Unemployment Insurance and Takeovers[*]

Lixiong Guo[†]
University of Alabama

Jing Kong[‡]
Michigan State University

Ronald W. Masulis[§]
University of New South Wales

December 11, 2019

Abstract

We examine whether unemployment insurance (UI) mitigates shareholder-employee conflicts of interest and improves takeover market efficiency. Exploiting within state changes in UI benefits, we find that increased target state UI benefits raise acquisition likelihoods, expected deal synergies, and gains to both acquirer and target shareholders. UI effects on acquisition likelihood are stronger in highly unionized industries, in firms with concentrated employee ownership, and in firms with employee friendly boards. The passage of directors' duties laws increases the UI effect on acquisition likelihood. Lastly, increased acquirer state UI benefits raise acquirer returns and likelihood of acquirers making within-industry acquisitions.

[†] Lixiong Guo is with the University of Alabama. Address: Culverhouse College of Business, University of Alabama, 232 Alston Hall, 361 Stadium Drive, Tuscaloosa, Alabama, 35487-0224. Electronic Mail: lguo@cba.ua.edu.
[‡] Jing Kong is with the Michigan State University. Address: Eli Broad College of Business, Michigan State University. Electronic Mail: kongjin1@msu.edu.
[§] Ronald Masulis is with the University of New South Wales. Address: UNSW Business School, UNSW, Sydney, NSW, 2052, Australia. Electronic Mail: ron.masulis@unsw.edu.au.

1. Introduction

Corporate takeovers play a major role in allocating resources and improving economic efficiency. Yet conflicts of interests among various stakeholders of both acquirers and targets often prevent shareholders from realizing the full economic potential of takeovers. The manager-shareholder conflicts of interest have received substantial attention in the literature. Yet, takeovers not only jeopardize target manager jobs, but also target and acquirer employee jobs. The greater likelihood of employees losing jobs to post-merger workforce restructurings creates shareholder-employee conflicts of interest. Recent studies examine how such conflicts are exacerbated by employee legal rights and employee protection laws.[5] But, few studies examine alternative labor market mechanisms that could mitigate these conflicts. We help fill this void by closely examining unemployment insurance (UI) and whether it can serve as an effective mechanism to lower takeover market frictions.

In most developed countries, employees who lose their jobs in corporate restructuring are eligible for temporary income provided by public unemployment insurance systems. In the U.S., ninety-seven percent of wage and salary workers are covered by state UI programs, which represents one of the largest government transfer programs in the US. Prior studies find that UI can significantly lower worker unemployment risk and soften the negative income shocks of unexpected unemployment. For example, Hsu, Matsa and Melzer (2018) estimate that an added $3600 in maximum total UI benefits under regular UI programs reduce mortgage delinquencies by 114 basis points, and UI expansion during the 2007-2009 recession prevented more than 1.3

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[5] Using U.S. acquisitions, John, Knyazeva and Knyazeva (2015) find that acquirers from states with weak labor rights, defined as states with right-to-work laws, experience higher deal announcement returns and higher combined acquirer and target returns. Tian and Wang (2016) find that U.S. firms where employees narrowly vote for union representation receive fewer takeover bids than those that narrowly vote against, and they receive lower takeover premiums when they are acquired. Using data in 21 OECD countries, Dessaint, Golubov and Volpin (2017) find that increased legal protection of employment in target countries reduces both deal activity and deal synergies.

million additional foreclosures. Hence, for many unemployed workers, a relatively small change in UI compensation can have a large impact on their lives. Not surprisingly, a number of studies find that UI compensation has economically meaningful effects on worker behavior and major firm policies (Meyer, 1990 and 1995; Gruber, 1997; Engen and Gruber, 2001; Light and Omori, 2004; Gormley, Liu and Zhou, 2010; Agrawal and Matsa, 2013; Ellul, Wang, and Zhang, 2015; Ellul, Pagano and Schivardi, 2018).[6] This body of evidence suggests that UI compensation can reduce employee opposition to takeovers and post-merger workforce restructuring, and consequently can improve the efficiency of the market for corporate control.

In the U.S., unemployment insurance is provided by a federal-state system in which the basic framework is the same nationwide, but states vary substantially in important program parameters such as the weekly benefit amount. States also exhibit substantial differences in their adjustment of UI benefits over time. Due to uncertain legislative approval of changes in UI laws, the timing of UI benefit changes is often exogenous to underlying economic conditions (Agrawal and Matsa, 2013; Hsu, Matsa and Melzer, 2018). In this study, we exploit these statutory changes within individual states to establish a causal effect of UI benefits on takeover probabilities and shareholder gains.

Our sample consists of all U.S. public firms in the CRSP-Compustat merged database over the period 1990-2015, excluding heavily regulated utilities and financial services firms. Following Agrawal and Matsa (2013), we use the product of the maximum weekly benefit amount and the maximum duration of the benefits to measure the overall level of UI benefits in a state (Ffor brevity,

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[6] Prior studies find that unemployment insurance affects a worker's unemployment duration (Meyer, 1990 and 1995), consumption smoothing (Gruber, 1997), job quits (Light and Omori, 2004), individuals' precautionary savings (Engen and Gruber, 2001), stock market participation (Gormley, Liu and Zhou, 2010), a firm's capital structure (Agrawal and Matsa, 2013) and executive compensation policies (Ellul, Wang, and Zhang, 2015), and a family firm's provision for employment stability to their workers (Ellul, Pagano and Schivardi, 2018)..

UI level hereafter). We focus on target firms because post-merger workforce reductions typically fall much more heavily on target employees.[7] In support of our main hypothesis that UI benefits reduce shareholder-employee conflicts of interest at target firms, we find that a 10% increase in UI level raises the likelihood of a firm headquartered in that state being acquired by 94 basis points per annum, which represents a 28% increase over the unconditional takeover likelihood of 3.3%. The effect is statistically significant at the 1% level. Although the uncertain legislative approval of UI law changes suggests that this effect is causal, we conduct explicit identification tests to further substantiate this causal interpretation. We find that the relationship cannot be explained by three major alternative explanations, namely unobserved regional economic shocks, unobserved industry shocks or reverse causality. We hypothesize that three channels are at work, acting either independently or jointly to contribute to this relationship. First, in some target firms, employees have strong legal rights or own large equity positions, which provides them a formal channel to directly influence firm takeover outcomes. Prominent examples are coverage by a collective bargaining agreement and large employee holdings of the firm's stock through employee stock ownership plans (ESOPs), 401(k) plans and profit-sharing plans, etc. Under the National Labor Relations Act (NLRA), an employer has certain obligations to bargain with a unionized workforce over the effects of a proposed M&A deal or the decision to sell the firm, which gives employees a voice in takeover decisions. In firms where employees as a group hold a large equity block, their votes on a merger proposal or their decisions to tender their shares to the acquirer can be pivotal to the success of a takeover attempt. In either case, if employee opposition to takeovers varies with

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[7] Another reason for focusing on target firms is that existing evidence on whether strong target labor rights have a significant effect on takeover outcomes in U.S. acquisitions is mixed. By focusing on target state UI benefits, we can see whether properly controlling for UI benefit levels can help to resolve this puzzle. Nonetheless, for the purpose of providing comprehensive evidence on how UI affects takeovers, we also examine how acquirer-state UI benefits reduce acquirer shareholder-employee conflicts of interest

UI level, then changes in UI level can directly affect the takeover probabilities of these firms. In support of this proposition, we find that UI has a stronger effect on takeover likelihoods when target firms are in highly unionized industries or have large ESOPs.

Second, some target boards are likely to consider the impact of a potential takeover on their employees when deciding to support or oppose a takeover. For these firms, higher UI benefits make a target board more willing to agree to a deal and vice versa. This channel is supported by anecdotal and survey evidence from as early as the mid-1960s that suggests a large majority of managers would in practice consider any sizable impacts of a takeover on its various stakeholders (Donaldson and Preston, 1995).[8] Court decisions and legislation since the 1980s have also extended the range of concerns that boards can consider to include non-shareholder constituencies.[9]

In support of this second channel, we find that UI has a stronger effect on the takeover likelihood when a target firm has female directors on the board, has a policy of treating employees well, or is in a labor-intensive industry.[10] Furthermore, the passage of directors' duties (DD) laws, which allows target boards to consider the interests of all stakeholders when evaluating a takeover offer, significantly strengthens the relation between target UI level and takeover likelihoods.[11]

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[8] Explaining the recent change in the Business Roundtable's new statement of corporate purpose, Alex Gorsky, Chair of the Roundtable's Corporate Governance Committee, stated that "BRT has always maintained that investing in employees and communities is an essential part of generating value for shareholders. But the fact is, words matter. And our own language was not consistent with the ways our member CEOs strive to run their companies every day."

[9] In the well-known Delaware Supreme Court decision on *Unocal Corp. v. Mesa Petroleum Co., 1985,* a target board of directors can consider the "impact (of the takeover) on 'constituencies' other than shareholders (i.e., creditors, customers, employees, and even the community generally)". In a later Delaware case, *Paramount Communications, Inc. v. Time, Inc*. (1990), the Unocal rationale was expanded to allow directors to include factors such as long-range business plans and a corporation's "culture". By the end of our sample period, 35 states had passed directors' duties laws that explicit allow target boards to consider non-equity stakeholder interests in evaluating a takeover offer.

[10] Differences in stakeholder orientation could reflect different approaches to maximizing shareholder value, rather than reflecting consideration of other stakeholder interests. For example, managers may focus on short- versus long-term value maximization. Nevertheless, these differences lead to varying levels of sensitivity of target board decisions to support or reject a takeover offer to UI benefit levels, which we exploit in our tests.

[11] By the end of our sample period, 35 states had passed a DD law, with 7 states passing them in our sample period.

Third, even for firms where employees do not have a formal channel to influence takeover outcomes or the board of directors does not generally take employee-friendly actions, UI can affect a firm's takeover likelihood by changing a firm's attractiveness as a potential target. When making a bid, an important acquirer consideration is the deal's expected synergies. More generous UI benefits can reduce target shareholder-employee conflicts in post-merger workforce restructurings and thus, enhance expected synergies. Consistent with this third channel, we find that after controlling for an acquirer's preference for other target characteristics, acquirers are more likely to bid for firms in states with relatively more generous UI benefits.[12]

More frequent takeovers are one important indicator of takeover market efficiency. However, we ultimately want to know if more generous target UI benefits are associated with higher expected deal synergies and greater economic gains to acquirer and target shareholders. In the U.S., UI benefits are mainly financed by payroll taxes on individual employers. The payroll tax rate increases with an employer's past layoffs. Hence, to the extent that more generous UI benefits facilitate larger scale layoffs, these layoffs also increase an acquirer's future payroll tax liabilities. The net benefit depends on whether the expected gains from workforce restructuring exceed the expected rise in future payroll taxes.

To measure expected deal synergies net of the increase in expected future payroll taxes, we use the combined acquirer and target CAR over the five-day event window around a deal's announcement date. We find that a 10% increase in a target's UI level is associated with a 0.37% increase in the deal's combined CAR (a relative gain in share value of 31%). The relation is statistically significant at the 5% level and it is stronger when the target is in a highly unionized industry where employees can more easily organize to oppose workforce restructuring. As further

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[12] This test is presented in the Appendix. We provide additional support for this channel in Section 5 where we find that target UI benefit levels are significantly positively related to expected deal synergies and acquirer CARs.

evidence that the UI effect on expected synergies is related to workforce restructuring, we show that more generous target UI benefits are associated with larger reductions in the combined employee headcount of the acquirer and target from two years before through three years after deal completion. The new evidence complements our earlier evidence on takeover frequencies and both are consistent with UI benefits improving takeover market efficiency.

We next investigate how target and acquirer shareholders differentially gain from an increase in target UI level. First, we look at takeover premiums paid to target shareholders. We find that a 10% increase in target UI level leads to a 2.4 percentage point decrease in takeover premiums. This is consistent with target UI benefits reducing labor opposition to takeovers. However, it raises the question of whether target shareholders benefit from higher UI benefits. To answer this question, we calculate the combined effect of greater takeover probabilities and lower takeover premiums. Our simple calculation shows that a 10% rise in a target's UI level is associated with an expected incremental gain to potential target shareholders of about 0.3% of the firm's equity market capitalization. Hence, target shareholders on average benefit from higher UI benefits despite a smaller takeover premium. As for acquirer shareholders, we find that higher target UI benefits have a positive effect on acquirer CARs, suggesting that acquire shareholders also benefit from higher target UI benefits. This positive effect further supports our third channel which posits that acquirers prefer target firms in states with relatively more generous UI benefits.

Lastly, we examine whether acquirer state UI benefits mitigate their own shareholder-employee conflicts of interest. We find that increases in acquirer UI benefits lead to higher acquirer CARs and a greater likelihood of acquirers making within-industry acquisitions. These results closely mirror those reported in John, Knyazeva, and Knyazeva (2015) on how state right-to-work

laws affect acquirer CARs and the type of deals they make and confirm that UI benefits also mitigate *acquirer* shareholder-employee conflicts of interest.

Our paper contributes to the literature on shareholder-employee conflicts of interests in takeovers by documenting that temporary income provided by the U.S. government-sponsored UI system to laid-off employees can help reduce employee opposition to takeovers and significantly benefit both target and acquirer shareholders. Unlike our study, existing studies focus on how labor conflicts are exacerbated by employee legal rights and employee protection laws. For example, John, Knyazeva, and Knyazeva (2015) find that strong labor rights in U.S. acquirers are associated with lower acquirer returns. Tian and Wang (2016) find that firms which narrowly pass a union election are less likely to receive takeover offers and they receive lower takeover premiums than firms which narrowly fail a union election. Dessaint, Golubov and Volpin (2017) find that increases in legal employment protections in the 21 OECD countries reduce M&A deal volume and expected synergies.

Since none of the papers examine alternative labor market mechanisms that can reduce shareholder-employee conflicts of interest in takeovers, it appears that the only way to reduce the negative effects of strong employee rights and legal employment protections is to weaken or reverse them by changing the law, like the passage of right-to-work laws which weakens union power. Our study suggests an alternative solution, namely to raise UI benefits. This solution does not operate through changes in labor rights or legal protections, but through changes in employee incentives to incur the cost needed to oppose takeovers. To the extent that public UI is present in the settings of the prior studies, our study suggests that the effects documented in these studies are likely to be sensitive to UI level across states, countries and over time. The negative effects of

these employee protections are likely to be more severe in states or countries with the lowest UI benefits.

We also show that controlling for target UI level helps isolate a negative relationship between target firm labor rights and takeover likelihoods and expected acquisition synergies for U.S. acquisitions. John, Knyazeva, and Knyazeva (2015) find that strong labor rights in target firms have no significant effect on takeover likelihoods, while Tian and Wang (2016) find that target firm unionization has a significant and negative effect on their takeover likelihoods. Neither John, Knyazeva, and Knyazeva (2015) nor Tian and Wang (2016) find that strong target firm labor rights reduce expected deal synergies. Using high industry unionization rates to proxy for strong labor rights in target firms, we find that strong labor rights are negatively related to both deal likelihoods and expected synergies once we control for the interaction between labor rights and target UI level.

To the best of our knowledge, we are the first study to show that employee unemployment risk can affect a target board's attitude towards takeover bids in employee-friendly firms. This changes the current view that only shareholder interests and managerial self-interests affect a target board's M&A decisions. Recently, the Business Roundtable, an organization of CEOs of America's leading companies, endorsed a shift in corporate purpose from a narrow focus on shareholder value to a broader focus on the interests of all stakeholders in response to public pressure and calls from some influential business leaders.[13] Our evidence suggests that the importance of UI to the takeover market is likely to increase if the changes in corporations' stated purpose have tangible impacts in the future.

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[13] The Business Roundtable on August 19, 2019 changed its statement of "the purpose of a corporation". The new statement says: "Each of our stakeholders is essential" and "We commit to deliver value to all of them, for the future success of our companies, our communities and our country."

Lastly, unemployment insurance is one of the largest social insurance programs in the U.S. by size. For policymakers, understanding the costs and benefits of these programs is important for choosing these programs' optimal size and other parameters. Earlier economics studies on UI have focused primarily on its distortion effects. Topel (1983, 1984) finds that the partial "experience rated" payroll taxes provide a subsidy for employers to lay off workers. Meyer (1990) finds that higher UI benefits significantly lower the probability that an unemployed worker goes back to the workforce. However, later economics studies point out the importance of recognizing both the costs and benefits of UI programs for designing optimal programs. Along this line, Gruber (1997) finds that government-sponsored UI systems provide consumption smoothing benefits that private insurance markets fail to provide. Hsu, Matsa and Melzer (2018) find that UI helps to reduce the deadweight loss associated with mortgage defaults. Our study extends this economics literature by documenting that more generous UI benefits also facilitate a more efficient market for corporate control and reduce labor frictions associated with corporate restructuring.

2. Data and Sample

2.1. Sample Construction

We begin with all firm-year observations between 1990-2015 in the CRSP-Compustat merged database. We exclude firms that do not trade on NYSE, AMEX or NASDAQ in our sample period and firms in highly regulated financial and utilities industries. Stock return data are obtained from the CRSP database and financial statement data from the Compustat database. Corporate governance data are taken from the Institutional Shareholder Services (ISS) database (formerly RiskMetrics). State unemployment rates are annualized from the monthly Current Population Survey database. State GDP data are obtained from the U.S. Bureau of Economic Analysis. All state-level data are added to our panel dataset for each firm's headquarters state.

To identify firm-years when a firm is a takeover target, we use the Securities Data Corporation (SDC)'s U.S. mergers and acquisitions database. We begin with all completed mergers and acquisitions between U.S. public firms announced between January 1, 1990, and December 31, 2015. Following the prior literature (Moeller, Schlingemann, and Stulz, 2004; Masulis, Wang and Xie, 2007), we require a deal to be valued at $1 million or more to be included in our sample. We also require an acquirer to own less than 50% of a target's shares before the bid and owns 100% of them at deal completion. We exclude tender offers, self-tenders, exchange offers, repurchases, spinoffs, leveraged buyouts (LBOs), and recapitalizations. Deal information that meets the above criteria is added to our CSRP-Compustat firm-year panel dataset. After eliminating observations with missing firm and deal characteristics, the final panel dataset consists of 69,697 firm-year observations, involving 2,339 mergers and acquisitions. The unconditional likelihood of an eventually successful takeover bid is 3.3% per annum.

2.2. Unemployment Insurance Data

State unemployment insurance data are hand-collected from the U.S. Department of Labor's "significant Provisions of State UI Laws" which is published twice a year, in January and July respectively. Each issue provides detailed information about the UI benefit schedule in each state. The schedules specify weekly benefit amounts and the maximum number of weeks a claimant is eligible for UI benefits based on a claimant's employment history during a base period. The maximum number of weeks of benefits is typically 26 weeks under these regular UI programs. Nevertheless, significant variations across states and over time in the maximum weekly benefit amounts are observed. We follow Agrawal and Matsa (2013) and use the product of the maximum weekly benefit amount and maximum duration of benefits in weeks to measure a state's overall UI level. This amount is then averaged over the two semi-annual observations to arrive at the UI

level for a given state-year. Although not all claimants in a state receive the maximum total benefit amount, Agrawal and Matsa (2013) find that this figure is strongly correlated with a state's total annual UI payouts, so it appears to be a good approximation to a state's UI level.

We then add UI levels to our firm-year panel data based on a firm's headquarters state and year. Since employees in most firms are predominantly located in their headquarters states, UI level in a firm's headquarters state should be a good measure of UI benefits available to its employees. [14,15] For a small number of firms with a geographically dispersed workforce, using headquarters state UI level can introduce noticeable measurement errors. However, econometrically, the measurement error should attenuate the coefficient estimates of UI level and thus, bias against our finding a significant UI effect. To verify this, we rerun most of our regressions with firms in industries known to have a geographically dispersed workforce excluded, primarily retail, wholesale and transportation industries. We find that our results are strengthened in these tests.

2.3. Cumulative Abnormal Returns

To measure shareholder gains from a takeover, we compute 5-day cumulative abnormal returns for the acquirer and target over event window [−2, +2] around the bid announcement date. Deal announcement dates are obtained from the SDC database. We estimate a market model where the market index return is defined as the CRSP value-weighted stock return over a 200-day period from event day -210 to event day -11 for each acquirer and target firm. The market model parameters are then used to calculate the abnormal returns for the acquirer and the target

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[14] Henderson and Ono (2008) shows that a firm's major plants and operations are typically located close to the firm's headquarters. Pirinsky and Wang (2006) note that corporate headquarters are usually close to corporate core business activities.

[15] According to UI laws, UI claims should be filed in the state where a claimant works. However, since we do not have establishment level data, we use the UI benefit in a firm's headquarters state as an approximation.

respectively. Individual acquirer and target CARs are then weighted by their market capitalizations four weeks prior to the announcement date and scaled by the combined firm's market capitalization to calculate a combined CAR, which is our measure of expected deal synergies.

2.4. Summary Statistics

Table 1 reports the descriptive statistics of our firm-year sample. UI levels unadjusted for inflation have a mean (median) of $9,834 ($9,034) and standard deviation of $4,229. The mean (median) of our key explanatory variable, the natural logarithm of the UI level, is 9.12 (9.11), which is close to the 9.0 (9.0) figures reported in Hsu, Matsa and Melzer (2018) for the 1991-2010 period. In Table 2, we report summary statistics of UI levels by state. The table shows that there are significant differences across states in the mean benefit level. Within a state, UI level also exhibit large time-series variations over our 25 year sample period as indicated by the large standard deviations shown in column 5. Although most within-state annual changes are moderate, large changes (defined as larger than 10%) are not uncommon. Among the top five states by the number of firm-year observations in our sample, New York had one, California had two, and Massachusetts had three large annual changes, while Texas and Illinois had none. The number of large annual changes is reported in the last column of Table 2.

Table 1 also shows that the average acquirer CAR, target CAR and combined acquirer and target CAR over the five-day event window are -1.9%, 19% and 1.2%, respectively. These values are in line with those reported in prior studies.[16] The summary statistics for other variables are also consistent with prior work. For example, in our sample the percentage of firm-years with one or

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[16] Using U.S. data, Masulis, Wang and Xie (2007) report a mean acquirer CAR of -1.48% for acquiring public targets for the period of 1990 to 2003. John, Knyazeva, and Knyazeva (2015) report a mean target CAR of 13% and a mean combined acquirer and target CAR of 0.94% for the period of 1985 to 2009.

more female directors on the board is 65%, in comparison to Adam and Ferreira (2009), who report

61% for the 1996-2009 period. To save space, we omit a detailed discussion of other variables.

3. Takeover Probability

3.1. Empirical Model

To estimate the effect of a target's UI level on its takeover likelihood, we use the following

OLS model:

$$y_{it} = \beta_1 U_{s,t-1} + \beta_2 X_{i,t-1} + \beta_3 Z_{s,t-1} + \mu_j + \eta_s + \tau_t + \varepsilon_{it} \quad (1)$$

where i indexes firm, j indexes industry, and s indexes headquarters state. The dependent variable

y_{it} is an indicator that equals 1 if firm i is a target of an acquisition bid announced in year t, and 0

otherwise. $UI_{s,t-1}$ is the key explanatory variable. It is defined as the natural logarithm of the UI

level in state s and year $t-1$. μ_j, η_s and τ_t are industry, headquarters state and year fixed effects,

respectively. [17] Inclusion of industry and year fixed effects removes time-invariant industry

influences and country-wide time trends. Inclusion of state fixed effects also means that the UI

coefficient is identified from within state changes in UI level. Standard errors are clustered at the

headquarters state level. This clustering method accounts for potential time-varying correlation in

unobserved factors affecting all firms in a state and also corrects for the serial correlation in a

firm's error terms.

The control variables in this model are separated into two groups. The first group contains

firm characteristics, $X_{i,t-1}$. We control for ROA, R&D expenditure, leverage, sales growth, asset

tangibility, market-to-book ratio, firm size, and firm age following the previous literature (e.g.,

Song and Walkling, 2000; Jenter and Lewellen, 2015; Dessaint et al., 2017). We also control for

corporate governance attributes of potential target firms such as the existence of a staggered board,

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[17] As a robustness check, we also estimate regressions with firm and year fixed effects and find similar results.

a poison pill and board independence as well as CEO age and share ownership in a subsample where data on the corporate governance attributes are available.

The second group of controls, $Z_{s,t-1}$, contains measures of observable state economic conditions and political uncertainty. A key concern with any observed relation between target UI levels and takeover likelihoods is that time-varying state economic conditions and political uncertainty can drive both variables.[18] Failing to control for them can lead to an omitted variable bias. Hence, we explicitly control for a state's unemployment rate, real GDP per capita and an indicator for gubernatorial election years.

3.2 Baseline Results

Table 3 reports the effect of target UI levels on takeover likelihoods. Column 1 is estimated using the full sample, and column 2 is estimated after excluding firms in industries known to have geographically dispersed workforces. The coefficient of target UI is positive and statistically significant at the 1% level in both columns. According to the coefficient in column 1, a 10% rise in UI levels raises a firm's likelihood of being acquired by 94 basis points, representing a 28% increase in its takeover likelihood. The UI coefficient in column 2 is statistically and economically more significant than that in column 1, consistent with measurement errors in UI levels for firms with geographically dispersed workforce resulting in attenuation bias in column 1. This pattern holds throughout the paper. For brevity, we refrain from discussing the comparisons, although when we present results for both the full sample and the subsample excluding firms in industries with geographically dispersed workforces.

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[18] For political uncertainty, Jens (2017) finds that political uncertainty before U.S. gubernatorial elections affects both state-wide investment and financing activities.

In columns 3 and 4, we add corporate governance controls because prior studies find that manager-shareholder conflicts of interest can affect the willingness of target firms to accept a takeover bid (Wulf, 2004; Hartzell, Ofek and Yermack, 2004; Moeller, 2005; Fitch, Cai and Tran, 2011; Jenter and Lewellen, 2015). The sample begins in 1996 as this is the earliest year corporate governance data is available in the ISS database. We include CEO ownership and CEO age (Jenter and Lewellen, 2015) to control for CEO influence, board size and an indicator for independent director dominated boards (more than 60% independent directors) to control for the monitoring effectiveness of the board, and indicators for staggered boards and poison pills (Grossman and Hart, 1980; Cohen and Wang, 2013; Karpoff and Wittry, 2018) to control for the impact of target defensive tactics. We find that target UI levels continues to have a significantly positive relationship with a firm's takeover probability at the 1% level in both columns. The result confirms that the UI effect is not driven by any correlation between UI levels and corporate governance variables or an omitted variable correlated with both UI levels and corporate governance controls in the model.

In unreported results, we repeat all the models in Table 3 using firm and year fixed effects. Inclusion of firm fixed effects allows us to control for time-invariant heterogeneity at the firm level, so that the UI effect is identified from within-firm variations in UI levels over time in these tests. The coefficient of target UI levels remains positive and significant at the 1% level in all models.

3.3. Identification Analysis

The key identifying assumption underlying our analysis in Table 3 is that changes in UI levels are exogenous to the economic factors that might otherwise affect takeover activities. This is justified by the uncertain legislative processes needed to pass UI law changes. However, to further

substantiate the causal interpretation, we conduct direct identification tests to explicitly rule out three major alternative explanations in this section.

First, some unobserved regional economic shocks can simultaneously drive changes in UI levels and takeover probabilities.[19] To address this concern, we provide a falsification test in which we replace the UI level in a state-year by that of a bordering state with the closest population. If regional economic shocks drive changes in UI levels, then shocks that drive changes in UI levels in one state should also drive changes in UI levels in bordering states. Thus, using UI levels in a bordering state should yield similar results. But, if changes in UI levels are exogenous to regional economic shocks, then only the UI levels in a firm's own state should influence its takeover likelihood. Table 4 column 1 shows that UI levels in a firm's bordering state have no effect on a firm's takeover likelihood. This rejects the notion that unobserved regional economic shocks are responsible for the observed relationship.[20]

Second, Harford (2005) finds that mergers and acquisitions exhibit industry waves when economic, technological, or regulatory shocks force industries to adapt to their new environment. Thus, it is possible that our base relationship is driven by industrywide rather than regional shocks. Our tests based on bordering states' UI levels in column 1 cannot fully address this concern since bordering states can have different industry concentrations of firms, which are not subject to the same industrywide shocks. To address this concern, we add industry by year fixed effects in column 2. We find that our base relationship continues to hold (at 1% significance level).

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[19] For example, states with better opportunities for future economic growth may increase UI benefits because their budgets will be less constrained. At the same time, these growth opportunities make firms in the state more attractive as potential takeover targets. If such opportunities are unobservable, then the relation we document could be spurious.
[20] In unreported results, we also estimate an alternative specification in which we add UI benefit level in a firm's bordering state with the closest population as an additional control variable in Equation (1). We find that the coefficient on UI benefit level in the firm's own state is positive and statistically significant at the 1% level while that on the UI benefit level in the firm's bordering state is insignificant. Again, we reject the notion that some unobserved regional economic conditions drive our baseline result.

Lastly, our base relationship can be the result of reverse causality. That is, changes in UI levels follow changes in takeover activity rather than the other way around. If this is true, then using the one year ahead UI levels should strengthen our results. In column 3, we replace the lagged UI levels by their two-year ahead levels. Contrary to the reverse causality prediction, the coefficient of the two-year ahead UI levels is statistically insignificant.[21]

4. Exploring Potential Channels

In this section, we explore the channels through which target UI benefits affect a firm's takeover likelihood. We utilize both cross-sectional differences and an exogenous shock to firms' stakeholder orientation. For the sake of explanation, our discussion of different channels assumes that a takeover attempt has occurred. However, we note that the relationship we document in Table 3 is likely to be mainly driven by the existence of these channels changing potential acquirer decisions to make an offer ex ante. Besides shedding light on potential channels, the cross-sectional differences also make it more difficult to argue that an omitted variable can explain our base relationship because then the relation between this variable and UI levels and takeover likelihoods not only needs to be uncorrelated with local economic and political variables which we already control for, but they also need to vary with the firm or industry heterogeneity that we find is related to the strength of the UI effect.

4.1. Union Coverage

Under the National Labor Relations Act (NLRA), an employer operating under a collective bargaining agreement (CBA) has certain obligations to bargain with union representatives over the effects of a proposed M&A deal. For example, upon the request of a union representative, a seller

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[21] In unreported results, we test an alternative specification that includes contemporaneous and forward values of the log of target UI benefit levels as added controls in our baseline model in Equation (1). We find that including these added controls do not change the sign or significance of the UI benefits coefficient in the year prior to the takeover bid. In sum, the evidence suggests that changes in UI benefit levels lead changes in takeover likelihoods.

must bargain regarding the effects of any decision to terminate part or all its operations and provide the union with information relevant to the sale. The union has a right to seek benefits for its members, including favorable terms in M&A agreements and severance benefits in the event of terminations. In some CBAs, the employer has agreed to negotiate with the union over the decision to sell the company or the successor company is required to agree on a new labor contract with the target firm union before the target can be sold.[22] Hence, a collective bargaining agreement gives employees a formal channel to influence the takeover outcomes of their firms. We thus expect changes in UI levels to have a greater effect on the takeover likelihoods of unionized firms.

The above prediction assumes that UI benefits lower expected employee borne layoff costs and thus, reduce the strength of union opposition to takeovers. This assumption is supported by anecdote evidence. For example, in 2006, United Steel Works (USW) union struck a deal with a private-equity group which controlled Ormet Corporation, an aluminum company, in which USW brought supplemental unemployment benefits for its members in Ormet and in exchange let the private-equity firm sell Ormet when it chose to. Theoretically, there are at least three reasons why a union's opposition to takeovers can vary with the expected layoff costs of its members. First, union collective actions are costly for unions, so unions should rationally prioritize their fights based on the size of the expected layoff costs of its members. Second, unions face a tradeoff between protecting members' current employment versus preserving the financial health of the members' firms for their members long term benefits. An increase in UI benefits can increase the willingness of union representatives to make concessions now for the long run financial well-being of its members and vice versa. Third, union collective actions, such as a work stoppage or a strike,

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[22] For example, United Steelworkers union (USW) has a successorship clause in many of its collective bargaining agreements, which requires a successor company and the union to agree on a new labor contract before a plant can be sold.

need direct employee involvement and support. When employees are more concerned about layoffs, they are likely to offer stronger support for their union's actions, which in turn increases the effectiveness of union collective actions in achieving their goals.

Due to a scarcity of firm-level unionization data, prior studies commonly used industry-level data to proxy for a firm's unionization status (e.g. Chen, Kacperczyk and Ortiz-Molina, 2011; John, Knyazeva and Knyazeva, 2015). We follow these studies and use the unionization rate in a firm's two-digit SIC industry to proxy for its own unionization rate. Industry unionization rate is calculated as the number of workers covered by collective bargaining agreements divided by total number of workers in a firm's two-digit SIC industry (Hirsch and Macpherson, 2003). We then define a highly unionized industry indicator that equals 1 if the industry's unionization rate exceeds the median across all industries and 0 otherwise.[23]

Table 5 reports estimates of Equation (1) augmented with the highly unionized industry indicator and its interaction with target UI levels. We find that the coefficient of the interaction is positive with a p-value below 5% in columns 1 and 2, suggesting that changes in UI levels have a greater effect on the takeover probabilities of unionized than non-unionized firms. The coefficient estimate in column 1 suggests that a 10% increase in target UI levels increases the takeover likelihood of a firm in a highly unionized industry by an additional 30 basis points relative to that of a firm in a less unionized industry. This difference is economically significant compared with the 94 basis points average increase in the full sample. Importantly, the coefficient of the highly unionized industry indicator itself is negative and statistically significant at the 1% level, consistent

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[23]An advantage of using an industry-level metric is that it is more exogenous than a firm-level metric. A firm level decision to unionize could be co-determined with firm-specific factors correlated with its acquisition likelihood.

with a negative effect of unionization on takeover likelihood, after controlling for the interaction between UI and unionization.

In all models in Table 5, we have replaced the separate state and year fixed effects by state by year fixed effects, which completely absorb the influence of any time-varying state-level omitted variables. This econometric improvement is made possible by a shift in our focus from the direct effect of UI benefits to its interaction effect. The direct effect of UI benefits is not visible in Table 5 because it is subsumed by the state by year fixed effects.

The evidence confirms that unions follow a flexible strategy in opposing takeovers. This behavior closely resembles how family firms provide employment stability to their workers, as documented by Ellul, Pagano and Schivardi (2018), who find that family firms do not provide a fixed level of employment stability, but instead adjust the stability they provide based on the level of benefits provided by the public UI systems.

4.2. Employee Equity Ownership

Besides collective bargaining, employees can also directly influence the takeover outcomes of their firms when they as a group hold a large equity block. These ownership positions typically arise from employee stock ownership plans (ESOPs), 401(k) plans and profit-sharing plans, etc.[24] Target employees can exert their influence through three channels. First, they can affect merger outcomes through their rights to vote on mergers. All mergers need to be approved by target shareholders before they can consummate. For most firms, a simple majority support is required, but there are many cases where corporate charters or applicable state laws require supermajority support.

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[24] The National Center for Employee Ownership (NCEO) estimates that as of 2019 employees control about 8% of corporate equity through various employee ownership plans in the U.S.

Second, they can increase the uncertainty of deal success in two-step transactions. Two-step transactions consisting of a tender offer followed by a back-end merger is a popular deal structure for acquiring U.S. public firms because of its typically rapid completion speed (Offenberg and Pirinsky, 2015; Boone, Broughman and Macias, 2018). In most states, if an acquirer purchases 90% or more of a target's outstanding shares in the initial tender offer, they can do a short-form merger to squeeze out all remaining minority shareholders.[25] Compared to a traditional merger, a short-form merger does not require the preparation and issuance of a proxy statement nor a shareholder vote and thus, it can be completed immediately after the completion of the tender offer. Offenberg and Pirinsky (2015) find that two-step transactions with a back-end short-form merger on average close 73 days faster than traditional mergers.

If acquirers cannot reach the 90% threshold ownership in the initial tender offer stage, they generally must undertake a long-form merger to acquire the remaining shares, which foregoes the timing advantage of the short-form merger. Doing a long-form back-end merger increases acquirer costs, and more importantly, delays deal completion, which increases the risk of adverse developments that could upend the merger plan. Employee groups holding a large equity block can increase the likelihood of deal failure by holding out in the first-step tender offer.

Third, they can help managers resist hostile takeovers by refusing to sell their shares to hostile bidders (Pagano and Volpin, 2005). In 1987, Delaware passed a business combination (BC) statute that allows a shareholder block of over 15% to place a 3-year moratorium on the completion of an acquisition once an acquirer's equity stake in the target passes 15%. By the end of our sample period, ten other U.S. states passed similar BC statutes. These statutes significantly enhanced the

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[25] The 90% threshold applied to all states except Alabama, Florida, and Montana, which require 80% ownership to complete a short-form merger. Delaware reduced the threshold to 50% in 2013.

anti-takeover role of large employee equity positions in resisting hostile takeovers and give target employees greater influence on takeover outcomes of their firms.

In our empirical tests, we focus on employee equity ownership blocks facilitated by ESOPs. An ESOP is an equity-based deferred compensation plan that only invests in the employer's stock. Corporations often set up ESOPs to align employee incentives with shareholder value maximization or as a tax-efficient employee benefit. Stocks are allocated to individual employees based on pre-established formulas. Employees have the right to vote their shares, but they can only "cash out" under limited conditions: namely termination, disability, death or retirement. [26, 27]

ESOPs provides a very interesting setting to examine target UI effects on takeover likelihoods because employees face a sharp tradeoff between supporting and opposing a takeover bid. On the one hand, a successful takeover allows target employees to earn a large takeover premium on the shares held in their ESOPs. On the other hand, a successful takeover can lower target employee utility through workforce restructuring. Consequently, employee attitudes towards a takeover can be particularly sensitive to changes in UI levels. More generous UI benefits can encourage more target employees to support a takeover and vice versa. We thus expect a stronger relation between target UI levels and takeover probabilities in ESOP firms.

To test this hypothesis, we obtain ESOP ownership information from the Department of Labor's private pension plan dataset. The data begins in 2000 and covers all private pension plans

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[26] Rauth (2006) examine the takeover deterrent effect of 401 (K) plans. We choose to focus on ESOPs for the following reasons. First, ESOPs are broader based than 401 (k) plans because ESOPs must be offered to all full-time employees. On the other hand, 401(k) plan participation is voluntary. Second, cross-sectional variations in equity ownership levels for ESOP are likely to be much greater than for 401 (k) plans. This is because not every firm offers an ESOP. But starting in the 1990s, employer-sponsored 401 (k) plans have become the most popular form of retirement plans in the U.S. Lastly, while employees are not allowed to sell shares in an ESOP until they leave the firm or approach retirement age, they are free to sell employer shares in their 401 (k) plans.

[27] The National Center for Employee Ownership (NCEO) estimates that as of 2019 there are roughly 6,600 ESOPs covering more than 14 million participants in the U.S.

having 100 or more participants before 2009 and all pension plans after 2010.[28] We use the "employer security amount" as our measure of ESOP holdings. We define an ESOP indicator that equals 1 if the ESOP holds over 15% of a firm's outstanding shares and 0 otherwise. After merging the ESOP data with our sample, the final sample contains 43,060 observations from 2000 to 2015.

In Table 5 columns 3 and 4, we report regression estimates of the relation between target UI levels and takeover likelihoods, conditional on whether a target firm has at least a 15% ESOP shareholding level. We find that the coefficient of the interaction between the ESOP indicator and target UI levels is positive and statistically significant in both columns, suggesting that takeover probabilities of target firms with large ESOP holdings are more sensitive to changes in target UI levels. In addition, we find that the coefficient of the ESOP indicator itself is negative and statistically significant in both columns, consistent with the takeover deterrent effect of ESOPs documented by prior studies (Chaplinsky and Niehaus, 1994; Rauh, 2006; Kim and Ouimet, 2014; Masulis, Wang and Xie, 2019).

4.3. Female Directors

The prior evidence focuses on how UI changes target employee incentives. We now turn to how UI changes the incentives of target boards of directors. The social psychology literature documents that women are more community-minded and more caring about others than men (Eagly and Crowley, 1986). Experiments also find that women are more altruistic and long-term oriented than men (Andreoni and Vesterlund, 2001; Silverman, 2003).

A growing literature in economics and management suggests that these gender differences not only exist in the population, but also hold at the company leadership level. Adams and Funk (2012) surveyed the universe of resident directors and CEOs of publicly traded companies in Sweden in

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[28] The before 2009, data also contains a 5% sample of plans having fewer than 100 participants.

2015. They find that, relative to male directors, female directors care less about self-enhancement values (achievement and power) and more about self-transcendent values (universalism and benevolence). Adams, Licht, and Sagiv (2011) further show that directors who value benevolence and universalism are more likely to side with stakeholders when there is a tension between the interests of shareholders and other stakeholders. Matsa and Miller (2013) find that firms affected by the 2006 Norwegian law requiring a minimum 40% female representation on corporate boards within 2 years undertake fewer subsequent workforce reductions than matched samples of private firms in Norway and private and public firms in other Nordic countries. Furthermore, Matsa and Miller (2014) find that female-owned businesses are less likely to downsize their workforce during the 2007-2009 Global Financial Crisis than male owned firms.

Based on these prior findings, we hypothesize that target firms with female board of director representation are more likely to consider the unemployment risk of their employees in deciding whether to accept or reject a takeover bid. Consequently, we expect the takeover likelihoods of these firms to be more sensitive to changes in target UI levels. In Table 6, we report evidence on this prediction.

The sample begins in 1996 which is the first year that director data is available in the ISS database. All models include state by year fixed effects. Female representation on the board is measured by an indicator that equals 1 if there is at least one female director on the board and 0 otherwise. The table shows that the interaction coefficient between the female director indicator and target UI levels is positive and statistically significant at the 5% level in columns 1 and 2.[29] The coefficient estimate in column 1 suggests that a 10% increase in target UI levels raises the acquisition likelihood of a firm with one or more female directors by 26 basis points more than a

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[29] To further address the concern that firms with female directors have different properties from firms without female directors, we re-estimate the prior regressions under firm and state-by-year fixed effects. Our results are robust.

firm without female directors. In unreported results, we find our results are robust to measuring female representation using the percentage of female directors on the board or an indicator for the presence of at least one female *independent* director on the board.[30]

4.4. Employee Relations

The literature on corporate social responsibility (CSR) documents that many firms voluntarily invest in causes that reflect stakeholder interests. Although the reasons behind such investments are still under debate, stakeholder interests appear to influence managerial decisions in at least some firms. Since employees are an important stakeholder group whose job security is usually negatively affected by takeovers, boards of firms that have a policy of treating employees well are likely to consider the generosity of UI benefits in deciding on whether to support or oppose a takeover bid. More generous UI benefits can make them more willing to accept a takeover bid and vice versa.

To measure the tendency of target boards to consider employee interests, we create an employee treatment index using data from the MSCI (formerly KLD) database, a widely used commercial database that tracks firms' social and environmental performance. The index is constructed by adding one point for firm strength in each of the following nine employee relations categories: union relations, employee involvement, cash profit sharing, employee health and safety, supply chain labor standards, human capital development, labor management, controversial sourcing, and human capital other. Data needed to construct this index is available from 1991 to 2013. However, data coverage is quite poor before 2003, so we begin our index in 2003. Except for one observation (having an index value of 9), the index value ranges between 0 and 4. Eighty

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[30] The result is slightly stronger when we use an indicator for one or more female independent directors on the board.

percent of the observations have an index value of 0. We thus create an employee-friendly board indicator that equals 1 when the index value is positive (i.e. the top 20%) and 0 otherwise.

Columns 3 and 4 of Table 6 show that the interaction coefficient between the employee-friendly board indicator and target UI levels is positive and statistically significant at the 5% level in both columns, suggesting a stronger relation between target UI levels and takeover likelihoods in firms with more employee-friendly boards.[31] The coefficient estimate in column 3 indicates that a 10% increase in target UI levels raises the acquisition likelihood of a firm with an employee-friendly board by 21 basis points more than that of other firms.

4.5. Labor Intensity

The target board's employee friendliness is also likely to vary with the labor intensity of a firm's technology. We expect boards of firms that rely more on labor in production are more likely to consider employee interests when deciding on whether to accept a takeover offer. Following John, Knyazeva and Knyazeva (2015), we use industry-level labor intensity to measure a firm's labor intensity, which is calculated as the ratio of total industry compensation expenses to gross output (sales) using U.S. Bureau of Economic Analysis Industry Accounts data.[32]

The regression estimates are reported in columns 5 and 6 of Table 6. Consistent with our expectation, we find that coefficient of the interaction between target UI levels and labor intensity of the firm's 2-digiti SIC industry is positive and statistically significant at the 1% level. The coefficient estimate reported in column 5 suggests that for a 10% increase in target UI levels, the acquisition likelihood of a firm in an industry with labor intensity one standard deviation above

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[31] To further address the concern that firms with high employee relation strength are different from those with low employee relation strength in unobservable ways, we also repeat these regressions using firm fixed effects and state-by-year fixed effects. Our results are robust.

[32] This measure is superior to firm-level employee headcounts from Computstat for two reasons. First, employee expenses are an essential part of labor intensity, and, second, firms can change their use of labor inputs in response to changes in UI benefits, which could make firm-level measures of labor intensity partially endogenous.

the sample mean would be increased by 23 basis points *more* than that of a firm in the industry with the sample mean labor intensity.

4.6. Directors' Duties (DD) Laws

So far, we have relied on cross-sectional differences in target board stakeholder orientation to test whether UI affects takeover probabilities through a target board's concern for employees. The weakness of these tests is that the differential relation between UI levels and takeover probabilities can be driven an omitted variable that is correlated with the cross-sectional differences in target board stakeholder orientation. In this section, we conduct a further test by exploiting an exogenous change in target board stakeholder orientation brought by the passage of state directors' duties (DD) laws.

DD laws permits corporate directors to consider the interests of major stakeholders including employees and communities in addition to shareholder interests when evaluating a takeover offer. The passage of a DD law thus relaxes the constraint on a target board's stakeholder orientation. To date, up to 35 states in the U.S. have passed a DD law. A useful feature of this experiment is that the passage of DD laws can be treated as exogenous to all firms incorporated in those states, except for a couple of firms in a few states where the statute's passage was supported by the lobbying efforts of them according to Karpoff and Wittry (2018).[33]

Although the passage of a DD law can increase a target board's stakeholder orientation, it can also increase the likelihood that target managers reject takeover offers to entrench themselves by claiming that the change in control would hurt stakeholders. When the two possibilities give the same prediction on the change of a dependent variable, we cannot clearly attribute the change in the dependent variable to either channel. For example, if the passage of a DD law lowers the

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[33] Karpoff and Wittry (2018) identify 8 firms in 5 states that lobbied and influenced the passage of a DD law in their state.

takeover probability of affected firms, this can be driven by either an increase in a target board's stakeholder orientation or an increase in managerial entrenchment or both. However, this complication does not affect our test because we are interested in how the passage of a DD law changes the sensitivity of a firm's takeover probability to UI levels. There are no apparent reasons for an increase in managerial entrenchment to change this sensitivity.[34] Hence, we can comfortably attribute any change in this sensitivity to an increase in target board stakeholder orientation.

To estimate the treatment effect of the passage of a DD law, we employ the following difference-in-differences regression that exploits the staggered passage of DD laws by individual states:[35]

$$y_{it} = \alpha UI_{h,t-1} + \beta DD_{s,t-1} + \gamma UI_{h,t-1} \times DD_{s,t-1} + \delta X_{i,t-1} + \mu_j + \mu_h + \mu_s + \mu_t + \varepsilon_{it}$$

where i indexes firm, j industry, h headquarters state, s incorporation state, and t year. The dependent variable y_{it} equals 1 if firm i is a target of a takeover in year t. $UI_{h,t-1}$ equals the natural logarithm of the UI level in firm i's headquarters state h in year $t-1$. $DD_{s,t-1}$ is an indicator capturing the passage of a DD law in firm i's incorporation state s by year $t-1$. $X_{i,t-1}$ contains major firm characteristics. The μ's are industry, headquarters state, incorporation state and year fixed effects, respectively. We double cluster standard errors by headquarters states and incorporation states. The estimate of the DD law's effect is the interaction coefficient of $UI_{h,t-1}$ and the DD law indicator, γ, which measures the change in the sensitivity of takeover

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[34] A more complicated explanation would argue that a target board is constrained in its ability to entrench itself under the cover of a DD law because it still needs to justify its decision to reject a takeover bid. As a result, a target board can more easily justify its decisions in the name of protecting employees when UI benefits are low, but such a justification is more difficult to make when UI benefits are high. However, on the observational level, this explanation is consistent with the passage of a DD law changing a target board's stakeholder orientation since the board still behave as if it cares about employees. The objective of this test is to show that UI benefits can affect takeover probabilities through a target board's stakeholder orientation. It is impossible to determine whether a target board's exhibited stakeholder orientation reflects a true concern for its employees or not.

[35] There are seven states that adopted the DD law during our sample period. The newer DD law states are: Nevada (1991), North Carolina and North Dakota (1993), Vermont (1998), Maryland (1999), Texas (2006) and Nebraska (2007). Nebraska initially passed its DD law in 1988, then repealed it in 1995 and finally reenacted it in 2007

likelihoods to UI levels for firms incorporated in a state passing a DD law in year $t - 1$ relative to firms incorporated in states that did not pass a DD law in year $t - 1$, even if these other states passed a DD law earlier or will pass one later in our sample period.

In columns 1 and 2 of Table 7, we report the estimates from this base specification. The coefficient of the DD law indicator is negative and statistically significant, consistent with the intention of DD laws to protect firms from hostile takeovers. The interaction coefficient of target UI levels and the DD law indicator is positive and statistically significant at the 5% level, suggesting that takeover likelihoods become more sensitive to UI levels in the post-DD law period when target boards are allowed to show more concern for stakeholders.

Karpoff and Wittry (2018) point out that it is important to control for the institutional and legal context, especially the status of other state antitakeover laws, when studying the effect of a particular second-generation state antitakeover statute. These other statutes include business combination statutes (BC), control share acquisition statutes (CS), fair price statutes (FP), and poison pill statutes (PP).[36] In our setting, this concern is less troublesome because the DD law is the only law among the second-generation state antitakeover laws that is related to the board's consideration of stakeholder interests.

Although the passages of other anti-takeover statutes can affect the degree of takeover protection a firm enjoys, there are no obvious reasons to believe that the passage of any of these other statutes would affect the sensitivity of a firm's takeover likelihood to UI levels. Nevertheless, as a robustness check, we estimate an augmented specification that takes into account the existence and passage of other anti-takeover statutes. The results are reported in columns 3 and 4 of Table

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[36] For an explanation of these laws, please refer to the Appendix in Karpoff and Witty (2018).

7. In both columns, the interaction coefficient of target UI levels and the DD law indicator is little altered by the addition of controls for other second-generation anti-takeover laws.

5. Target State UI and Shareholder Gains from Acquisitions

Having established that target UI benefits increase takeover probabilities, we now turn to the questions of how target UI benefits affect expected deal synergies and shareholder wealth of acquirers and targets, and whether the increase in takeover likelihoods is driven by value-increasing or value-decreasing deals. Answers to these questions have important implications for how UI affects takeover market efficiency.

5.1 Deal Synergies

An important source of value creation in mergers is through operating synergies. More generous UI benefits can increase synergies through several channels. First, it can help the merged firm to achieve greater operating efficiency and cost savings through workforce restructuring. Second, it can help to maintain the morale of employees during a period of high uncertainty. This can be crucial for achieving the anticipated productivity gains. Lastly, it can shorten the time that it takes to realize the anticipated benefits, which can be important for gaining support from all parties and can increase the likelihood of deal successes.

If acquirers pay no cost for the UI benefits their employees draw from the UI systems, it seems certain that more generous UI benefits should be associated with greater deal synergies. However, in the U.S., UI payments to unemployed workers are primarily financed by payroll taxes assessed on insured employers. States use a method called "experience rating" in determining these tax liabilities. Under this method of funding, a firm's payroll taxes are determined based on its history of generating unemployment. More layoffs today can increase a firm's future payroll taxes. Once

we take this cost into account, the relation between target UI levels and expected deal synergies becomes unclear.

Whether a rise in target UI levels increases expected net deal synergies depends on whether expected gains from greater workforce restructuring and smoother integration exceed the expected rise in future payroll taxes. If the former is greater than the latter, then the increase in UI levels increases net deal synergies and takeover market efficiency. If the opposite is true, takeover probabilities can still increase because of the reduced resistance by target firms. However, the increase in takeover activity would be mainly driven by acquirers pursuing managerial self-interests (for example empire building) at shareholder expense. The question of which scenario prevails can only be answered empirically, which we do next. [37]

Following prior literature, we measure expected deal synergies using the combined CARs of acquirer and target over the five-day windows around the takeover bid announcements. We then regress the combined CARs on target UI levels in OLS regressions. All the models include controls for acquirer and target state economic conditions and gubernatorial elections, acquirer and target firm size, deal-level controls, acquirer and target headquarters state and industry fixed effects, and year fixed effects. Deal-level controls include relative deal size and indicators for all-stock financed deals, all-cash financed deals, within industry deals, acquirer toeholds at the targets and competing bids. We also control for acquirer UI levels since they can be related to post-merger workforce restructuring at the acquirers, which in turn affects expected deal synergies.

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[37] Prior studies find that the "experience rating" used in determining employer payroll taxes in the U.S. is normally incomplete, so most employers are only partially liable for the benefits that their workers receive (Topel, 1983, 1984). This suggests that most acquirers are likely to receive a partial subsidy from the state UI systems for the workforce reductions they undertake in post-merger restructuring. Second, "experience rating" means that acquirers' payments for the benefits their workers draw from the UI systems is also deferred. If an acquirer were to make the equivalent UI payments itself, it would need to make a lump-sum payment at the same time that it is financing the purchase of the target firm. The deferral of the payments can significantly reduce an acquirer's financial burden and financing costs.

The results are reported in Table 8. Column 1 is estimated using all deals, while column 2 is estimated after excluding deals where target firms are in industries with geographically dispersed workforce. We find that the coefficient on target UI levels is positive and statistically significant at the 1% level in both columns. According to the coefficient estimate in column 1, a 10% increase in target UI levels leads to a 44 basis points increase in the combined firm's CAR, which is about 37% of the sample average combined CAR.[38]

We next examine whether the relation varies with labor rights in target firms. It is well known that unions often directly intervene in firm restructurings and make layoffs more costly (Chen, Kacperczyk and Ortiz-Molina, 2011). In an M&A context, a buyer typically needs to assume the union obligations of the seller and thus, it must negotiate over the terms and conditions of employment with the union. This suggests that employees covered by a collective bargaining agreement are more effectively protected in post-merger workforce restructurings, which predicts that expected deal synergies should be more sensitive to changes in unionized target UI levels.

To test the above prediction, in columns 3 and 4 of Table 8, we add a highly unionized industry indicator and its interaction with target UI levels. We find that the coefficient of this interaction term is positive and significant at the 1% level in both columns, supporting the above prediction. The coefficient in column 3 indicates that a 10% increase in target UI levels increases the combined CAR by 41 basis points when the target is in a weakly unionized industry, but it increases the combined CAR by 72 basis points when the target firm in a highly unionized industry. The

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[38] John, Knyazeva, and Knyazeva (2015) estimate that acquirers from weak labor rights states in the U.S. are associated with combined acquirer and target CARs [-2,+2] that are between 74 to 86 basis points higher than acquirers from strong labor rights states in the 1985-2009 period. The difference is between 78% and 91% of the average combined CAR of 0.94% in their sample. Using 21 reforms in OECD countries over the 1985-2007 period, Dessaint, Golubov and Volpin (2017) estimate that tightening of employee legal protection in target countries reduces the combined acquirer and target CARs [-3,+3] by about 206 basis points, which is about 83% of its sample average of 2.4%. In comparison to these studies, the effect of a 10% larger target state UI benefit level on the combined CARs is smaller, but within reasonable range of potential impacts of labor conflicts on expected deal synergies.

coefficient on the highly unionized industry indicator itself is negative and statistically significant, suggesting that acquiring unionized firms is associated with lower deal synergies after controlling for the influence of target UI levels on the relationship.[39]

It is worth noting that the coefficient of acquirer UI levels is positive in all columns. It is significant at the 10% level in column 3 and has two-sided p-values of 0.12 or less in all the other columns. The positive sign is consistent with acquirer UI benefits mitigating acquirer shareholder-employee conflicts of interest. The weaker statistical significance is consistent with target UI benefits having a stronger impact on deal synergies and target firms in general experiencing greater workforce restructuring than acquirers.

5.2. Gains to Target and Acquirer Shareholders

As shown above, more generous target UI benefits are associated with greater expected deal synergies. If increases in target UI benefits do not change the relative bargaining power of acquirers and targets, then one should expect target firms to capture part of the enhanced expected deal synergies, which puts upward pressure on takeover premiums. However, since more generous target UI benefits on average reduce employee opposition to takeovers and also reduce the board's resistance in employee-friendly firms, they should at the same time put downward pressure on takeover premiums.[40] The net effect depends on the magnitudes of these two opposing influences, which is an empirical question.

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[39] In unreported results, we also examine whether the relation between combined CARs and target UI benefit levels varies with female representation on the board, the strength of employee relations and labor intensity, but find no significant results. Hence, a target board's concern for employee unemployment risk affects the likelihood of their firm being acquired but, once the board decides to sell the firm, they do not seem to negotiate more restrictive terms concerning post-merger workforce restructuring than do other boards. This is consistent with target directors obeying their *Revlon* duties requiring them to secure the highest price for their shareholders once they decide to sell the firm.

[40] This does not necessarily mean that the acquirers would underpay for targets in states with relatively more generous UI benefits. Instead, it could simply mean that the acquirers are less likely to overpay. In the same spirit, Boyson, Gantchev and Shivdasani (2017) find that hedge fund activism increases the probability of activist-targeted firms receiving a takeover bid but lowers the probability that third party non-financial acquirers overpay for the acquisitions.

In Table 9, we estimate the relationship between target UI levels and takeover premiums. A takeover premium is calculated as the difference between the offer price and a target's stock price four weeks prior to the deal announcement date divided by this latter price, which is obtained from the SDC database. As before, we control for UI levels in acquirer headquarters states. Columns 1 and 2 show that takeover premiums are significantly negatively related to target UI levels. The UI coefficient estimate in column 1 suggests that a 10% increase in target UI levels leads to a 2.4 percentage point decline in its takeover premium.

Are target shareholders worse off with higher target UI benefits? To answer this question, we need to take into account the rise in the takeover probability. Using our prior estimate of a 94 basis point increase in the takeover probability, we find that a 10% rise in target UI levels raises the expected gain for potential target firm shareholders by 0.30% of the firm's market capitalization.[41] Relative to the unconditional expected gain from takeovers of 1.4% of the firm's market capitalization, this represents a 19% gain. Hence, increases in target UI benefits are still associated with positive gains in target shareholder wealth.

In columns 3 and 4, we examine the effect of target UI benefits on acquirer CARs. The coefficient of target UI levels is positive and statistically significant at the 1% level. This result further supports the third channel we hypothesize through which target UI benefits affects a firm's takeover likelihood, namely more generous UI benefits make a target firm more attractive to potential acquirers. In columns 5 and 6, we interact target UI levels with an indicator for whether the target is in a highly unionized industry. We find that the positive relation between target UI levels and acquirer CARs is stronger for target firms in highly unionized industries. These results

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[41] Our calculation is based the average takeover premium of 43%, the unconditional takeover likelihood of 3.3% and our estimate that a 10% increase in target UI benefit level leads to a 94 bp increase in takeover likelihood but a 24 bp decrease in takeover premium as follows: (3.3%+0.94%)*(43%-2.4%)-3.3%*43%=0.30%.

are consistent with our prior findings on expected deal synergies. The coefficient in column 6 indicates that a 10% increase in target UI levels is associated with a 71 basis points gain in an acquirer's CAR when the target firm is in a weakly unionized industry, but it rises to a significantly greater 134 basis points gain when the target firm is in a highly unionized industry.

Among the control variables, acquirer UI levels are negatively related to takeover premiums, but positively related to acquirer CARs. The coefficient is statistically significant at the 10% level in columns 2 and 5 and has a two-sided p-value of 0.13 or less in remaining columns.[42] The signs of the coefficient are consistent with acquire UI benefits mitigating acquire shareholder-employee conflicts of interest. In comparison, John, Knyazeva and Knyazeva (2015) find that acquirers from weak labor rights states generate higher acquirer CARs and pay lower premiums on the margin.

5.3. Post-merger Workforce Restructuring

As previously discussed, an important source of expected synergies when acquiring targets in states with more generous UI benefits is a lower resistance to undertaking post-merger workforce restructurings. In this section, we provide some direct evidence on this conjecture. Ideally, workforce restructuring should be measured by employee turnover levels. Since the Compustat database only reports employment figures for listed firms, the best measure available of labor restructuring is the change in the number of acquirer plus target employees from before to after deal completion.

This head count measure has several limitations that need to be recognized when interpreting these empirical tests. First, the employee headcount in a year reflects the net effect of layoffs and new hires. If a firm simultaneously discharges and hires workers, the change in employee headcount would understate the actual scale of restructuring. Second, although we expect most

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[42] The p-value for the coefficient of acquirer state UI benefit levels in column 1 is 0.13, the two-sided p-values for this coefficient in columns 3, 4 and 6 are all less than 0.11.

layoffs to occur in target firms, the number of employees we measure includes employees in both acquirer and target firms. Since target firms are generally smaller than acquirers, the noise in the combined number of employees can be large relative to the number of layoffs in the target, making it difficult to detect statistical significance. Third, the Compustat employee headcount includes part-time and seasonal workers, which adds further noise to our workforce restructuring measure.[43]

With these caveats in mind, we proceed to examine the effect of target UI benefits on changes in employee headcount around mergers. Following Dessaint, Golubov and Volpin (2017), we track the combined number of acquirer and target employees over a five-year window around the deal completion year, which is coded as event year 0. A post-merger indicator is set to 1 for event years +1 to +3 and 0 for event years -1 and 0. Using this deal-year panel, we estimate OLS regressions where the dependent variable is the combined number of employees in both acquirer and target and the key explanatory variable is an interaction between a target's UI levels in event year -1 and the post-merger indicator.[44] In all models, we control for deal fixed effects so that employee headcount is compared from before to after the merger for a given deal. We also control for industry by year fixed effects so that the coefficient of the post-merger indicator represents the abnormal change in employment following the merger that is above what occurs in the remaining firms in the same industry that have not merged by that year.

Table 10 reports estimates from different specifications. The coefficient of the post-merger indicator is positive and statistically significant in all specifications. This, however, does not mean that in our sample mergers are on average associated with a rise in the combined employment level

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[43] For example, if the merged firm replaced some permanent employees by part-time ones, the number of employees would show no change though layoffs occurred.

[44] This sample includes all completed deals with valid data. As a robustness check, we also estimate the same regressions using only deals in which the acquirer did not make another acquisition during the five-year period we examine change in employment. The results continue to hold and are actually slightly stronger.

of an acquirer and target pair. This is because the post-merger indicator is also interacted with one or two continuous variables, namely the natural logarithms of target and acquirer UI levels. In such specifications, the marginal effect of the post-merger indicator for an average firm equals to the sum of the coefficient of the post-merger indicator and the coefficients of its interactions with the continuous variables multiplied by the means of the continuous variables. In the last row of the table, we report these marginal effects and their associated statistical significance levels. In each column, the marginal effect is negative and statistically significant at the 1% level, suggesting that on average mergers are followed by a significant workforce reduction.

Our main interest is in how workforce reduction varies with target UI levels, i.e. the coefficient of the interaction between target UI levels and the post-merger indicator. In columns 1 and 2, the interaction term coefficient is negative with p-values below 5% in both columns, suggesting a greater reduction in employee headcounts when target UI benefits are more generous. In columns 3 and 4, we add the interaction between acquirer UI levels and the post-merger indicator to allow for changes in the combined employment levels to be partially driven by acquirer post-merger workforce restructurings. Although the interaction coefficient of target UI levels and the post-merger indicator remains positive, both the coefficient's magnitude and statistical significance declines relative to columns 1 and 2. The p-value of the coefficient in column 3 rises to 0.12, although the p-value of the coefficient in column 4 remains below 0.1 where UI levels are measured with less error. Meanwhile, the coefficient of the interaction of acquirer UI levels and the post-merger indicator is positive, which is consistent with acquirer UI facilitating workforce reductions, although it is not statistically significant at conventional levels. The weaker effect of target UI benefits in columns 3 and 4 suggests that the estimates in columns 1 and 2 could be capturing some of the acquirer UI effect (their correlation in our sample is 0.49).

To better disentangle the effects of target and acquirer UI, we restrict our sample in columns 5 and 6 to deals where the deal's relative size exceeds the sample median. In these larger deals, workforce reductions at target firms are likely to account for a greater fraction of the change in combined employment and thus, we expect a stronger effect of target UI benefits on post-merger workforce reductions. The result confirms our expectation. The interaction coefficients of target UI levels and the post-merger indicator in columns 5 and 6 are statistically significant at the 5% level or better and their magnitudes exceed those in columns 1 and 2 respectively. In contrast, the interaction coefficient of acquirer UI levels and the post-merger indicator becomes statistically insignificant. Collectively, this set of evidence suggests that it is target UI benefits that facilitate greater workforce reductions at target firms.

6. Additional Evidence

6.1 Diversifying vs. Within-industry Deals

Diversifying versus within industry deals expose target employees to different degrees of unemployment risk. The former typically result in more overlapping operations, which leads to more opportunities for workforce reductions. Hence, we expect target UI benefits to have a greater impact on the likelihood of within industry deals than that of diversifying deals.

In Table 11, we estimate Equation (1) with separate regressions for within-industry and diversifying deals, where industries are defined at the two-digit SIC industry level. We find that although the coefficient of target UI levels is positive in both the within-industry and diversifying deal columns, the coefficient's size is larger for within-industry deals (columns 1 and 2) than for the diversifying deals (columns 3 and 4). The coefficient estimate in column 1 (column 3) indicates that a 10% increase in target UI levels raises the likelihood of a firm being acquired in a within-industry (diversifying) deal by 72 (28) basis points. These figures translate into a 33% rise in the

likelihood of within-industry deals and 25% rise for diversifying deals for a 10% rise in target UI levels.[45]

6.2. Deal Completion

We have so far focused on completed deals. If more generous target UI benefits lead to lower resistance by target employees and boards, then deal completion rates should increase with target UI benefits. To test this prediction, we follow the prior literature (e.g, Bates and Lemmon, 2003; Boyson et al., 2017) and expand our M&A deal sample to include deals that are "withdrawn" or "pending" for more than two years after the initial deal announcement dates. Since we need a two-year window after a deal announcement to know if the deal is completed or not, we end this deal analysis two years before the end of our sample period. The final sample has 3,831 initiated deals, 2,964 of them are within-industry deals. We estimate OLS regressions similar to Equation (1) except that the dependent variable is now an indicator for completed deals. It equals 1 if the deal is shown as "completed" during the 1990 – 2013 period and equals 0 otherwise. We include target firm headquarters state, target industry, and year fixed effects in all these models.

Table 12 presents the results. Columns 1 and 2 are estimated using both within-industry and diversifying deals. The coefficient of target UI levels is positive in both columns and is statistically significant at the 10% level in column 2 where UI levels are measured with less error. Columns 3 and 4 are estimated using only within-industry deals. The target UI coefficient is statistically significant at the 5% level in both columns. The magnitude of the coefficient is larger in columns 3 and 4 than in columns 1 and 2. This pattern suggests that the effect of target UI benefits is greater for within-industry deals in which workforce restructuring is a greater concern to employees.

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[45] The unconditional likelihood of within-industry deal is 2.2% and that of diversifying deals is 1.1%. Hence, for a 10% increase in UI benefit level, the relative increase in the likelihood of within-industry deals is 33 bps (i.e. 0.72% divided by 2.2%), while the relative increase in the likelihood of diversifying deals is 25 bps (.28% divided by 1.1%).

7. Acquirer State UI and Labor Conflicts at Acquirers

While target firms typically experience larger workforce restructuring than do acquirers, post-merger workforce restructuring can still threaten the job security of acquirer employees. John, Knyazeva and Knyazeva (2015) find that this threat creates acquirer shareholder-employee conflicts of interest which lead to lower acquirer CARs and a greater likelihood of making diversifying acquisitions. In this section, we examine whether acquirer UI benefits help mitigate these conflicts.

We first examine the effect of acquirer UI benefits on acquirer CARs. The sample consists of all deals announced by U.S public firms between January 1, 1990, and December 31, 2015 that satisfy all the filters we apply to the main sample, except that target firms no longer need to be publicly traded. There are 18,977 deals that meet this set of relaxed sample restrictions.[46]

The regression estimates are reported in Table 13.[47] In column 1, we only include acquirer UI levels. In column 2, we also add target UI levels. In columns 3 and 4, we test if acquirer UI benefits have a stronger effect when acquirers are in highly unionized industries or labor-intensive industries. In all the models in this table, we include acquirer headquarters state and industry fixed effects as well as year fixed effects. In those columns that include target UI levels as an explanatory variable, we also include target headquarters state and industry fixed effects. Following John, Knyazeva and Knyazeva (2015), standard errors are double clustered by acquirer and target headquarters states.

We find acquirer UI levels are positively related to acquirer CARs at the 1% statistical significance level in all these specifications, except for column 4 where all statistical significance

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[46] To save space, the summary statistics of this sample are reported in Appendix 2.
[47] Because about half of the deals in our sample have missing deal values on the SDC database, we are left with 9,404 deals after we control for relative deal size in the regressions.

is concentrated in the interaction of acquirer UI levels with labor intensity. Interpreting the coefficient estimate in column 1, a 10% rise in an acquirer's UI levels raise the acquirer CAR by 52 basis points.[48] Columns 3 and 4 show that acquirer UI benefits have a stronger effect on acquirer CARs when acquirers are in either highly unionized or labor-intensive industries. These results mirror those found by John, Knyazeva and Knyazeva (2015) on the relation between weaker acquirer state labor rights and acquirer CARs. For control variables, it is important to note that the coefficient of the target UI level is positive and statistically significant at the 1% level in all columns where the variable appears. This mirrors the finding in Table 9. However, there is an important difference between the two samples. Table 9 only includes deals for public targets, but Table 13 includes deals for both public and private targets. The robustness of this coefficient suggests that UI benefits reduce shareholder-employee conflicts in private targets as well.

Next, we examine the effect of UI benefits on the likelihood of a firm making a bid and especially the likelihood of making a within-industry bid. The results are reported in Table 14. The dependent variable in columns 1 and 2 is an indicator of a within-industry bid and in columns 3 and 4, it is an indicator of a diversifying bid. The sample consists of all firm-year observations in the CRSP-Compustat merged universe between 1990 and 2015 with valid data. In all columns, we include acquirer headquarters state, industry and year fixed effects. The coefficient of the acquirer UI levels is positive and significant at the 1% level in all the models, but the magnitude of the coefficient in columns 1 and 2 (within-industry deals) exceeds that in columns 3 and 4 (diversifying deals), suggesting that more generous acquirer UI benefits raise the likelihood of an acquirer making both types of deals, but especially of making within-industry deals.

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[48] The magnitude of this effect is close to the effect of right-to-work laws on acquirer CARs found by John, Knyazeva and Knyazeva (2015). They find that the difference in acquirer CARs between acquirers from weak and strong labor rights states averages 50 basis points.

8. Conclusion

Unemployment insurance (UI) sponsored by state or federal governments is an important labor market feature in developed countries. Yet, the existing literature on labor rights and acquisitions has paid little attention to the role of UI. The focus in the existing literature has been on employee legal rights and employment protection laws. This study provides evidence and identifies channels through which state UI benefits in the U.S. mitigate shareholder-employee conflicts of interest at both targets and acquirers and results in improved efficiency of the takeover market. Specifically, we find that more generous UI benefits available to a target firm's employees are associated with greater takeover probabilities, higher expected deal synergies, higher economic gains to both acquirer and target shareholders, and greater workforce restructuring in the post-merger integration period. The UI effect on takeover probabilities is greater when target employees are unionized, have large equity holdings through ESOPs and when a target board is more employee friendly. On the acquirer side, more generous UI benefits available to an acquirer's employees are associated with higher acquirer announcement returns and within industry acquisitions. To ensure that the relationships are causal, we examine changes in UI benefits within each state, which are essentially exogenous. Explicit tests for endogeneity support this causal interpretation.

Our findings fill an important void in our understanding of the interaction between labor and takeovers. We show that even when employees have strong legal rights or protections, they respond to financial incentives in their degree of opposition to takeover bids and post-merger workforce restructurings because active opposition is costly to employees. Higher unemployment compensation can mitigate the negative effects on takeover outcomes from strong labor rights or

employee protection laws. Our study also adds to the list of economic benefits that policy makers should consider when setting UI benefits.

Recently, U.S. corporations have experienced rising pressure from both the public and the business community calling for them to consider the interests of other stakeholders besides shareholders in order to generate sustainable growth. This has prompted the Business Roundtable, an association of CEOs in America's leading companies, to revise its statement of corporate purpose to move away from its traditional narrow shareholder value maximization focus. The new statement states that "Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities and our country." Given these current trends, our findings that employee-friendly target boards of directors appear to take into account UI benefits when making M&A decisions suggests that the importance of UI for the takeover market is likely to rise.

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Table 1: Summary statistics

This table presents summary statistics of firm, corporate governance, state, and deal characteristics. The sample consists of 69,697 firm-year observations from the CRSP-Compustat Merged Database from 1990 to 2015. Among them, 2,339 firm years are associated with a completed takeover bid in which the firm is the target announced in that year. We require firms to be U.S. public firms that are traded on NYSE, AMEX, or NASDAQ. Corporate governance data are available only from 1996 onwards. Variable definitions are provided in the Appendix. All continuous variables except UI levels are winsorized at the 1st and 99th percentiles.

	N	Mean	Std. Dev	Q1	Median	Q3
Panel A: Firm Characteristics						
Total Assets ($ million)	69,697	2,245	6,620	75	287	1,227
Fixed Assets/Total Assets	69,697	0.30	0.27	0.10	0.22	0.42
R&D Expense/Total Assets	69,697	0.06	0.11	0.00	0.00	0.07
Employee ('000s)	69,697	8.80	22.99	0.32	1.34	5.80
Leverage	69,697	0.17	0.19	0.00	0.12	0.28
ROA	69,697	0.11	0.19	0.06	0.13	0.20
Sales Growth	69,697	0.17	0.46	-0.01	0.09	0.23
Market to Book Ratio	69,697	2.45	2.41	1.16	1.68	2.70
Industry Union Benefit	69,697	0.11	0.10	0.04	0.08	0.14
Market Value ($ million)	69,697	2,355	6,782	74	311	1,295
Firm Age (years)	69,697	14.63	11.95	5	11	22
Labor Intensity	54,937	0.27	0.12	0.16	0.29	0.32
Female Director No.	20,667	1.01	0.97	0	1	2
Have Female Director	20,667	0.65	0.48	0	1	1
High Employee Strength	19,319	0.20	0.40	0	0	0
Total Employee Strength	19,319	0.32	0.80	0	0	0
Panel B: Governance Characteristics						
Staggered Board	19,668	0.28	0.45	0	0	1
Poison Pill	19,668	0.20	0.40	0	0	0
CEO Age	19,668	56	7.48	51	56	61
CEO Ownership (%)	19,668	0.81	5.07	0.00	0.02	0.38
Majority Independent Board (>60%)	19,668	0.78	0.41	1	1	1
Board Size	19,668	9.07	2.30	7	9	10
Panel C: State-Level Controls						
State Unemployment Rate	69,697	0.06	0.02	0.05	0.06	0.07
Log Real GDP Per Capita	69,697	10.63	0.29	10.38	10.70	10.85
Election Year Indicator	69,697	0.26	0.44	0	0	1
Panel D: Deal Characteristics						
Deal Completion	3,831	0.57	0.50	0	1	1
Acquirer [-2, 2] CAR	1,387	-0.019	0.118	-0.070	-0.007	0.040
Target [-2, 2] CAR	1,387	0.191	0.264	0.026	0.138	0.305
Combined [-2, 2] CAR	1,387	0.012	0.113	-0.043	0.012	0.066
Relative Transaction Value (ratio)	1,387	1.574	2.349	0.405	1.382	1.931
Deal Premiums (Percentage)	1,019	0.426	0.438	0.184	0.355	0.585
Panel E: Unemployment Insurance						
Target UI level ($)	69,697	9831	4229	6916	9048	11700
Log (Target UI level)	69,697	9.12	0.37	8.84	9.11	9.37

Table 2: Summary of unemployment insurance benefits by state

This table reports the summary statistics of the level of unemployment insurance (UI) benefits by state. UI level is calculated as the product of maximum weekly payment amount and maximum weeks under each UI schedule. This value is averaged over the two published schedules each year to get the UI level for each state-year. Column 2 reports the distribution of our sample observations by firm headquarters state. Columns 3 to 5 report mean, median, and standard deviation of UI levels by state. The last column reports the number of greater than 10% annual changes in UI levels (in either direction) during our sample period of 1990 to 2015.

State	No. of Obs	Mean ($)	Median ($)	SD ($)	Changes (>10%)
(1)	(2)	(3)	(4)	(5)	(6)
AK	47	8,898	8,320	1650	2
AL	319	5,485	4,940	1042	1
AR	382	8,860	8,814	2053	1
AZ	1025	5,493	5,330	726	0
CA	11,659	8,760	9,620	2816	2
CO	1,996	9,909	10,244	2690	1
CT	1,598	12,762	12,506	3024	0
DC	153	8,743	9,334	649	2
DE	124	7,920	8,449	907	0
FL	2,750	6,547	7,150	902	4
GA	2,038	6,761	6,604	1369	2
HI	74	10,945	10,842	2497	1
IA	345	9,429	8,866	2425	0
ID	125	7,776	7,930	1424	1
IL	3,243	10,991	11,206	2611	0
IN	740	7,866	8,424	2310	1
KS	383	8,947	8,814	2191	0
KY	422	8,465	8,865	2143	1
LA	401	5,957	6,422	881	1
MA	4,041	21,461	22,800	6540	3
MD	1,135	8,140	7,280	2106	1
ME	90	10,894	8,840	2780	0
MI	1,379	8,212	7,800	943	1
MN	2,318	11,560	11,427	3387	2
MO	1,178	6,137	6,400	1354	6
MS	163	5,208	4,940	738	0
MT	50	8,540	6,500	2846	0
NC	1,377	9,198	8,814	2548	5
ND	31	8,824	7,202	3116	1
NE	303	6,566	6,812	2017	3
NH	310	8,385	7,122	2534	1
NJ	2,851	12,145	11,375	3031	0
NM	49	8,303	5,512	3012	1
NV	594	8,092	7,930	1902	0
NY	5,079	9,433	10,530	1440	1
OH	2,453	10,953	10,582	2389	0

OK	614	8,052	7,592	2039	5
OR	743	10,324	10,465	2520	0
PA	2,875	11,727	11,388	2668	0
RI	217	13,933	14,092	3412	0
SC	282	6,584	6,520	1203	2
SD	71	6,320	5,421	1752	0
TN	1,118	6,558	7,150	1312	2
TX	7,314	8,489	9,048	1977	0
UT	612	9,152	8,294	2395	1
VA	1,850	7,585	9,490	1962	3
VT	70	8,369	8,268	2475	1
WA	1,379	12,542	7,319	2886	5
WI	1,273	8,103	13,156	1271	0
WV	48	9,059	8,138	1612	0
WY	6	8,271	9,000	2519	0
Total	69,697	9,831	11,913	4,229	64

Table 3: Target UI and the likelihood of being acquired

This table reports estimates of the effect of target UI benefits on a firm's likelihood of being acquired. The dependent variable is an indicator which equals 1 if the firm is the target of a takeover bid announced in the year, and 0 otherwise. The key explanatory variable is the natural logarithm of the UI level in a target firm's headquarters state in the year prior to the takeover announcement. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale, and transportations industries, are excluded. All columns include state-level controls (*log annual GDP per capita, unemployment rate, gubernatorial election year dummy*), state, industry and year fixed effects. Industries are defined by two-digit SIC codes. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the state level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
		Likelihood of	Being Acquired	
Log (Target UI level) $_{t-1}$	0.094***	0.108***	0.109***	0.142***
	(0.026)	(0.026)	(0.034)	(0.030)
ROA	(0.006)	0.000	(0.004)	(0.006)
	(0.006)	(0.006)	(0.016)	(0.019)
R&D/Total Assets	0.035***	0.036***	0.053***	0.056***
	(0.009)	(0.009)	(0.018)	(0.018)
Leverage	0.003	0.003	0.005	0.001
	(0.005)	(0.005)	(0.010)	(0.010)
Sales Growth	0.001	0.000	(0.002)	(0.002)
	(0.002)	(0.002)	(0.005)	(0.005)
Fixed Assets	-0.009***	-0.007*	0.002	(0.002)
	(0.003)	(0.003)	(0.007)	(0.006)
Market-to-Book	-0.002***	-0.002***	(0.001)	(0.001)
	(0.001)	(0.001)	(0.001)	(0.001)
Firm Size	0.001***	0.001*	0.003**	0.003*
	(0.001)	(0.001)	(0.001)	(0.001)
Firm Age	-0.008***	-0.009***	-0.004**	-0.004***
	(0.001)	(0.002)	(0.002)	(0.002)
Staggered Board			-0.008***	-0.011***
			(0.002)	(0.003)
Poison Pill			0.000	0.003
			(0.003)	(0.003)
CEO Ownership			(0.001)	0.000
			(0.001)	(0.001)
Independent Board			0.005*	0.006*
			(0.003)	(0.003)
Board Size			-0.001*	(0.001)
			(0.001)	(0.001)
CEO Age			0.003*	0.005**
			(0.002)	(0.002)
CEO Age^2			0.000	-0.000**
			0.000	0.000
CEO Tenure			-0.005**	-0.006**
			(0.002)	(0.002)
Observations	69,697	59,403	19,668	16,210
Adj. R-squared	0.012	0.013	0.013	0.017
State, Industry and Year FE	YES	YES	YES	YES
State-level Controls	YES	YES	YES	YES
Exclude Dispersed Industries	NO	YES	NO	YES

Table 4: Identification analysis

This table reports the results from three identification tests. In column 1, we regress an acquisition indicator on the log UI levels in the state that borders a firm's headquarters state and has the closest population to it. In column 2, we include industry by year interaction fixed effects to filter out the effect of unobserved industry shocks. In column 3, we regress an acquisition indication on the log of the UI levels in a firm's headquarters state in the year after the takeover announcement. All columns include state-level controls (*log annual GDP per capita, unemployment rate, gubernatorial election year* ~~*dummy*~~*indicator*), state, industry and year fixed effects except for column 2 where we include industry by year fixed effects. Industries are defined by two-digit SIC codes. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the state level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)
		Likelihood of Being Acquired	
Log (Bordering State UI level) $_{t-1}$	-0.010		
	(0.006)		
Log (Target UI level) $_{t-1}$		0.098***	
		(0.026)	
Log (Target UI level) $_{t+1}$			0.004
			(0.006)
ROA	-0.009	-0.010	-0.011***
	(0.007)	(0.008)	(0.003)
R&D Expense/Total Assets	0.049***	0.050***	0.003
	(0.009)	(0.009)	(0.005)
Leverage	0.003	0.003	0.004
	(0.004)	(0.004)	(0.003)
Sales Growth	0.001	0.000	0.000
	(0.002)	(0.002)	(0.001)
PPE/Assets	-0.006	-0.007*	-0.001
	(0.004)	(0.004)	(0.003)
Market-to-Book Ratio	-0.002***	-0.002***	-0.001*
	(0.001)	(0.001)	(0.000)
Firm Size	0.001**	0.001**	0.003***
	(0.000)	(0.000)	(0.000)
Firm age	-0.006***	-0.006***	-0.001**
	(0.001)	(0.001)	(0.001)
Observations	60,768	69,697	69,423
Adj. R-squared	0.012	0.011	0.008
State-level Controls	YES	YES	YES
State, Industry and Year FE	YES		YES
State, Industry × Year FE		YES	

Table 5: Cross-sectional variation with unionization and employee stock ownership plans (ESOP)

This table presents results on how unionization and employee voting rights affect the relation between target UI levels and takeover likelihoods. Columns 1 and 2 are estimated using the full sample. *Highly Unionized Industry* is an indicator that equals to 1 if the union coverage rate in the firm's industry is above the sample median and 0 otherwise. Columns 3 and 4 are estimated over the period from 2000 to 2015 for which annual summaries of ESOP data are available from U.S. Department of Labor. *ESOP* is an indicator that equals 1 if the ESOP holding is above 15% of outstanding shares in the year and 0 otherwise. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale and transportations industries, are excluded. Industries are defined by two-digit SIC codes. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard errors are clustered at the headquarters state by year level in columns 1 and 2 and at the headquarters state and incorporation state level in columns 3 and 4. They are reported in the parenthesis below each coefficient estimate. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
	Likelihood of Being Acquired			
Highly Unionized Industry	-0.274***	-0.318**		
	(0.078)	(0.144)		
Log (Target UI level)$_{t-1}$ × Highly Unionized Industry	0.030***	0.035**		
	(0.009)	(0.016)		
ESOP			-0.467***	-0.511***
			(0.004)	(0.019)
Log (Target UI level)$_{t-1}$ × ESOP			0.048***	0.053***
			(0.001)	(0.002)
ROA	-0.009	-0.004	0.009*	0.012**
	(0.006)	(0.007)	(0.005)	(0.005)
R&D Expense/Total Assets	0.051***	0.053***	0.062***	0.059***
	(0.011)	(0.010)	(0.011)	(0.008)
Leverage	0.002	0.001	0.001	0.001
	(0.004)	(0.005)	(0.005)	(0.005)
Sales Growth	0.001	0.000	0.000	0.000
	(0.002)	(0.002)	(0.001)	(0.001)
PPE/Assets	-0.006	-0.006	-0.006	-0.006
	(0.004)	(0.004)	(0.008)	(0.009)
Market to Book Ratio	-0.002***	-0.002***	-0.004***	-0.004***
	(0.000)	(0.001)	(0.000)	(0.001)
Firm Size	0.001***	0.001*	-0.000	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)
Firm age	-0.006***	-0.007***	-0.005***	-0.006***
	(0.001)	(0.002)	(0.001)	(0.001)
Observations	69,697	59,403	41,326	35,236
Adj. R-squared	0.009	0.009	0.008	0.008
Headquarters State × Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Incorporation State FE	NO	NO	YES	YES
Exclude Dispersed Industries	NO	YES	NO	YES

Table 6: Cross-sectional variation in stakeholder orientation

This table presents the cross-sectional differences in the UI effect on takeover likelihood of firms with different stakeholder orientation. *Female directors* is an indicator which equals 1 if a firm has at least 1 female director on the board, and 0 otherwise. *Strong employee relation* is an indicator which equals 1 if a firm's total employee strength index value from the KLD database is above the sample median, and 0 otherwise. *Labor intensity* equal to total compensation divided by total GDP output of the firm's industry. The last row indicates whether industries which have largely geographically dispersed workforce are excluded, i.e. retail, wholesale and transportations industries. All columns include state by year fixed effects and industry fixed effects. Industries are defined by two-digit SIC codes. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the state by year level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
			Likelihood of Being Acquired			
Female director	-0.238**	-0.272***				
	(0.096)	(0.094)				
Log (Target UI level) $_{t-1}$× Female director	0.026**	0.029***				
	(0.010)	(0.010)				
Strong Employee Relation			-0.196**	-0.206**		
			(0.095)	(0.101)		
Log (Target UI level) $_{t-1}$× Strong Employee Relation			0.021**	0.022**		
			(0.010)	(0.011)		
Log (Target UI level)$_{t-1}$×Labor Intensity					0.181***	0.194***
					(0.035)	(0.036)
ROA	0.010	0.008	0.020**	0.023**	-0.005	-0.003
	(0.019)	(0.021)	(0.010)	(0.010)	(0.006)	(0.006)
R&D Expense/Total Assets	0.068***	0.063**	0.037**	0.032*	0.054***	0.054***
	(0.021)	(0.025)	(0.016)	(0.016)	(0.012)	(0.012)
Leverage	0.005	0.004	0.001	0.000	0.002	-0.001
	(0.008)	(0.010)	(0.006)	(0.008)	(0.005)	(0.005)
Sales Growth	0.002	0.002	(0.002)	(0.002)	0.001	0.001
	(0.004)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)
PPE/Assets	(0.004)	0.000	0.004	0.006	-0.010**	-0.014***
	(0.008)	(0.010)	(0.009)	(0.010)	(0.005)	(0.005)
Market to Book Ratio	-0.002***	-0.001***	-0.003***	-0.003***	-0.003***	-0.003***
	0.000	0.000	(0.001)	(0.001)	(0.000)	(0.000)
Firm Size	0.002	0.001	0.000	(0.001)	0.001***	0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Firm age	-0.006***	-0.007***	-0.003*	-0.004**	-0.008***	-0.008***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Board Size	(0.001)	0.000				
	(0.001)	(0.001)				
Independent Board	0.009**	0.011**				
	(0.004)	(0.005)				
Observations	20,667	17,134	18,419	15,401	54,937	50,654
Adjusted R-squared	0.01	0.009	0.056	0.058	0.016	0.016
State × Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Exclude Dispersed Industries	NO	YES	NO	YES	NO	YES

Table 7: Evidence from the passages of director duties (DD) laws

This table examines the effect of the passage of directors' duties (DD) law on the relation between target UI levels and takeover likelihoods. The dependent variable equals to 1 if the firm is a target of a takeover bid announced in year t, and 0 otherwise. The key explanatory variable is the interaction of the natural logarithm of UI level in the firm's headquarters state in year t-1 and an indicator for whether the firm's incorporation state has passed a DD law by year t-1. Firm level control variables include ROA, R&D expenses, Leverage, Sales Growth, Fixed Assets, Market-to-book, firm size and firm age. To save space, they are not reported. The last row excludes industries which have largely geographically dispersed workforce, i.e. retail, wholesale, and transportations industries. All columns include state-level controls (*log annual GDP per capita, unemployment rate, gubernatorial election year indicator*) for a firm's headquarters state, headquarters state, incorporation state, industry and year fixed effects. Industries are defined at the two-digit SIC code level. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Standard error is double clustered by headquarters state and incorporation state and is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
		Likelihood of Being Acquired		
A: Log (Target UI level) $_{t-1}$	0.092***	0.106***	0.091***	0.113***
	(0.018)	(0.019)	(0.021)	(0.023)
Directors' Duties Law	-0.122**	-0.154***	-0.155**	-0.192***
	(0.048)	(0.052)	(0.072)	(0.061)
A × Directors' Duties Law	0.013**	0.016**	0.016*	0.019**
	(0.005)	(0.006)	(0.008)	(0.008)
Business Combinations Law			-0.012	0.072
			(0.058)	(0.068)
A × Business Combinations Law			0.002	-0.007
			(0.006)	(0.007)
Control Shares Acquisition Law			-0.051	-0.065
			(0.057)	(0.067)
A × Control Share Acquisition Law			0.005	0.007
			(0.006)	(0.007)
Fair Price Law			0.049	0.031
			(0.099)	(0.112)
A × Fair Price Law			-0.007	-0.006
			(0.011)	(0.013)
Poison Pill Law			0.029	0.060
			(0.083)	(0.090)
A × Poison Pill Law			-0.002	-0.005
			(0.009)	(0.011)
Observations	69,078	58,749	69,078	58,831
Adjusted R-squared	0.014	0.015	0.014	0.015
Headquarters State FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Incorporation State FE	YES	YES	YES	YES
Exclude Dispersed Industries	NO	YES	NO	YES

Table 8: Target state UI and expected deal synergies

This table presents estimates of the relation between expected deal synergies and target UI levels. The dependent variable is *combined CAR [-2, +2]* which is calculated as the weighted average of acquirer and target five-day CARs around the deal announcement date using their market capitalizations four weeks before the deal announcement as the weights. Columns 3 and 4 examine how unionization in target firms affects the relation. *Highly Unionized Industry* is an indicator that equals to 1 if the union coverage rate in the firm's industry is above the sample median and 0 otherwise. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale and transportations industries, are excluded. All columns include acquirer and target headquarters state state-level controls (*log annual real GDP per capita, unemployment rate, gubernatorial year dummy*), acquirer and target headquarters state fixed effects, acquirer and target industry fixed effects, and year fixed effects. Industries are defined by two-digit SIC codes. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Standard error is double-clustered by acquirer and target state and is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
		Combined CAR [-2,+2]		
Log (Target UI level) $_{t-1}$: A	0.044**	0.060***	0.041*	0.055**
	(0.019)	(0.019)	(0.020)	(0.022)
Highly Unionized Industry: B			-0.279*	-0.458***
			(0.139)	(0.132)
A × B			0.031**	0.051***
			(0.015)	(0.014)
Log (Acquirer UI level) $_{t-1}$	0.036	0.034	0.038*	0.036
	(0.022)	(0.020)	(0.023)	(0.022)
Acquirer Firm Size	-0.011***	-0.011***	-0.011***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)
Target Firm Size	0.001	0.000	0.001	0.000
	(0.002)	(0.002)	(0.003)	(0.002)
Stock Acquisition	-0.025***	-0.025**	-0.025***	-0.025**
	(0.008)	(0.010)	(0.007)	(0.009)
Cash Acquisition	0.024**	0.025**	0.024**	0.025**
	(0.010)	(0.009)	(0.010)	(0.010)
Same Industry	-0.003	-0.005	-0.003	-0.005
	(0.010)	(0.012)	(0.010)	(0.011)
Competing Bids	0.012	0.012	0.012	0.012
	(0.019)	(0.018)	(0.019)	(0.019)
Toehold	-0.021**	-0.018	-0.021**	-0.017
	(0.010)	(0.011)	(0.010)	(0.012)
Relative Transaction Value	0.007	0.007	0.008	0.009*
	(0.006)	(0.005)	(0.006)	(0.004)
Constant	0.641	0.659	0.677	0.706
	(0.523)	(0.724)	(0.535)	(0.719)
Observations	1,342	1,159	1,342	1,159
Adjusted R-squared	0.153	0.171	0.154	0.175
State, Industry and Year FE	YES	YES	YES	YES
Excluding Disperse Industries	NO	YES	NO	YES

Table 9: Target state UI and takeover premiums and acquirer CARs

This table presents estimates of the effect of target UI benefits on takeover premiums and acquirer five-day CARs. Takeover premium is obtained from the SDC database. It equals the difference between the offer price and the target stock price 4 weeks prior to the acquisition announcement date divided by the latter. Acquirer (target) firm size is measured by the natural log of market capitalization of the acquirer (target). *Highly Unionized Industry* is an indicator that equals to 1 if the union coverage rate in the firm's industry is above the sample median and 0 otherwise. All columns include acquirer and target headquarters state state-level controls (*log annual real GDP per capita, unemployment rate, gubernatorial year indicator*), acquirer and target headquarters state fixed effects, acquirer and target industry fixed effects, and year fixed effects. Industries are defined by two-digit SIC codes. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale, and transportations industries, are excluded. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Standard error is double clustered by target state and by acquirer state and is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Takeover Premium		Acquirer CAR [-2, 2]		Acquirer CAR [-2, 2]	
Log (Target UI level) $_{t-1}$: A	-0.238*	-0.324*	0.065***	0.078***	0.060***	0.071***
	(0.129)	(0.190)	(0.014)	(0.016)	(0.017)	(0.020)
High Union Benefit: B					-0.346**	-0.564***
					(0.162)	(0.174)
A×B					0.039**	0.063***
					(0.017)	(0.018)
Log (Acquirer UI level) $_{t-1}$	-0.140	-0.156*	0.035	0.036	0.038*	0.039
	(0.091)	(0.087)	(0.022)	(0.023)	(0.022)	(0.024)
Acquirer Firm Size	0.025*	0.022	-0.000	0.000	0.000	0.001
	(0.013)	(0.014)	(0.002)	(0.002)	(0.002)	(0.002)
Target Firm Size	-0.060***	-0.057***	-0.007***	-0.008***	-0.008***	-0.008***
	(0.014)	(0.014)	(0.002)	(0.002)	(0.002)	(0.003)
Stock Acquisition	-0.021	-0.034	-0.019**	-0.019*	-0.018**	-0.019*
	(0.030)	(0.032)	(0.009)	(0.011)	(0.008)	(0.010)
Cash Acquisition	-0.001	0.010	0.042***	0.044***	0.043***	0.044***
	(0.051)	(0.072)	(0.010)	(0.009)	(0.012)	(0.009)
Same Industry	0.013	0.023	0.002	0.001	0.003	0.001
	(0.033)	(0.030)	(0.011)	(0.011)	(0.011)	(0.012)
Competing Bids	0.178*	0.210**	-0.001	-0.001	-0.000	-0.000
	(0.101)	(0.098)	(0.023)	(0.025)	(0.028)	(0.028)
Toehold	-0.180***	-0.164***	0.018	0.022	0.018	0.022
	(0.057)	(0.052)	(0.012)	(0.014)	(0.013)	(0.016)
Relative Transaction Value	0.013	0.018	-0.002	-0.003	-0.001	-0.002
	(0.023)	(0.025)	(0.004)	(0.004)	(0.005)	(0.004)
Constant	6.747***	8.280***	0.389	0.301	0.430	0.363
	(2.018)	(1.943)	(0.651)	(0.799)	(0.661)	(0.789)
Observations	968	867	1,342	1,159	1,342	1,159
Adjusted R-squared	0.105	0.115	0.162	0.177	0.165	0.182
State-level Controls	YES	YES	YES	YES	YES	YES
State, Industry and Year FE	YES	YES	YES	YES	YES	YES
Excluding Dispersed Industries	NO	YES	NO	YES	NO	YES

Table 10: Target state UI and post-merger workforce restructuring

This table presents estimates of the effect of target UI benefits on post-merger workforce restructuring. All deals are followed over the five-year period from one year before the deal announcement to three years after deal completion. The dependent variable is natural logarithm of the combined number of employees in the acquirer and the target. The *Post Merger* indicator equals 1 for the three years after deal completion and 0 for the two years before deal completion. UI levels are measured in the deal announcement year for both the acquirer and the target. Columns 1 through 4 are estimated using all deals in our sample. Columns 5 and 6 are estimated using only deals where the relative deal size is greater than the sample median. All columns include deal fixed effects and industry by year fixed effect. Industries are defined using Fama-French 48 industry definition. Robust standard error is double clustered at the deal and year level and reported in the parenthesis. The last two rows report the marginal effects of *Post Merger* calculated using sample mean acquirer and target UI levels and their associated p-values. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Combined Number of Employees (log)					
Post Merger	0.756**	0.872**	0.931**	1.054**	0.941**	0.968*
	(0.356)	(0.352)	(0.388)	(0.387)	(0.454)	(0.492)
Log (Target UI level) × Post Merger	-0.096**	-0.106***	-0.066	-0.077*	-0.124***	-0.128**
	(0.038)	(0.037)	(0.041)	(0.042)	(0.040)	(0.048)
Log (Acquirer UI level) × Post Merger			-0.048	-0.048	0.014	0.016
			(0.035)	(0.037)	(0.028)	(0.031)
Constant	2.623***	2.505***	2.624***	2.506***	2.238***	2.121***
	(0.010)	(0.010)	(0.010)	(0.009)	(0.011)	(0.011)
Observations	6,110	5,321	6,105	5,316	3,105	2,744
Adjusted R-squared	0.971	0.971	0.971	0.971	0.962	0.961
Deal FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	YES	YES	YES	YES	YES	YES
Exclude Dispersed Industries	NO	YES	NO	YES	NO	YES
Marginal effect Post Merger	-0.116***	-0.092***	-0.116***	-0.092***	-0.059***	-0.054***
p-value	0.00	0.00	0.00	0.00	0.01	0.01

Table 11: Target state UI and the likelihood of being acquired in a within-industry vs. diversifying deal

This table presents estimates of the effect of target UI benefits on the likelihood of a within-industry or diversifying acquisition. The dependent variable in columns 1 and 2 (columns 3 and 4) is an indicator of a within-industry (diversifying) acquisition. We exclude from our analyses firm years associated with a diversifying (within-industry) acquisition in columns 1 and 2 (columns 3 and 4). All columns include a firm's headquarters state state-level controls (*log annual real GDP per capita, unemployment rate, gubernatorial year indicator*), headquarters state, industry, and year fixed effect. Industries are defined by two-digit SIC codes. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale, and transportations industries, are excluded. Variable definitions are provided in the Appendix. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the target headquarters state level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
	Likelihood of Being Acquired			
	Within industry		Diversifying	
Log (Target UI level) $_{t-1}$	0.072***	0.084***	0.028***	0.032**
	(0.021)	(0.021)	(0.011)	(0.012)
ROA	-0.003	-0.000	-0.005**	-0.003
	(0.006)	(0.006)	(0.002)	(0.002)
R&D/Total Assets	0.043***	0.043***	0.009**	0.011**
	(0.007)	(0.007)	(0.004)	(0.004)
Leverage	0.002	0.000	0.000	0.000
	(0.004)	(0.004)	(0.002)	(0.002)
Sales Growth	0.000	0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Fixed Assets	-0.003	-0.003	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)
Market to Book	-0.002***	-0.002***	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Firm Size	0.002***	0.001***	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Firm Age	-0.005***	-0.005***	-0.001***	-0.001***
	(0.001)	(0.001)	(0.000)	(0.001)
Observations	68,922	58,719	68,171	58,069
Adjusted R-squared	0.012	0.013	0.007	0.007
State-level Control	YES	YES	YES	YES
State, Industry and Year FE	YES	YES	YES	YES
Exclude Dispersed Industries	NO	YES	NO	YES

Table 12: Target state UI and deal completion rate

This table presents deal-level analysis of the effect of target UI benefits on deal completion rate. The sample period is from 1990 to 2013. The sample include deals with status of "completed," "withdrawn," or "pending." Following Boyson et al. (2018), we only include deals with "pending" status for over two years. Columns 1 and 2 are estimated using both within-industry and diversifying deals. Columns 3 and 4 are estimated using only within-industry deals. Variable definitions are provided in the Appendix. All columns include a firm's headquarters state-level controls (*log annual real GDP per capita, unemployment rate, gubernatorial year indicator*), headquarters state, industry, and year fixed effect. Industries are defined by two-digit SIC codes. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale, and transportations industries, are excluded. All continuous variables (except UI level) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the target state level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
	Complete (0, 1)			
	All Deals		Within-industry Deals	
Log (Target UI level) $_{t-1}$	0.054	0.088*	0.113**	0.130**
	(0.050)	(0.047)	(0.054)	(0.052)
Competing acquirer	-0.286***	-0.285***	-0.258***	-0.277***
	(0.053)	(0.055)	(0.053)	(0.053)
Friendly Deal	0.661***	0.682***	0.658***	0.676***
	(0.016)	(0.016)	(0.021)	(0.021)
ROA	-0.016	-0.013	-0.012	-0.007
	(0.020)	(0.018)	(0.023)	(0.022)
R&D/Total Assets	0.023	0.007	0.084	0.067
	(0.047)	(0.045)	(0.054)	(0.054)
Leverage	-0.014	-0.008	-0.044	-0.034
	(0.030)	(0.032)	(0.046)	(0.048)
Sales Growth	0.001	0.001	-0.001	-0.001
	(0.004)	(0.004)	(0.009)	(0.009)
Fixed Assets	0.039	0.036	0.040	0.035
	(0.036)	(0.038)	(0.038)	(0.041)
Market to Book	-0.003	-0.002	-0.005**	-0.004**
	(0.002)	(0.002)	(0.002)	(0.002)
Firm Size	0.020***	0.017***	0.021***	0.020***
	(0.005)	(0.005)	(0.005)	(0.005)
Firm Age	0.005	0.006	-0.001	-0.001
	(0.006)	(0.007)	(0.006)	(0.006)
Observations	3,831	3,297	2,964	2,538
Adjusted R-squared	0.495	0.522	0.509	0.538
State-level Control	YES	YES	YES	YES
State, Industry and Year FE	YES	YES	YES	YES
Exclude Disperse Industry	NO	YES	NO	YES

Table 13: Acquirer state UI and acquirer CARs

This table presents estimates of the effect of acquirer UI benefits on an acquirer's cumulative abnormal stock return over the 5 days event window around the announcement of a deal. In column 1, we only include acquirer UI levels. In columns 2 through 4, we also control for target UI levels. Likewise, the state-level controls and state and industry fixed effects are only for the acquirer in column 1 but are for both the acquirer and the target in columns 2 through 4. The state-level controls include *log annual real GDP per capita, unemployment rate, gubernatorial year indicator*. They are not reported for brevity. *Highly Unionized Industry* is an indicator that equals to 1 if the union coverage rate in the firm's industry is above the sample median and 0 otherwise. *Labor intensity* equal to total compensation divided by total GDP output of the firm's industry. Variable definitions are provided in the Appendix. Industries are defined by two-digit SIC codes. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Standard error is double clustered by the acquirer and the target state and is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
		Acquirer CAR [-2,+2]		
Log (Acquirer UI level) $_{t-1}$: A	0.052***	0.047***	0.044***	0.022
	(0.016)	(0.012)	(0.011)	(0.014)
Highly Unionized Industry : B			-0.079**	
			(0.035)	
A×B			0.008**	
			(0.004)	
Labor Intensity: C				-0.882***
				(0.299)
A×C				0.100***
				(0.033)
Log (Target UI level) $_{t-1}$		0.044***	0.043***	0.039***
		(0.011)	(0.011)	(0.014)
Firm Size	-0.009***	-0.009***	-0.009***	-0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
Market to Book	-0.003***	-0.003***	-0.003***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Stock Acquisition	-0.023***	-0.022***	-0.022***	-0.022***
	(0.003)	(0.004)	(0.004)	(0.003)
Cash Acquisition	0.009***	0.009***	0.009***	0.011**
	(0.003)	(0.003)	(0.003)	(0.005)
Same Industry	-0.001	-0.000	-0.000	-0.002
	(0.002)	(0.003)	(0.003)	(0.004)
Competing Bids	0.005	0.005	0.006	0.000
	(0.011)	(0.008)	(0.009)	(0.010)
Toehold	0.011**	0.011*	0.011*	0.012
	(0.005)	(0.006)	(0.006)	(0.007)
Private Target	0.017***	0.018***	0.018***	0.017***
	(0.003)	(0.003)	(0.004)	(0.004)
Relative Transaction Value	0.009**	0.008**	0.008**	0.008**
	(0.003)	(0.003)	(0.003)	(0.004)
Constant	-0.304	-0.673	-0.663	-0.330
	(0.472)	(0.411)	(0.403)	(0.452)
Observations	9,403	9,398	9,398	7,299
Adjusted R-squared	0.134	0.137	0.137	0.146
State, Industry and Year FE	YES	YES	YES	YES

Table 14: Acquirer state UI and the likelihood of making a bid

This table presents estimates of the effect of acquirer UI level on an acquirer's likelihood of making a within-industry or a diversifying takeover bid. In columns 1 and 2 (columns 3 and 4), the dependent variable is an indicator variable which equals one if an acquirer makes a within-industry (diversifying) takeover bid in a given year, and zero otherwise. The key independent variable is the natural logarithm of the UI levels in an acquirer's headquarters state in the year prior to the takeover bid. Variable definitions are provided in the Appendix. All columns include acquirer headquarters state-level controls (*log annual real GDP per capita, unemployment rate, gubernatorial year indicator*), acquirer headquarters state, industry and year fixed effect. Industries are defined by two-digit SIC codes. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the acquirer state level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
	Within-Industry Bid		Diversifying Bid	
Log (Acquirer UI level) $_{t-1}$	0.113***	0.117***	0.068***	0.075***
	(0.018)	(0.018)	(0.016)	(0.017)
ROA	0.104***	0.107***	0.033***	0.037***
	(0.011)	(0.012)	(0.011)	(0.010)
R&D/Total Assets	0.047**	0.047**	-0.052*	-0.045*
	(0.022)	(0.022)	(0.028)	(0.026)
Leverage	0.008	-0.003	-0.005	-0.011
	(0.011)	(0.010)	(0.006)	(0.007)
Sales Growth	0.038***	0.036***	0.027***	0.027***
	(0.007)	(0.007)	(0.006)	(0.006)
Fixed Assets	0.010	0.007	-0.059***	-0.060***
	(0.020)	(0.021)	(0.008)	(0.009)
Market to Book	-0.009***	-0.009***	-0.008***	-0.008***
	(0.002)	(0.002)	(0.001)	(0.001)
Firm Size	0.031***	0.033***	0.027***	0.028***
	(0.003)	(0.003)	(0.002)	(0.002)
Firm Age	-0.022***	-0.022***	-0.004*	-0.004
	(0.003)	(0.003)	(0.002)	(0.003)
Observations	57,852	51,319	55,169	48,758
Adjusted R-squared	0.079	0.080	0.056	0.054
Acquirer State Controls	YES	YES	YES	YES
Acquirer State, Industry and Year FE	YES	YES	YES	YES

Appendix 1: Variable Description

Variable Name	Description
Acquisition	An indicator variable which equals 1 when a firm becomes a target of an ultimately completed bid in a given fiscal year and 0 otherwise. In tests of the likelihood of a firm making a bid, this indicator equals 1 when a firm makes a takeover bid in a given year and 0 otherwise. Source: SDC
Board Independence	An indicator variable which equals 1 if over 60% of directors are independent and 0 otherwise. Source: ISS
Board Size	Number of directors on the board. Source: ISS
CAR [-2,+2]	Five-day cumulative abnormal return from 2 days before to 2 days after a deal announcement date calculated using the market model estimated over the 200-day period ending 11 days before the deal announcement date. Source: CRSP
Cash	An indicator variable which equals 1 if the deal is an all cash deal. Source: SDC
CEO Age	CEO age. Source: Execucomp
CEO Ownership	CEO's percentage ownership of the firm, including both stock and stock options. Source: Execucomp
CEO Tenure	Number of years since becoming CEO of the firm. Source: Execucomp
Compete Acquirer	An indictor variable which equals 1 if the deal has competing acquirers, and 0 otherwise. Source: SDC
Election	An indicator variable which equals 1 for the year of gubernatorial election, and 0 otherwise. Source: NGA
ESOP	An indicator variable which equals 1 if a target firm has an ESOP that controls at least 15% of the firm's outstanding common stock. Source: DOL
Female Director	An indicator variable which equals 1 if a firm has at least one female board member. Source: ISS
Firm Age	Number of years since being public. Source: CRSP
Fixed Assets	Book value of property, plant and equipment divided by the book value of total assets. Source: Compustat
Friendly	An indictor variable which equals 1 if the deal is friendly and 0 otherwise. Source: SDC
Highly Unionized Industry	An indicator variable which equals 1 if the union coverage rate of a 2-digit SIC industry is above the sample median and 0 otherwise. Union coverage rate is calculated as the percentage of workers covered by unions in a 2-digit SIC industry year. Source: Hirsch and Macpherson (2003)
Labor Intensity	Industry total compensation divided by industry total output. Source: BEA
Leverage	The sum of long- and short-term liabilities divided by total book value of assets. Source: Compustat
Market to Book	Fiscal-year-end market value of equity plus book value of liabilities divided by total assets.
Post-Merger	An indicator variable which equals to 1 for all years after a deal completion and 0 for years before the deal completion. Source: SDC
Poison Pill	An indicator variable which equals 1 if a firm has a poison pill in place and 0 otherwise. Source: ISS
R&D	Research & Development expenditure. Source: Compustat.
Relative Deal Size	Deal value reported in SDC divided by market value of acquirer. Source: Compustat and SDC
ROA	Operating income before depreciation divided by total assets. Source: Compustat
Sales Growth	Sales changes in year t relative to year t-1. Source: Compustat
Staggered Board	An indicator which equals 1 if a firm has a staggered board and 0 otherwise. Source: ISS

State GDP Per Capital	State annual GDP divided by state population. Source: BEA
State Unemployment Rate	Average monthly State Unemployment Rate for each year. Source: BEA
Stock	An indictor variable which equals 1 if the deal is settled as an all stock deal and 0 otherwise. Source: SDC
Strong Employee Relation	An indicator variable which equals 1 if a firm's total employee relation strength is above median, and 0 otherwise. Source: MSCI
Takeover Premium	Price per share paid by an acquirer for a public target firm's shares relative to the target's stock price four weeks prior to the offer announcement date. Source: SDC
Toehold	An indictor variable which equals 1 if the acquirer own target shares prior to announcement, and 0 otherwise. Source: SDC
UI level	The maximum amount of total UI benefits allowed in a state-year. It is calculated as the maximum amount of weekly benefits × the maximum duration of the benefits in number of weeks. We use the average of this amount over the two issues in each year. Source: BEA
Value of Transactions	The value of merger & acquisition deal. Source: SDC

Appendix 2: Summary statistics of the acquirer sample

This table presents summary statistics of firm and deal characteristics of the acquirer sample in Section 7. The sample consists of 18,938 deals that are announced by U.S. public firms on the CRSP-Compustat merged database between January 1, 1990 and December 31, 2015. Variable definitions are provided in the Appendix.

Variables	N	Mean	Std. Dev	Q1	Median	Q3
Panel A: Deal Characteristics						
Acquirer CAR [-2,+2]	18,938	0.007	0.089	-0.034	0.007	0.051
All Stock Deal	18,938	0.096	0.294	0.000	0.000	0.000
All Cash Deal	18,938	0.146	0.353	0.000	0.000	0.000
Same Industry Deal	18,938	0.591	0.492	0.000	1.000	1.000
Competing Bids	18,938	0.003	0.054	0.000	0.000	0.000
Toehold	18,938	0.071	0.257	0.000	0.000	0.000
Relative Deal Size	9,394	0.234	0.666	0.019	0.061	0.192
Private Target	18,938	0.848	0.359	1.000	1.000	1.000
Panel B: Acquirer Characteristics						
Log (Acquirer UI level)	18,938	9.106	0.362	8.838	9.090	9.367
Log Market Value ($ million)	18,938	6.931	2.206	5.457	6.802	8.211
Market to Book Ratio	18,938	1.955	2.941	0.791	1.293	2.200

Appendix 3: Target UI and Acquirers' Target Selection

Each successful merger requires an acquirer's willingness to bid on a target and a target's willingness to accept the bid. In this section, we directly examine whether an increase in a target's UI levels increases the willingness of potential acquirers to bid on the firm. If target UI benefits can help to reduce labor opposition to post-merger workforce restructuring and increase expected synergies, then more generous UI benefits can increase the attractiveness of a target firm to potential acquirers. This channel does not depend on employees having a formal channel to influence a target firm's decision to accept a bid or the board of directors to be employee-friendly.

To better isolate an acquirer's preference for higher UI benefits from other target firm characteristics, we construct a sample of hypothetical targets from the CRSP-Compustat universe of firms that match the key characteristics of each actual target in our sample, but have a different headquarters state than the actual target.[49] We require that a hypothetical target be in the same quintile of market capitalization and market-to-book ratio, and be in the same Fama and French 48 industry as the actual target. For each deal in our sample, these hypothetical targets together with the actual target constitute the sample of potential target firms that an acquirer must choose among in our test. We then estimate OLS regressions in which the dependent variable is an indicator that equals 1 if the firm is an actual target and 0 if the firm is a hypothetical target, and the key explanatory variable is the natural logarithm of the UI level in each hypothetical or actual target firm's headquarters state. To further control for the differences between actual and hypothetical targets, we include other firm characteristics, such as firm size, market-to-book ratio, return on assets, R&D expenses, leverage, sales growth, asset tangibility, and firm age, as controls. As before, we also include state-level controls. In all models, we include target headquarters state fixed effects,

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[49] Chung, Green, and Schmidt (2018) use a similar method to study CEO home bias and corporate acquisitions.

acquirer and target industry fixed effects, and year fixed effects. The coefficient on the log of the target firm UI levels captures the acquirer's preference for firms in states with more generous UI benefits after removing observable differences between the actual and hypothetical targets, time-invariant differences across states (including differences in the average UI level) and industries, and nationwide variations across years. The results are reported in the table of this appendix. We find that the coefficient on target UI is positive and statistically significant in all columns, consistent with a preference for target firms in states with more generous UI benefits.

Appendix 3 Table: Target state UI and acquirers' target selection

This table presents results from a linear probability model in which the dependent variable is one for an actual target and zero for hypothetic targets. The key explanatory variable is the natural logarithm of the maximum total UI benefits in the actual or hypothetical target's headquarters state. The sample consists of actual target firms in our sample and their hypothetical targets selected using the following procedure. For each actual target, we choose as hypothetical targets from among firms in the CSRP-Compustat merged database in the year of the acquisition announcement those that are in the same Fama-French 48 industry, same market capitalization, and market-to-book ratio quintiles as the actual target. Variable definitions are provided in the Appendix. All columns include target state-level controls (*log annual real GDP per capita, unemployment rate, gubernatorial year indicator*), target state fixed effects, target and acquirer industry fixed effects, and year fixed effect. Industries are defined by two-digit SIC codes. The last row indicates whether industries which have largely geographically dispersed workforce, i.e. retail, wholesale, and transportations industries are excluded. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the target state level is reported in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)
	Likelihood of Being Acquired	
Log (Target UI level) $_{t-1}$	0.168***	0.184***
	(0.052)	(0.050)
ROA	-0.027**	-0.024**
	(0.011)	(0.011)
R&D/Total Assets	-0.002	-0.001
	(0.004)	(0.005)
Leverage	0.004	0.004
	(0.009)	(0.010)
Sales Growth	-0.000	-0.000
	(0.000)	(0.000)
Fixed Assets	0.009	0.010
	(0.011)	(0.011)
Market to Book	-0.003***	-0.003***
	(0.001)	(0.001)
Firm Size	0.002*	0.001
	(0.001)	(0.001)
Firm Age	-0.008***	-0.009**
	(0.003)	(0.003)
Observations	23,359	21,413
Adj. R-squared	0.036	0.038
State Controls	YES	YES
Target State, Industry and Year FE	YES	YES
Acquirer Industry FE	YES	YES
Exclude Dispersed Industries	NO	YES