standard difference-in-difference estimation. A firm's state of incorporation, which dictates corporate governance laws (indexed with *g*; e.g., Delaware), differs from the state of a firm's primary operation (indexed with *s*). Approximately 60% of public firms are incorporated in Delaware to take advantage of its advanced corporate laws, but less than 3% of firms maintain their primary operations there. This incongruence, in addition to the incongruence in state and industry boundaries, allows us to estimate the effects of weak governance while controlling for state of operation-by-year fixed effects.<sup>26</sup>

Table 6. Social Distance and Layoffs in Response to UI Expansion

	$\Delta Employment_t$													
	HQ population size													
	External CEO		Internal CEO		Top 50%		Bottom 50%		Bottom 25%		Nonfamily firm		Family firm	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
$\Delta UI_t$	-0.127 [0.081]		0.010 [0.045]		0.019 [0.034]		-0.014 [0.045]		0.025 [0.054]		0.035 [0.046]		0.057 [0.063]	
<i>Low performance<sub>t</sub></i> (= 1)	-0.033** [0.013]	-0.012 [0.020]	-0.007 [0.011]	-0.008 [0.013]	-0.032*** [0.006]	-0.033*** [0.007]	-0.023*** [0.006]	-0.023*** [0.007]	0.002 [0.011]	0.005 [0.012]	-0.013 [0.008]	-0.013 [0.009]	-0.014 [0.011]	-0.015 [0.012]
$\Delta UI_t \times Low\ performance_t$	-0.103 [0.067]	-0.132* [0.073]	-0.350*** [0.087]	-0.397*** [0.106]	-0.140** [0.062]	-0.146** [0.070]	-0.251*** [0.085]	-0.277*** [0.077]	-0.517*** [0.075]	-0.560*** [0.164]	-0.188 [0.126]	-0.200 [0.138]	-0.334*** [0.120]	-0.378*** [0.115]
Adjusted <i>R</i> <sup>2</sup>	0.234	0.135	0.224	0.193	0.176	0.166	0.183	0.178	0.176	0.164	0.158	0.138	0.099	0.055
Observations	2,149	1,920	4,670	4,538	15,016	14,933	15,140	15,081	6,961	6,897	5,586	5,542	2,903	2,865
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	5
SIC3 × year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × year fixed effects	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Note. Standard errors are clustered at the firm and state level and reported in brackets.  
\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.



In column 1 of Table 7, *Weak governance* does not independently affect layoffs. However, in column 2, the negative and significant coefficient for *Low performance* and the positive and significant coefficient for the interaction term *Weak governance*  $\times$  *Low performance* indicate that poorly performing firms conduct layoffs, but to a lesser extent, when they are protected against takeover pressures; *Weak governance* decreases layoffs in response to low performance by 14.6%. In other words, layoffs in weakly governed firms are less sensitive to poor performance. Column 3 examines the interaction between *Weak governance* and UI expansions. The negative and significant coefficient for *Weak gov.*  $\times$   $\Delta UI$  indicates that UI expansions indeed lead to larger layoffs in weakly governed firms. To further examine the dynamics, column 4 includes the three-way interaction between *Weak governance*,  $\Delta UI$ , and *Low performance* in what amounts to a quadruple-differences estimation. The negative and significant coefficient for the interaction term *Weak gov.*  $\times$   $\Delta UI \times$  *Low performance* indicates that protected managers conduct larger layoffs in response to UI expansions, despite being insulated against takeover pressures; a 10% increase in UI benefits is sufficient to fully moderate the reduced layoffs from the adoption of the business combination law.

With respect to capital investment in columns 6 and 7, we again do not observe any significant effect from  $\Delta UI$  and its interactions with *Low performance* and *Weak governance*. The null effect on capital investment sets a

challenging bar for alternative explanations. They would have to coincide with (i) the adoptions of antitakeover laws in the state of incorporation, (ii) UI expansions in the state of operation, and (iii) firm-specific low performance, and (iv) only affect layoffs and not capital investment. In Online Appendix F.7, we also show in a dynamic specification that the larger layoffs in response to UI expansions in weakly governed firms occur two years after the passage of business combination laws and not before.

The results support our argument and provide deeper insight into the behavioral underpinnings of the quiet life hypothesis. Bertrand and Mullainathan (2003) suggest that weak governance allows managers to become lazy and to shirk “cognitively difficult activities” (p. 1067), such as the closing of a low-productivity plant. Our results suggest that weaker governance allows managers to avoid morally costly activities. The reduced restructuring stems at least partly from an increased exercise of their prosocial preferences and not solely from their laziness. Our interpretation based on moral cost also aligns with more recent empirical evidence that managers, when left unchecked, do not sit still and instead make themselves busy. For example, they make unrelated acquisitions (Gormley and Matsa 2016), increase CSR expenditure (Di Giuli and Kostovetsky 2014), and provide pay increases to plants located in their hometowns or closer to corporate headquarters (Landier et al. 2009, Yonker 2017).

**Table 7.** Shareholder Pressure and Layoffs in Response to UI Expansion

	Dependent variable						
	$\Delta Employment_t$					$Capital\ investment_t$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Weak gov.</i> (= 1)	0.004 [0.006]	0.000 [0.006]	0.006 [0.006]	0.000 [0.006]	0.002 [0.005]	0.003 [0.002]	0.006*** [0.002]
<i>Low performance</i> <sub>t</sub>		−0.048*** [0.004]		−0.046*** [0.005]	−0.047*** [0.005]	−0.010*** [0.001]	−0.009*** [0.001]
<i>Weak gov.</i> $\times$ <i>Low performance</i> <sub>t</sub>		0.007* [0.004]		0.012*** [0.004]	0.012*** [0.004]	0.001 [0.001]	0.001 [0.001]
$\Delta UI_t$			0.002 [0.014]	0.010 [0.020]		−0.001 [0.006]	
<i>Weak gov.</i> $\times$ $\Delta UI_t$			−0.060*** [0.020]	−0.006 [0.027]	−0.076 [0.068]	0.001 [0.011]	−0.024 [0.016]
$\Delta UI_t \times$ <i>Low performance</i> <sub>t</sub>				−0.027 [0.037]	−0.035 [0.038]	0.000 [0.008]	−0.001 [0.008]
<i>Weak gov.</i> $\times$ $\Delta UI_t \times$ <i>Low performance</i> <sub>t</sub>				−0.142* [0.077]	−0.145* [0.074]	0.005 [0.014]	0.004 [0.014]
Adjusted $R^2$	0.176	0.183	0.176	0.183	0.182	0.569	0.572
Observations	66,718	66,718	66,718	66,718	66,591	70,913	70,801
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC3 $\times$ year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State $\times$ year fixed effects	No	No	No	No	Yes	No	Yes

Note. Standard errors are clustered at the firm and state level and reported in brackets.

\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.

**5.2.2. Financial Pressure: Firm Financial Slack.** Table 8 examines how financial slack affects layoffs in response to UI expansions. Similar to our earlier discussion based on antitakeover laws, we expect the reduction in moral cost from UI expansions to have a larger effect on financially unconstrained firms whose managers have greater discretion to act on their moral concerns and keep additional workers on the payroll despite falling demand.

We divide our sample based on a firm’s overall debt ratio (total debt divided by total assets) in columns 1 and 2. The negative coefficient for the interaction term  $\Delta UI \times Low\ performance$  is larger for low-debt firms than for high-debt firms (−0.172 versus −0.101), but their difference is statistically insignificant. In columns 3 and 4, we divide our sample based on the ratio of short-term debt to the industry median with the expectation that short-term debt that must be repaid within a year more effectively constrains managers’ discretion to keep workers on the payroll. The coefficient for  $\Delta UI \times Low\ performance$  is three times larger and statistically significant only for low-short-term debt firms (−0.134 versus −0.045).

Because a firm’s capital structure is likely endogenous to firm performance, demand for labor, and UI (Agrawal and Matsa 2013), we next isolate the fraction of short-term debt that comes from currently maturing long-term debt. Almeida et al. (2009) suggest that long-term borrowing decisions made several years earlier are plausibly exogenous to a firm’s performance and industry conditions in the year in which such debt matures. Columns 5 and 6 divide firms into high- and low-constraint firms based on the amount of long-term maturing debt but restrict the sample to firms with a total debt ratio above the median (i.e., firms in column 1) to capture firms with a meaningful amount of such debt. The

differences between high- and low-constraint firms become more drastic. In responding to low performance, firms under higher financial pressure conduct more aggressive layoffs than firms under low financial pressure, as indicated by the larger coefficient of *Underperformance* (−0.038 versus −0.019). Consistent with the greater presence and reduction in moral cost, a 10% expansion in UI increases layoffs by 1.23 percentage points in firms under low financial pressure ( $p = 0.01$ ) but by only 0.07 percentage points in firms under high financial pressure ( $p = 0.98$ ), and their differences are significant at 10% based on z-statistics.<sup>27</sup> These results provide further support for Hypothesis 3a and Hypothesis 3b. In Online Appendix F.8, we obtain consistent results using alternative proxies of financial constraints based on the WW Index (Whited and Wu 2006) and the SA Index (Hadlock and Pierce 2010). In Online Appendix F.9, we show that financial slack affects only layoffs in response to UI expansion and not capital investment. These results are inconsistent with reduced hiring from financial constraints and debt overhang (Johnston 2021) but consistent with increased layoffs from managers being able to act on their social preferences due to greater free cash flows (Jensen 1986, Giroud and Mueller 2010).

**5.3. Strategic Management of Stakeholder Concerns**

There is an important concern that the increased layoffs from UI expansions reflect the preferences of external stakeholders rather than managers (Ariely et al. 2009, Borghesi et al. 2014). Firms may be more conservative about layoffs to strategically project a positive image to activists and customers, which could affect a firm’s long-term performance. With more generous social safety nets

**Table 8.** Financial Pressure and Layoffs in Response to UI Expansion

	Dependent variable: $\Delta Employment_t$					
	Debt		Short-term debt		Maturing long-term debt	
	High (1)	Low (2)	High (3)	Low (4)	High (5)	Low (6)
$\Delta UI_t$	0.010 [0.029]	0.015 [0.018]	−0.041 [0.033]	0.019 [0.021]	−0.084 [0.061]	0.039 [0.037]
$Low\ performance_t (= 1)$	−0.033*** [0.004]	−0.043*** [0.004]	−0.036*** [0.006]	−0.037*** [0.004]	−0.038*** [0.006]	−0.019*** [0.006]
$\Delta UI_t \times Low\ performance_t$	−0.101** [0.041]	−0.172*** [0.062]	−0.045 [0.047]	−0.134*** [0.050]	−0.007 [0.075]	−0.123** [0.046]
Adjusted $R^2$	0.171	0.226	0.175	0.211	0.173	0.160
Observations	35,506	27,798	28,146	34,536	13,803	16,850
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
SIC3 $\times$ year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
State $\times$ year fixed effects	No	No	No	No	No	No

Note. Standard errors are clustered at the firm and state level and reported in brackets.  
\*, \*\*, and \*\*\*Statistical significance at the 10%, 5%, and 1% levels, respectively.

in place, these stakeholders that prefer prosocial firms may be less inclined to punish firms for dismissing workers. As a result, UI expansions could reduce the value of “doing good” for the sake of “doing well,” and managers may exploit UI expansions as a strategic opportunity to lay off more workers. However, the strength of moral licensing varies over time based on the strength of corporate governance (Section 5.2.1) and the idiosyncratic fluctuations in firm financial pressure (Section 5.2.2). In Online Appendix G, we also find that there is little difference across business-to-business and business-to-consumer industries or firms that spend more heavily on marketing and rely more heavily on positive external evaluation (Servaes and Tamayo 2013). The absence of strategic motivation is a key difference from prior examinations of wage rigidity that consider motivational and efficiency-based explanations for downward wage rigidity (Goette et al. 2007).

## 6. Conclusion and Discussion

This study presents evidence consistent with the presence of moral cost to managers’ layoff decisions. We take advantage of expansions in state UI benefits over time and the economic relief they provide to laid-off workers as an exogenous decrease in the moral cost of layoffs. We show that UI expansions lead to larger layoffs in firms experiencing low firm performance or negative industry shocks, such as increased Chinese import competition. Moral cost has a significant yet highly heterogeneous effect, decreasing in importance for well-governed or financially constrained firms that provide little room for managers to act on their moral concerns, whereas increasing in importance for more socially conscious managers and family-owned firms. Our study suggests prosocial preferences as a microfoundation for reconfiguring human resources with several theoretical, managerial, and policy implications.

This study extends the literature on individual prosocial behavior, examined largely using experiments involving short-term exchanges and low-stake decisions, to managers operating under external pressures involving long-term relations and high-stake decisions. Our findings provide a more balanced view of managers and their preferences. Although they can be selfish and self-centered, managers also care about their employees and internalize the costs for workers when making layoff decisions. For rank-and-file employees, prosocial preferences are thought to benefit the firm, especially when it is difficult to monitor their behavior. For managers, our findings on governance strength provide a tentative but consistent set of evidence that managerial prosocial preferences result in avoiding necessary but morally costly restructuring activities. These findings are in line with a growing body of research that views investments in prosocial activities as stemming from private managerial

benefits and agency conflicts (Di Giuli and Kostovetsky 2014, Tang et al. 2015, Petrenko et al. 2016). The vast research debating the productivity effects of a fair wage (Akerlof and Yellen 1990) suggests that moral costs likely entail complex short- and long-term effects. Layoff rigidity likely has wide-ranging effects on other corporate strategic activities that require freeing resources, such as innovation and divestitures, as well as hiring and acquisitions (Keum 2020). A rigorous assessment of negative performance effects would require more direct and long-term observations of employee motivation and firm behaviors.

Our findings also warn that managers being lazy (Bertrand and Mullainathan 2003) or prosocial can lead to the same problem of shirking downsizing and keeping superfluous employees on the payroll. Managers acting on their prosocial preferences can be viewed as an agency problem from the perspective of shareholders, raising unique challenges to the designing of corporate governance that balances responsibility to employees and fiduciary duty to shareholders. Managers’ assessment of the right balance between the two can differ across countries (e.g., United States and Denmark) and even different U.S. states (e.g., Massachusetts and Mississippi), depending on the strength of social insurance programs in place, and will evolve over time in response to their expansions. To the extent that prosocial managers are penalized in the labor market because of their reluctance to implement morally costly activities, strengthening social safety nets can reduce this penalty by facilitating more efficient restructuring. This highlights a new positive “macro” effect for supporting UI expansions against the argument that they reduce labor market efficiency and firm productivity by encouraging “micro” employee-level adverse behaviors (Shapiro and Stiglitz 1984, Schmieder and von Wachter 2016).

This study has implications for designing UI and social insurance programs more generally. Our findings highlight that social insurance programs intended to help employees may in fact hurt them (Agan and Starr 2018). For example, Walmart has received intense criticism for paying low wages that force its employees to rely on the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps). Considering moral cost suggests a perverse reverse causation; expansions in SNAP reduce the risk that workers and their families will starve and license Walmart to keep wages below the poverty line. As seen in the *Wall Street Journal* anecdote in the introduction, we expect moral licensing to reduce the effectiveness of expanding UI during crises by providing managers an excuse to make layoffs. We expect the effects of moral cost to extend to other strategic decisions that also involve layoffs, including divestitures, exits (Keum and Liu 2023), and investment in automation technologies, and to other government programs that reduce the burden of job loss, such as universal basic



income, Medicare-for-all, and retraining programs. For example, a straightforward extension of our argument suggests that the government provision of medical insurance for laid-off workers via expansions in Medicaid and the Continuation of Health Coverage (COBRA) could have led to layoffs of additional employees by managers who previously did not want to be responsible for the loss of their employees' health insurance. These extensions of moral cost to evaluating firm resource adjustment and public policy are left for future research.

One of the oldest debates dating back to Aristotle, Freud, Hobbes, and Adam Smith concerns human morality and the role of social institutions in its development. We believe managers' prosocial preferences and moral concerns (or lack thereof) have the potential to become a pillar of behavioral organizational research for examining managerial decision making and a wide range of pressing issues, such as managerial ethics, activism, and the role of business in society. We hope this study provides an early step in this direction.

## Endnotes

<sup>1</sup> See <https://mastersofscale.com/we-died-and-were-reborn-brian-chesky/>.

<sup>2</sup> Although previous research has often treated moral, fair, and prosocial decisions as interchangeable, they can diverge in some cases. For example, stealing to help the poor in your community (e.g., Robin Hood) can be prosocial but not moral. An eye-for-an-eye punishment can be fair but not moral.

<sup>3</sup> Cultural and moral psychologists propose care/harm and fairness/reciprocity to be the two most important irreducible elements of morality (Haidt 2001, Greene and Haidt 2002).

<sup>4</sup> See Bertrand and Mullainathan (2003) for laziness; Harris and Bromiley (2007) and Zahra et al. (2005) for financial misrepresentation; Nickerson and Zenger (2008) and Larkin et al. (2012) for jealousy; Tang et al. (2015) for hubris; and Chatterjee and Hambrick (2007), Zhu and Chen (2015), and Petrenko et al. (2016) for narcissism. For a review on organizational and CEO misconduct, see Greve et al. (2010), Schnatterly et al. (2018), and Palmer et al. (2020).

<sup>5</sup> In his first book, *The Theory of Moral Sentiments*, which precedes *The Wealth of Nations*, Adam Smith observes that people have "interest ... in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it" (Smith 1759, p. 3).

<sup>6</sup> Leadership research discusses five "bright" characteristics (Smith et al. 2018): extraversion, conscientiousness, emotional stability, and openness to experience. There is also growing literature on CEO humility and servant leadership (Owens and Hekman 2012, Ou et al. 2018, Petrenko et al. 2019). Although they inform our discussion, we view these bright characteristics (e.g., conscientiousness) as neutral or amoral traits that do not involve the zero-sum allocation of costs. Schulze et al. (2003) examine CEO altruism but in the specific context of parent-child relationships.

<sup>7</sup> See <https://www.federalreserve.gov/publications/2021-economic-well-being-of-us-households-in-2020-dealing-with-unexpected-expenses.htm>.

<sup>8</sup> Guenzel et al. (2023) find that CEOs become more reluctant to conduct layoffs over their tenure as they form more connections inside the firm.

<sup>9</sup> The stronger effect of UI expansion on prosocial managers draws a parallel to Bertrand (2004) and Cohn et al. (2015). Cohn et al.

(2015) find that workers who lack reciprocity (i.e., those with low prosociality) do not respond to wage increases meant to enhance fairness perception. Bertrand (2004), in examining how import competition weakens implicit wage agreements, excludes unionized workers from her analysis; both implicit agreements and their weakening play a limited role for unionized workers whose wages are explicitly negotiated every year.

<sup>10</sup> See <https://www.c-span.org/video/?c4519267/user-clip-jack-welch-false-kindness>.

<sup>11</sup> Bao (2022) studies the effect of another type of social safety net: paid family benefits. Although providing important insights for our study, these studies focus on employee hiring, retention, and entrepreneurship rather than layoff decisions.

<sup>12</sup> We use changes in the nominal amount because workers may not take inflation into account, but all results are robust to using deflated values.

<sup>13</sup> See <https://www.bls.gov/opub/mlr/2020/article/the-cost-of-layoffs-in-ui-taxes.htm>.

<sup>14</sup> To identify the effective UI expansions, we assign firms to their state of firm headquarters, as reported in Compustat (Agrawal and Matsa 2013). To the extent that firms maintain employment across multiple states,  $\Delta UI$  is measured with noise, likely resulting in a downward bias. We find a stronger positive relationship between UI expansions and layoffs in firms that have a higher share of operations in the state of their headquarters (see Online Appendix F.6). Our individual-level analysis using the CPS Census data excludes effects from other regions and isolates in-state effects.

<sup>15</sup> Our results are robust to calculating employment changes as a year-to-year log difference.

<sup>16</sup> We exclude firms with a ROA less than 100% and greater than  $-100\%$ . All results are unaffected by their inclusion.

<sup>17</sup> In the context of UI, Kroft and Notowidigdo (2016) adopt a related approach that uses variations in the interaction of state-level unemployment rates with UI benefits over time.

<sup>18</sup> All control variables are from  $t + 0$ , but using values from  $t - 1$  or omitting all control variables other than firm and industry-by-year fixed effects yields consistent results.

<sup>19</sup> We find very little difference when we instead bootstrap standard errors with two-way clustering at the firm and year level using the algorithm from Gow et al. (2010).

<sup>20</sup> Online Appendix B provides full results including control variables.

<sup>21</sup> We require that the industry have at least 10 active firms.

<sup>22</sup> Examples of these industries include IC 3570 (Computer & Office Equipment) for California, SIC 1311 (Crude Petroleum and Natural Gas) for Texas, and SIC 6020 (Commercial Banks) for Massachusetts.

<sup>23</sup> This limits our sample to manufacturing sectors.

<sup>24</sup> The results become incrementally weaker as we expand the time window further back in time.

<sup>25</sup> Although its formal investigation is beyond the scope of this study, we suspect that this is because family firms are less diversified (Anderson and Reeb 2003) and hence more exposed to industry-specific negative shocks.

<sup>26</sup> We use the sample period 1976–2008; but limiting the sample to 1983–1999, as recommended by Karpoff and Wittry (2018), yields consistent results.

<sup>27</sup> Agrawal and Matsa (2013) find that UI permits firms to increase leverage by reducing the unemployment risk of workers and the wage premium that must be provided for the risk of job loss. Johnston (2021) shows that increased UI taxes decrease labor demand in financially constrained firms. The stronger effect in low-constraint firms reduces the concern that increased sensitivity of layoff

decisions to low performance may stem from UI's effect on firm capital structure.

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