

## **Internet Appendix**

### **Do Employee Interests Affect Target Board Decisions About Acquisition Offers? Evidence from Changes in Unemployment Insurance**

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## 1. Descriptive Statistics of State UI Levels and Their Changes Over Time

Figure IA.1 plots changes in UI level and GDP per capita in U.S. states over four equally divided subperiods between 1986 and 2018. States are classified into quartiles based on changes in their UI levels and GDP per capita growth rates over each subperiod respectively. One clear observation from this figure is that there is no discernible relation between UI growth and GDP per capita growth at the state level for any of the subperiods. Figure IA.2 plots the UI level of each state by year, where UI level is calculated as the product of the maximum weekly benefits and the maximum duration of the benefits in weeks under the UI schedule for that state-year.

In Table IA.1, we estimate individual correlations of state UI levels with state GDP, state unemployment rate, state union coverage, and gubernatorial elections after conditioning on state and year fixed effects. The results, which are reported in columns 1-5 of Table IA.1, show no evidence of any significant correlation between changes in state UI level and changes in any of these measures of statewide macroeconomic conditions and political uncertainty during our 1986-2018 sample period. In columns 6-10 of Table IA.1, we show in state-panel regressions that state UI levels are not correlated with contemporaneous or lagged statewide acquisition ratios of the firms headquartered in the state based on the Compustat database.

Table IA.2 reports the mean and standard deviation of UI levels in each state and the number of large UI changes in each state between 1986 and 2018. A large UI change is defined as an annual change in UI level of above 10% of the previous year's level. The table shows significant differences across states in mean UI levels. Within a state, UI levels also exhibit large time-series variations as indicated by the large standard deviations shown in column 5. Although most within-state UI changes are moderate, large changes (defined as a change exceeding 10% of the UI level in the prior year) are not uncommon (see column 6). Among the top five headquarters states by the number of firm-year observations in our sample, California had five large adjustments, New York had four, Massachusetts and Texas each had two, and Illinois had one.

Table IA.3 reports the dynamic effects of large UI rises on acquisition likelihoods. Figure 2 of the paper is based on this table. Table IA.4 examines whether changes in target state UI levels affect a host of deal characteristics, including the takeover premium, method of payment, deal value, deal duration, and deal attitude. This table is similar to Table 4 in the paper. The only difference is that this table is estimated using all acquisitions in our sample while Table 4 is estimated after excluding acquisitions where the target firms are in industries with geographically dispersed operations.

## **2. Falsification Tests using Bordering Counties' UI Levels**

One endogeneity concern about our baseline relation between target state UI level and acquisition likelihood is that some unobserved economic shocks drive both the state UI changes and the changes in state takeover activities. In this section, we address the same concern using a different approach than that presented in the main body of the paper. Specifically, we conduct a falsification test in which we examine whether UI levels in a firm's headquarters county's bordering counties in other states are positively correlated with the firm's acquisition likelihood. If unobserved economic conditions in the region including the firm's headquarters county and its bordering counties in other states are a primary determinant of the firm's headquarters state UI level, then the UI levels in the states of the firm's bordering counties should also be positively associated with the firm's acquisition likelihood. On the other hand, if state UI changes are not driven by state-year economic conditions, then we should find the UI levels in the other states of a firm's bordering counties are not associated with the firm's takeover likelihood.

In Table IA.5, we conduct such a test in which we restrict the sample to firms headquartered in bordering counties of bordering states. We replace a firm's true UI levels ('000) with the state UI levels of the bordering counties in other states, which we term a falsification UI level. If the focal county borders the counties of more than one other state, then we use the median UI levels in these other states. In columns 1 and 2 of Table IA.5, we estimate our baseline regression, but substitute a firm's falsification UI levels for the firm's true UI levels. We find that the falsification UI levels are not statistically correlated with the firm's takeover likelihood. In columns 3 and 4, we add back the firm's true state UI

levels to the regression. We find that the coefficient of the falsification UI levels remains insignificant, while the coefficient of the firm's true UI levels remains positive and statistically significant.

### **3. Robustness Checks**

#### *3.1. Controlling for Manager-Shareholder Conflicts of Interests*

Prior studies show that managerial interests can affect the willingness of target firms to accept takeover bids. To check the robustness of our results to controlling for managerial incentives, we repeat our baseline regression with a list of additional corporate governance controls shown by prior studies to affect a firm's willingness to accept a takeover bid. We include CEO ownership and CEO age to control for CEO influence, board size and an indicator for a majority independent board (more than 60% independent directors) to control for a board's monitoring effectiveness, and indicators for the existence of a staggered board and a poison pill to control for major target takeover defenses (Grossman and Hart, 1980; Cohen and Wang, 2013; Jenter and Lewellen, 2015; Karpoff and Wittry, 2018). The sample begins in 1996, which is the earliest year that corporate governance data is available in the ISS database. The results are reported in columns 1 and 2 of Table IA.6. In both columns, the target state UI level continues to have positive and significant (at the 5% level) coefficients. These results confirm that controlling for manager-shareholder conflicts of interest does not change our baseline result.

#### *3.2. Controlling for the Effects of UI Level Changes on Other Firm Policies*

Two prior studies use similar settings to ours and they find that increases in UI level in a firm's headquarters state raise the firm's financial leverage (Agrawal and Matsa, 2013) and CEO risk-taking incentives provided through compensation contracts (Ellul, Wang and Zhang, 2016).<sup>1</sup> Similar to our study, they find that changes in UI level in firms' headquarters states have a lagged effect on firm outcomes. Assuming that acquirers make takeover decisions one year before making their bids, acquirers may anticipate the effect of this year's change in target state UI level on the target firm's financial leverage and CEO compensation in the following year and make acquisition decisions based on such expectations.

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<sup>1</sup> These two papers are the most relevant to our study. Other studies using this setting focus on decisions of individuals rather than firms and thus are less relevant to our paper.

To control for the effect of such expectations, we add the expected target firm leverage ratio and CEO incentive compensation for the following year based on the UI change in the target firm's state this year to our baseline regression. Firm leverage is measured by market leverage (Agrawal and Matsa, 2013) and CEO risk-taking incentive compensation is measured by the ratio of the value of stock option grants to the value of total equity grants (Ellul, Wang and Zhang, 2016). The expected firm leverage and option-to-equity value of CEO compensation in year  $t$  are calculated as the values of these variables in year  $t-1$  plus the expected changes in these variables from year  $t-1$  to  $t$  according to the estimated relation between firms' headquarters state UI and these variables from the two prior studies respectively.<sup>2</sup>

Table IA.7 in the appendix reports this analysis. Our baseline specification includes state-industry and industry-year fixed effects. In columns 1 and 2, we add the expected firm leverage for the year following the change in the target state's UI benefits to the baseline specification. In columns 3 and 4, we further add the expected option-to-equity value of CEO compensation for the year following the change in the target state's UI benefits. We find that the UI coefficient remains positive and statistically significant after controlling for these two variables. Hence, we conclude that the relation between the target state's UI levels and acquisition likelihoods is not driven by the findings in these two prior studies.

### *3.3. Within-industry vs. Diversifying Acquisitions*

As a simple validity check that the target state UI level-acquisition likelihood relation is related to target employee unemployment risk, we estimate Equation (1) to predict the likelihoods of within-industry versus diversifying acquisitions respectively. Because within-industry acquisitions create more opportunities for acquirers to use layoffs to cut costs due to the greater business overlaps of acquirers and targets, they expose target employees to greater post-merger layoff risk (Dessaint, Golubov and Volpin, 2017). Thus, the target state UI level - acquisition likelihood relation should be more pronounced for within-industry acquisitions. We define a within-industry deal as one where the primary two-digit SIC

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<sup>2</sup> The coefficient for leverage is 0.024 and that for option-to-equity value of CEO compensation is 0.082.

codes of the acquirer and target are the same (John, Knyazeva and Knyazeva, 2015; Jenter and Lewellen, 2015).<sup>3</sup> The remaining acquisitions are defined as diversifying acquisitions.

We separately estimate the target UI level - acquisition likelihood relation for within-industry and diversifying deals using Equation (1). The results of this subsample analysis are reported in columns 1 through 4 of Table IA.8. Consistent with our prediction, target state UI levels only exhibit a statistically significant relation to the likelihood of within-industry acquisitions. To see if the effects on the two types of acquisitions are statistically different, we estimate a linear probability model to predict the likelihood of a within-industry acquisition conditional on an acquisition occurring, which are presented in columns 5 and 6. The sample consists of all completed acquisitions in our sample. The dependent variable equals 1 if the acquisition is a within-industry acquisition and 0 otherwise. We find that increases in target UI levels significantly raise the likelihood of within-industry acquisitions relative to diversifying acquisitions.

#### *3.4. Cross-sectional Variation with Labor Skill*

Mergers and acquisitions can have very different impacts on low and high-skilled workers. Low-skilled workers not only face a higher risk of being laid off after an acquisition, but they are also likely to stay unemployed longer after they are laid off (Lagaras, 2017). Meanwhile, UI level increases are likely to make a larger difference in the lives of low-skilled workers than that of high-skilled workers because the former group tends to have low wages and savings. Hence, if the UI effect is driven by its impact on employee unemployment costs, then it should be more pronounced for firms employing more low-skilled workers.

To test this high versus low skilled labor prediction, we first construct an industry-level skill index using Occupational Employment Statistics (OES) data from the Bureau of Labor Statistics (BLS) and the O\*NET program classification of occupations by skill levels, following the method used by Ghaly, Dang, and Stathopoulos (2017). The index level equals the employment-weighted average skill level of the

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<sup>3</sup> Our results are robust to using 3-digit SIC codes or Fama and French 48 Industries to define the acquisition type.

occupations within an industry.<sup>4</sup> A low index level indicates that the industry employs a greater share of low-skilled workers. We then estimate Equation (1) with two added explanatory variables: an indicator for low-skilled industry and its interaction with UI level. Table IA.9 reports the results. We find that the coefficient estimates of  $UI\ Level \times Low\ Skill\ Industry$  are positive and statistically significant at the 1% level, indicating that UI has a significantly larger effect on firms in low-skilled industries.

### *3.5. The Relation of State UI Level and State Acquisition Ratio*

In this section, we examine if the effect of a state UI level change on the firm-level acquisition likelihood in the state is detectable at the aggregate state level. If an increase in the state UI benefit level can increase the likelihood of a firm headquartered in that state being acquired, then in aggregate we should be able to observe a higher proportion of firms in that state being acquired. To test this prediction, we estimate a state-panel regression where the dependent variable is the state acquisition ratio in a given year and the key independent variable is the state UI level lagged by one year. The state-level acquisition ratio equals the percentage of firms headquartered in the state based on the Compustat database that are acquired in a given year. For state years with no Compustat firms being acquired, the acquisition ratio is set to zero. The results are presented in Table IA.10. Column 1 presents the model with state and year fixed effects. Standard errors are clustered by state. The coefficient of the state's UI level is positive and statistically significant at the 10% level. In column 2, we estimate a first difference model where the dependent variable and all the independent variables are measured in the changes from the previous year. The coefficient of the change in state UI level is positive and statistically significant at the 5% level. Thus, we find that the relation between target state UI level and acquisition likelihood observed at the firm level is also detectable at the aggregate state level.

### *3.6. State Level Test of the Constituency Statute Adoption*

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<sup>4</sup> Our industry skill index begins in 1999, the first year in which the O\*NET data can be matched with the OES data. The index is constructed at the 3-digit Standard Industrial Classification (SIC) industry level for the pre-2002 period and at the 4-digit North American Industry Classification System (NAICS) for the period beginning in 2002 because these are the industry definitions used by the OES database for these two subperiods.

In this section, we repeat our test of a state’s adoption of a constituency statute on the relation between target state UI level and firm-level acquisition likelihood for firms with the same headquarters state and with the same incorporation state. The unit of observation is all headquarters-incorporation state pairs in our main analysis sample. The dependent variable is the percentage of Compustat firms in each intersection that are acquired in a given year, such as the percentage of Compustat firms incorporated in Delaware and headquartered in California that are acquired in 2006. We then estimate a headquarters state-incorporation state-panel regression where the key explanatory variables are: the UI level in the headquarters state, an indicator for the adoption of a constituency statute in the incorporation state, and the interaction of the two,  $UI_{h,t-1} \times CS_{s,t-1}$ . We control for headquarters-incorporation state fixed effects and year fixed effects.

Table IA.11 presents the results. Column 1 only includes terms associated with the adoption of the constituency statute, while in column 2 we add terms associated with the adoption of other second-generation state antitakeover laws, which include business combination statutes, control share acquisition statutes, and fair price statutes, and poison pill statutes.<sup>5</sup> In both models, we find that the coefficient on  $UI_{h,t-1} \times CS_{s,t-1}$  is positive and statistically significant at the 5% level, suggesting that UI level changes in a state have a larger effect on firms headquartered in the state and incorporated in a state that adopted a constituency statute by the current year than on firms headquartered in the state and incorporated in a state that has not adopted a constituency statute by that year. This effect is detected from the acquisition ratios in each intersection of headquarters state and incorporation state. This is consistent with our firm-level result reported in Table 5 of the paper.

### *3.7. Target State UI Levels and the Deal Completion Rate*

In this section, we examine whether the UI effect on acquisition likelihoods is driven by changes in deal characteristics rather than by the target boards’ consideration of employee unemployment costs. If

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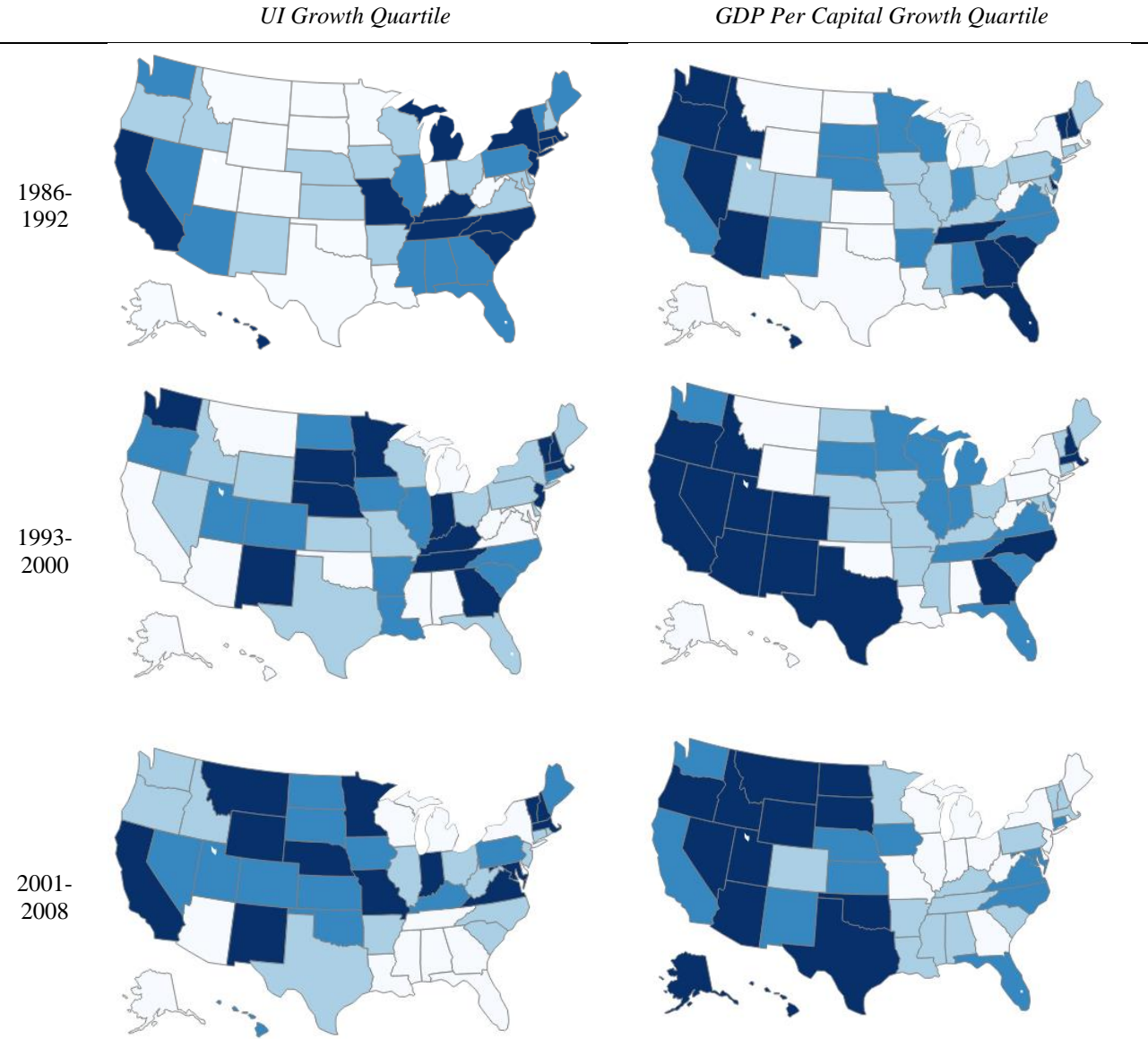
<sup>5</sup> For a summary of these laws, see the Appendix to Karpoff and Witty (2018). We do not control for the adoption of the first-generation state antitakeover laws because our sample begins after 1982.

increases in target UI level, for some reason, make deal terms more attractive to target boards, then they will be more likely to accept acquisition offers independent of any employee considerations.

To rule out this alternative explanation, we use a sample of initiated deals and regress an indicator for a completed deal on the target state UI level while controlling for a battery of deal characteristics that are known to affect deal completion rates, which include indicators for competing bidders, friendly deals, toehold, stock acquisitions, cash acquisitions, and the SDC deal premium. The results are presented in Table IA.12. We find that, conditional on an acquisition offer being made, target state UI levels are significantly positively associated with deal completion likelihood. This is consistent with our main hypothesis that target boards are more willing to accept acquisition offers following an increase in the target state UI level. Due to a smaller sample size, we only include target state fixed effects and year fixed effects in these regressions.

**Figure IA.1**

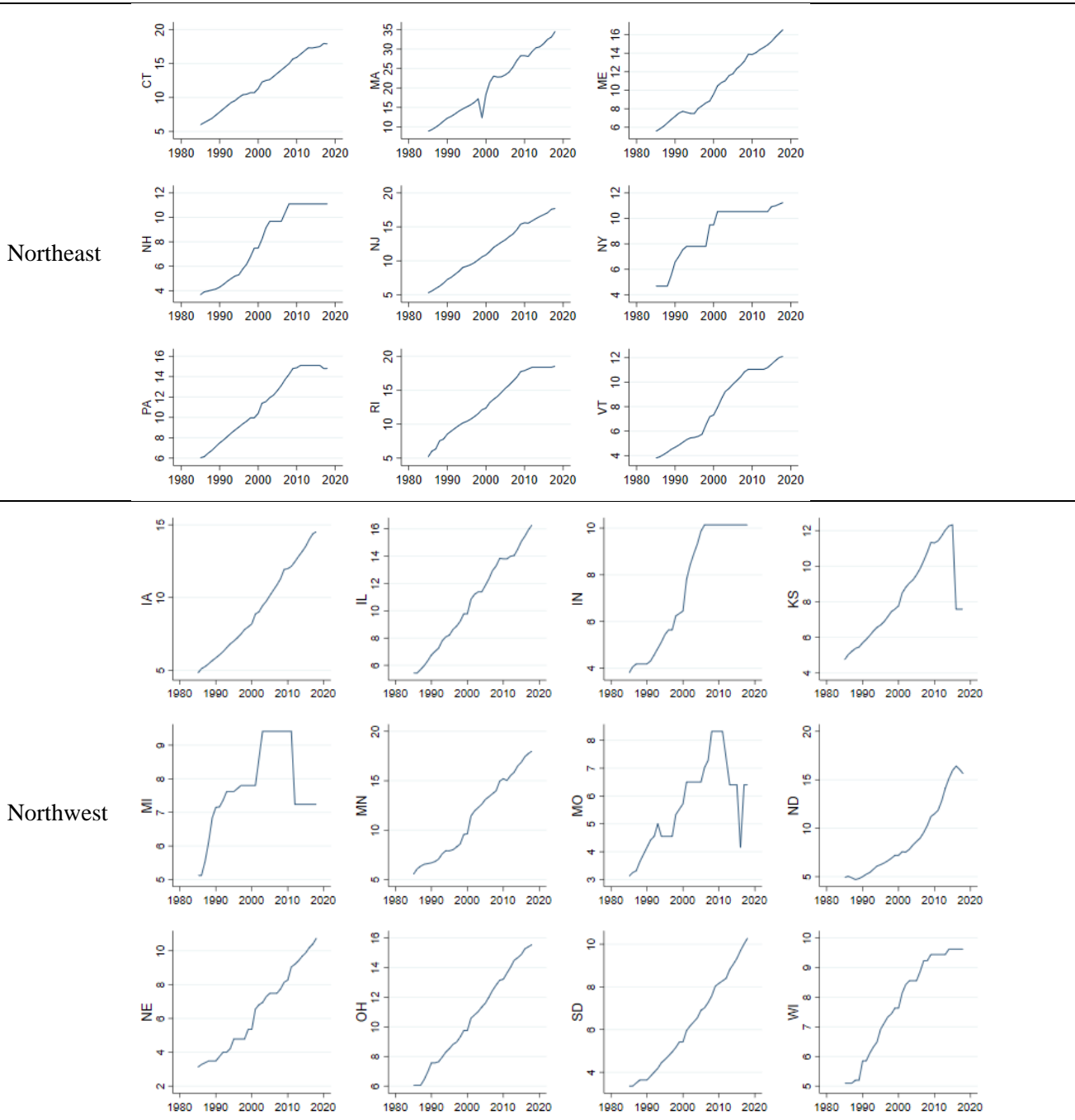
This figure plots quartiles of UI growth and GDP per capita growth over four equally divided subperiods between 1986 and 2018. The UI growth rate over each subperiod is calculated as the state UI level at the end of the subperiod minus that at the beginning of the subperiod divided by the state UI level at the beginning of the period. The GDP per capita growth over each subperiod is calculated similarly. We then classify states within each subperiod into four quartiles based on the UI level growth rate and plot them on the left panel of the figure. Similarly, we classify states within each subperiod into four quartiles based on the GDP per capita growth rate and plot them on the right panel of the figure.



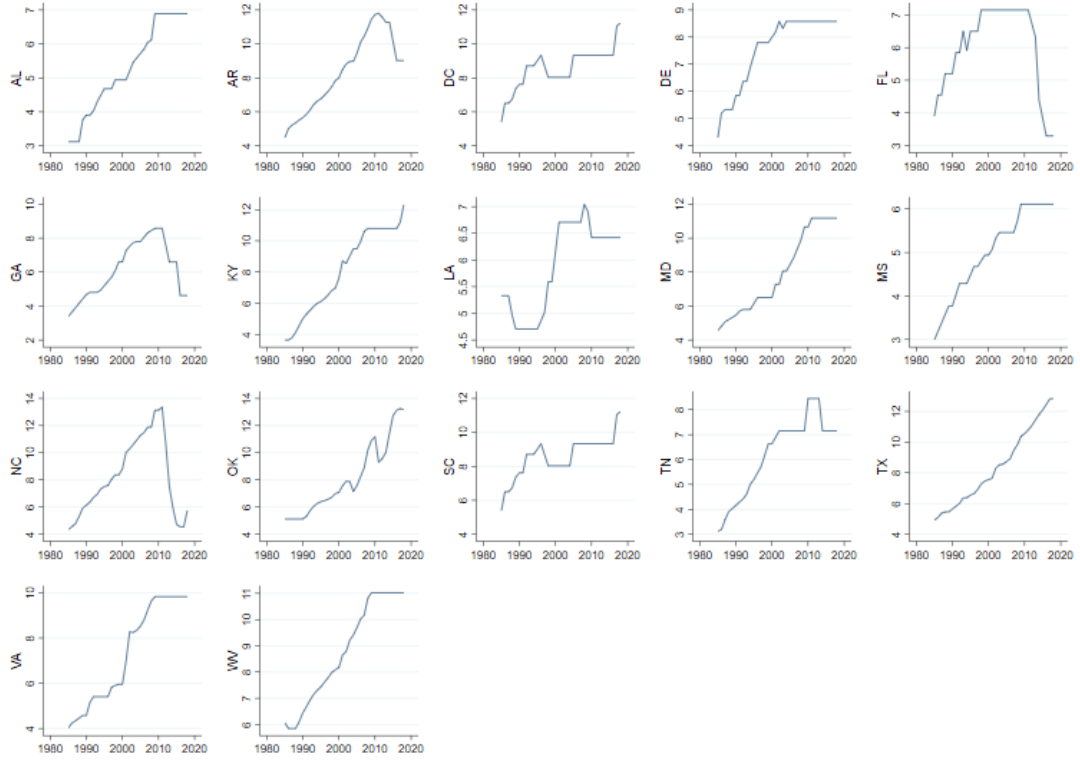


**Figure IA.2. Level of UI Benefits ('000) by regions 1986-2018**

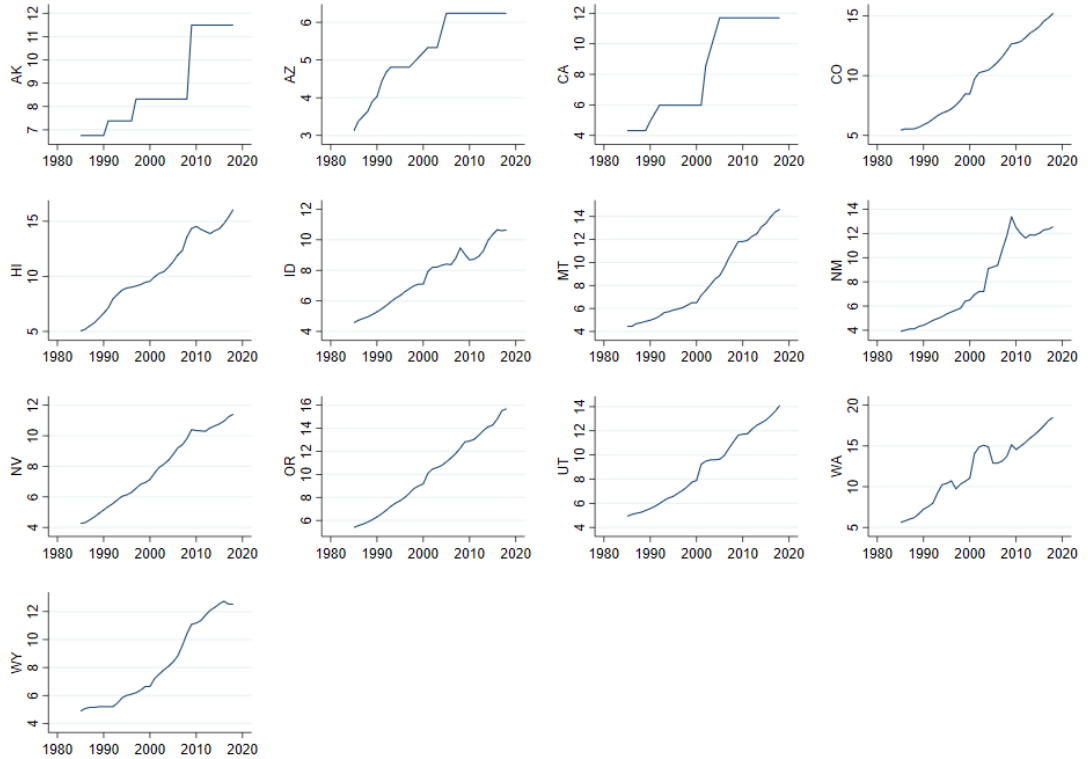
These plots present the levels of UI benefits ('000) of each state. The sample period is 1986 - 2018.



South



West



**Table IA.1: State UI level and State Economic Conditions and Gubernatorial Election**

This table summarizes the results from state-panel regressions of state UI level, measured in thousands of dollars, on controls for state economic conditions, state gubernatorial election year indicator, and lagged and contemporaneous state acquisition ratios and state and year fixed effects. The state acquisition ratio equals the proportion of firms in Compustat database headquartered in a state that are acquired in a given year. Variable definitions are provided in Table IA.13. 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)	(5)	(6)	(7)	(8)	(9)	(10)
	UI level ('000)									
Log GDP Per Capita	1.4019									
	(1.4722)									
Average Wage ('000)		0.1216								
		(0.1123)								
Election Year			-0.0016							
			(0.0328)							
Unemployment Rate				0.1088						
				(0.0768)						
Union Coverage					-0.0033					
					(0.0818)					
Deal Ratio t						0.2185				0.1679
						(0.3825)				(0.4463)
Deal Ratio t-1							-0.0060			-0.0061
							(0.3841)			(0.4019)
Deal Ratio t-2								0.0700		0.0746
								(0.3555)		(0.3781)
Deal Ratio t-3									0.0557	0.0694
									(0.3313)	(0.3768)
Observations	1,683	1,683	1,683	1,683	1,683	1,683	1,683	1,683	1,632	1,632
State and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.8506	0.8587	0.8496	0.8503	0.8496	0.8496	0.8496	0.8496	0.8512	0.8509

**Table IA.2: Summary of Unemployment Insurance Levels by state**

This table reports the summary statistics of UI levels by state. The UI level is calculated as the product of the maximum weekly UI benefit amount and the maximum duration of the benefits in weeks under each UI schedule for the regular UI program. 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 the number of deals, mean, and standard deviation of UI levels by state, measured in thousands of dollars. The last column reports the number of large annual UI changes (>10%) in either the plus or minus direction during our sample period from 1986 to 2018.

State	No. of Obs	No. of Deals	Mean ('000\$)	SD ('000\$)	Changes (>10%)
(1)	(2)	(3)	(4)	(5)	(6)
AK	24	1	9.52	1.72	3
AL	396	13	5.13	1.43	2
AR	426	13	8.34	2.08	2
AZ	1348	61	5.83	1.85	0
CA	13932	747	8.73	3.01	5
CO	2551	94	9.89	3.16	1
CT	1996	75	12.02	3.73	0
DC	144	4	8.80	1.11	4
DE	235	10	7.96	1.43	1
FL	3606	143	6.46	1.94	5
GA	2569	96	6.37	1.61	0
HI	127	3	11.12	3.15	2
IA	426	16	9.03	2.82	0
ID	157	10	7.91	2.14	1
IL	4089	157	10.50	3.30	1
IN	897	30	7.85	2.74	2
KS	430	17	8.35	2.24	0
KY	489	16	8.32	2.39	2
LA	417	16	5.91	0.99	2
MA	5078	221	20.78	7.93	2
MD	1420	72	8.02	2.25	3
ME	131	6	9.72	3.49	0
MI	1775	64	7.81	1.31	3
MN	2672	93	10.93	3.69	2
MO	1363	44	5.88	1.58	6
MS	146	9	4.87	0.80	0
MT	63	4	8.33	3.31	0
NC	1830	56	8.43	2.79	4
ND	41	2	7.69	3.64	1
NE	367	5	6.78	2.39	3
NH	384	21	7.88	3.56	2
NJ	3422	159	11.39	3.68	1
NM	66	8	5.71	2.03	4
NV	732	24	8.23	2.24	0
NY	6330	228	8.95	2.11	4

OH	3118	89	10.44	2.96	0
OK	759	32	8.42	2.62	3
OR	869	33	10.17	2.72	0
PA	3492	112	11.14	3.10	0
RI	288	6	13.27	4.13	2
SC	355	13	6.26	1.39	2
SD	89	2	6.18	1.92	0
TN	1292	43	6.39	1.48	2
TX	9090	346	8.56	2.42	0
UT	758	28	9.20	2.84	1
VA	2189	95	7.72	2.40	3
VT	58	4	6.86	2.06	2
WA	1679	86	12.67	3.43	4
WI	1547	48	7.74	1.62	1
WV	61	2	8.78	1.87	0
WY	24	0	9.52	1.72	3
Total	85,723	3,477	9.63	4.60	88

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**Table IA.3: Dynamic Effects of a Large UI Rise on Acquisition Likelihoods**

This table presents coefficient estimates from a dynamic difference-in-differences model specified by Equation (2). Treatment firms consist of firms headquartered in states with a large UI rise. A large UI rise is defined as an annual rise in UI level from the previous year of at least 10%. For each large UI rise event, we keep the observations in the [-4,+4] year event window around the large UI rise where the year of the large UI rise is event year 0. Control firms consist of firms headquartered in bordering counties to the treatment firms in states that do not have a large UI rise over the [-6, +6] event years. The key independent variables are indicators *Large UI Rise* ( $-k$ ) which equals 1 for a treatment firm observation in event year  $k$  and zero otherwise. In both models, we control for firm and state characteristics. Firm characteristics include *ROA*, *R&D/Assets*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book*, *Firm Size* and *Firm Age*. State-level controls include *log GDP per capita*, *unemployment rate*, and *election year indicator*. For brevity, they are not reported. Variable definitions are provided in Table IA.13. All continuous variables are winsorized at the 1st and 99th percentiles. Robust standard errors are clustered at the headquarters state level. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1)	(2)
	<i>Acquisition</i> [0, 1]	
Large UI Rise (-4)	0.0076 (0.0076)	-0.0063 (0.0114)
Large UI Rise (-3)	-0.0066 (0.0054)	-0.0127* (0.0066)
Large UI Rise (-2)	-0.0041 (0.0049)	-0.0023 (0.0055)
Large UI Rise (0)	-0.0003 (0.0043)	-0.0045 (0.0046)
Large UI Rise (+1)	0.0156** (0.0061)	0.0134** (0.0067)
Large UI Rise (+2)	0.0108 (0.0088)	0.0133 (0.0087)
Large UI Rise (+3)	0.0157** (0.0061)	0.0170** (0.0068)
Large UI Rise (+4)	0.0162** (0.0068)	0.0164* (0.0083)
County-Industry FE	Yes	Yes
Year FE	Yes	Yes
Exclude Dispersed Ind.	No	Yes
N	17,814	14,818
Adj. R-squared	0.1201	0.1135

**Table IA.4: Target State UI Levels and Deal Characteristics**

This table examines the relation between target state UI levels and several deal characteristics. The sample consists of all announced deals in our sample. *SDC premium* is the takeover premium from the SDC database. *Target CAR* equals the target firm's cumulative market-adjusted abnormal stock returns (CAR) over the event window (-20, 1) where day 0 is defined as the takeover announcement date. *All-Stock* is an indicator for all-stock deals. *% Cash* equals to the percentage of cash payment in the transaction. *Deal Duration* equals the number of days between deal announcement and deal effective dates. *Deal Value* equals the natural logarithm of deal value. *Friendly Deal* is an indicator that equals 1 if the deal attitude is friendly and 0 otherwise. All columns include state-level controls (*log annual real GDP per capita*, *unemployment rate*, *gubernatorial year indicator*). Variable definitions are provided in Table IA.13. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Standard error is double-clustered by acquirer and target headquarters 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)	(7)
	SDC Premium	Target CAR	All Stock	% Cash	Duration	Deal Value	Friendly
Target UI level $t-1$	0.0022 (0.0046)	0.0028 (0.0034)	-0.0020 (0.0033)	0.5316 (0.4778)	0.7807 (0.7274)	0.0051 (0.0122)	0.0010 (0.0034)
Target Size	-0.0597*** (0.0057)	-0.0772*** (0.0037)	-0.0019 (0.0077)	-0.4509 (0.9106)	38.7584*** (3.0517)	0.5962*** (0.0376)	-0.1204*** (0.0102)
Acquirer Size	0.0414*** (0.0060)	0.0571*** (0.0029)	-0.0386*** (0.0073)	3.9440*** (0.8164)	9.6480*** (1.3274)	0.1245*** (0.0212)	-0.0095** (0.0040)
Target Market-to-Book	0.0049 (0.0121)	0.0236*** (0.0087)	-0.0212** (0.0084)	-3.1375*** (0.7397)	-11.7756*** (3.7786)	0.0089 (0.0414)	0.0085 (0.0106)
Acquirer Market-to-Book	0.0036 (0.0130)	0.0077 (0.0080)	-0.0626*** (0.0139)	3.7772** (1.6235)	-12.9185*** (1.5079)	0.2546*** (0.0322)	0.0697*** (0.0095)
State Level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Excluded Dispersed Industries	No	No	No	No	No	No	No
N	1,636	2,000	2,050	2,050	2,050	2,023	2,050
Adj. R-squared	0.0993	0.2327	0.1316	0.1637	0.2277	0.6346	0.3025

**Table IA.5: Falsification Tests Using Bordering States' UI Levels**

This table reports the results from a falsification test using bordering states' UI benefits. The sample is restricted to firms that are headquartered in counties bordering out-of-state counties. We replace a firm's true UI levels ('000) with UI levels of bordering counties. If a county borders with counties in more than one state, we use the median UI levels. The dependent variable is an indicator that equals 1 if the firm is the target of a takeover bid announced in a given year, and 0 otherwise. All models control for firm and state characteristics. For brevity, we do not report them. Firm characteristics include *ROA*, *R&D expense*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book Ratio*, *Firm Size* and *Firm Age*. State-level controls include *Log annual GDP per capita*, *Unemployment rate*, *Gubernatorial election year indicator*. Industries are defined by two-digit SIC codes. Variable definitions are provided in Table IA.13. 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)
	<i>Takeover [0, 1]</i>			
Bordering County UI level $t_{-1}$	0.0001 (0.0009)	0.0004 (0.0009)	0.0006 (0.0010)	0.0011 (0.0011)
Target UI level $t_{-1}$			0.0022** (0.0008)	0.0025*** (0.0009)
Paired County FE	Yes	Yes	Yes	Yes
Region $\times$ Year FE	Yes	Yes	Yes	Yes
Industry $\times$ Year FE	Yes	Yes	Yes	Yes
Exclude Dispersed Industries	No	Yes	No	Yes
N	31,441	27,016	31,441	27,016
Adj. R-squared	0.0072	0.0085	0.0077	0.0092

**Table IA.6: Controlling for Corporate Governance**

This table reports robustness checks on the relation between UI level and takeover likelihood found in Table 3. The dependent variable is an acquisition indicator which equals 1 if the firm is the target of an acquisition bid announced in the year, and 0 otherwise. The key explanatory variable is the UI level in the target firm's headquarters state in the year prior to the takeover announcement. All models control for firm and state characteristics. For brevity, we do not report them. Firm characteristics include *ROA*, *R&D expense*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book Ratio*, *Firm Size* and *Firm Age*. State-level controls include *Log annual GDP per capita*, *Unemployment rate*, *Gubernatorial election year indicator*. All independent variables are lagged by one year with respect to the dependent variable. Industries are defined by two-digit SIC codes. Variable definitions are provided in Table IA.13. 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)
	<i>Acquisition [0,1]</i>	
Target UI level $t_{-1}$	0.0038** (0.0014)	0.0043*** (0.0014)
Staggered Board	0.0013 (0.0035)	-0.0009 (0.0038)
Poison Pill	-0.0724*** (0.0043)	-0.0769*** (0.0053)
CEO Ownership	0.0007 (0.0008)	0.0008 (0.0008)
Independent Board	0.0090* (0.0045)	0.0103* (0.0052)
Board Size	-0.0005 (0.0009)	-0.0001 (0.0010)
CEO Age	0.0039** (0.0017)	0.0051** (0.0019)
CEO Age <sup>2</sup>	-0.0000** (0.0000)	-0.0000*** (0.0000)
CEO Tenure	-0.0050** (0.0021)	-0.0038 (0.0023)
State $\times$ Industry FE	Yes	Yes
Industry $\times$ Year FE	Yes	Yes
Region $\times$ Year FE	Yes	Yes
Exclude Dispersed Industries	No	Yes
N	22,115	18,339
Adj. R-squared	0.0527	0.0539

**Table IA.7: Controlling for Expected Leverage and CEO Risk-Taking Incentive**

This table presents estimates of the effect of target UI on firm-level acquisition likelihood after controlling for expected changes in two firm policies that prior studies find that changes in UI benefits would induce. The two firm policies are firm leverage (Agrawal and Matsa, 2013) and the ratio of the value of option grants to the value of total equity grants to the CEO (Ellul, Wang and Zhang, 2015). The expected firm leverage and the option-to-equity ratio of CEO compensation are calculated based on the model estimates of the relations between lagged change in UI benefits and the current year changes in these variables in the two studies. Columns 1 and 2 are estimated using the full firm-year panel. Columns 3 and 4 are estimated using firms with corporate governance data available in the ISS database, which begins in 1996. All models control for firm and state characteristics. For brevity, we do not report them. Firm characteristics include *ROA*, *R&D expense*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book Ratio*, *Firm Size* and *Firm Age*. State-level controls include *Log annual GDP per capita*, *Unemployment rate*, *Gubernatorial election year indicator*. Industries are defined by two-digit SIC codes. Variable definitions are provided in Table IA.13. 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)
	<i>Acquisition [0, 1]</i>			
Target UI level $t-1$	0.0046*** (0.0017)	0.0049** (0.0018)	0.0044*** (0.0015)	0.0051*** (0.0015)
(Leverage) $_t$	0.0075 (0.0070)	0.0087 (0.0073)	0.0033 (0.0135)	0.0050 (0.0158)
(Option to Equity Ratio) $_t$			-0.0065*** (0.0014)	-0.0067*** (0.0015)
Staggered Board			0.0026 (0.0039)	0.0001 (0.0042)
Poison Pill			-0.0744*** (0.0043)	-0.0792*** (0.0053)
CEO Ownership			0.0007 (0.0008)	0.0008 (0.0008)
Independent Board			0.0102** (0.0048)	0.0116** (0.0055)
Board Size			-0.0004 (0.0010)	0.0001 (0.0011)
CEO Age			0.0037** (0.0018)	0.0051** (0.0021)
CEO Age <sup>2</sup>			-0.0000** (0.0000)	-0.0000** (0.0000)
CEO Tenure			-0.0048** (0.0022)	-0.0035 (0.0024)
State $\times$ Industry FE	Yes	Yes	Yes	Yes
Industry $\times$ Year FE	Yes	Yes	Yes	Yes
Region $\times$ Year FE	Yes	Yes	Yes	Yes
Exclude Dispersed Industries	No	Yes	No	Yes
N	80,921	69,070	20,115	16,703
Adj. R-squared	0.0597	0.0529	0.1424	0.1341

**Table IA.8: Differential Effects on Within-industry vs. Diversifying Acquisitions**

This table separately examines the effects of the target UI level on the likelihood of within-industry and diversifying acquisitions and the proportion of within-industry to diversifying deals announced in a state year. The dependent variable in columns 1 and 2 (columns 3 and 4) is an indicator that equals 1 if the firm is acquired in a within-industry (diversifying) acquisition and 0 otherwise. Industries are defined using 2-digit SIC codes. We exclude firm-years associated with diversifying (within-industry) acquisitions from our estimation when predicting within-industry (diversifying) acquisitions. Columns 5 and 6 estimate the relation between the target UI level and the proportion of within-industry acquisitions in a state year. The sample consists of all acquisitions in our sample. The dependent variable equals 1 if the acquisition is a within-industry acquisition and 0 if it is a diversifying acquisition. All models control for firm and state characteristics. Firm characteristics include *ROA*, *R&D/Assets*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book*, *Firm Size* and *Firm Age*. State-level controls include *log GDP per capita*, *unemployment rate*, and *election year indicator*. For brevity, we do not report them. Variable definitions are provided in Table IA.13. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error clustered at the target firm 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)	(5)	(6)
	Within-Industry Deals		<i>Acquisition [0, 1]</i> Diversifying Deals		<i>Prop. Within Industry Deals</i>	
Target UI level $t-1$	0.0025*** (0.0009)	0.0028*** (0.0010)	0.001 (0.001)	0.0011 (0.0008)	0.0124*** (0.0043)	0.0130*** (0.0042)
State-Industry 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
N	84,429	72,020	83,538	71,236	3,479	3,038
Adj. R-squared	0.0162	0.0131	0.023	0.0229	0.0280	0.0647

**Table IA.9: Acquisition Likelihoods in Low versus High-Skill Industries**

This table examines the heterogeneity in the relation between target UI levels and takeover likelihoods between firms in high and low-skill industries. The sample period is from 1999 to 2018. Industries are defined using 3-digit SIC codes for the pre-2012 period and the 4-digit NAICS codes for 2012 and onwards. *Industry Skill* is calculated as a weighted average skill index for each occupation in each industry-year following Ghaly et al (2017). *UI level* is demeaned by subtracting the mean UI level for the sample before being interacted with the *Industry Skill*. All models control for firm and state characteristics. For brevity, we do not report them. Firm characteristics include *ROA*, *R&D expense*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book Ratio*, *Firm Size* and *Firm Age*. State-level controls include *Log annual GDP per capita*, *Unemployment rate*, *Gubernatorial election year indicator*. Variable definitions are provided in Table IA.13. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard errors are clustered at the headquarters state and 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)
	<i>Acquisition [0, 1]</i>			
Target UI level <sub>t-1</sub>	0.0031** (0.0012)	0.0035*** (0.0012)	0.0035*** (0.0011)	0.0038*** (0.0011)
Low Skill Industry	0.0105* (0.0053)	0.0112** (0.0054)		
Target UI level <sub>t-1</sub> × Low Skill Industry	0.0029** (0.0012)	0.0031** (0.0013)	0.0026** (0.0012)	0.0028** (0.0013)
State-Industry FE	Yes	Yes	Yes	Yes
Industry-Year FE	No	No	Yes	Yes
Year FE	Yes	Yes	No	No
Exclude Dispersed Industries	No	Yes	No	Yes
N	40,747	35,290	40,251	34,968
Adj. R-squared	0.0313	0.0298	0.0077	0.0112

**Table IA.10: The Relation between State UI Level and State Acquisition Ratio**

This table examines the relation between state UI levels and state acquisition ratios. Column 1 presents a linear probability model with state and year fixed effects. The dependent variable is the percentage of Compustat firms headquartered in the state that are acquired in a given year and the key independent variable is the state UI level lagged by one year. Column 2 presents the first difference model at the state level. The dependent variable is the change in the percentage of Compustat firms that are acquired from last year to this year. Similarly, the key independent variable is the lagged change in the state's UI levels from last year to this year. Variable definitions are provided in Table IA.13. The standard error is clustered by state and is reported in the parenthesis. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels using two-tailed tests, respectively.

	(1) <i>Acquisition Ratio</i>	(2) <i>Δ Acquisition Ratio</i>
State UI level $t-1$	0.0021*	
	(0.0011)	
Log GDP per capita	-0.0109	
	(0.0201)	
Election year indicator	0.0041	
	(0.0075)	
Unemployment rate	-0.4527	
	(0.2881)	
Δ State UI level t-1		0.0112**
		(0.0055)
Δ Log GDP per capita		0.0072
		(0.0846)
Δ Election year indicator		0.0073
		(0.0076)
Δ Unemployment rate		-0.8661
		(0.8277)
State FE	Yes	No
Year FE	Yes	Yes
N	1,623	1,566
Adj. R-squared	0.0687	0.0162

**Table IA.11: Adoption of Constituency Statute and the UI Effect at the Incorporation-Headquarters State Level**

This table examines the effect of the adoption of a constituency statute in a state on the relation between headquarters state UI level and acquisition likelihood for firms incorporated in the constituency state at the aggregate incorporation-headquarters state level. The dependent variable equals the percentage of firms incorporated in state  $i$  headquartered in state  $h$  that as reported in Compustat that are acquired in a given year. We calculate this ratio for each combination of incorporation and headquarters states in each year over our sample period. The key independent variable is the UI level in the headquarters state. *Constituency Statute* equals 1 if the incorporation state adopted the statute before that year, and 0 otherwise. Variable definitions are provided in Table IA.13. Robust standard error is clustered by headquarters 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)
	<i>Acquisition Ratio</i>	
A: Target UI level $t-1$	0.0009 (0.0011)	0.0008 (0.0011)
Constituency Statute	-0.0184 (0.0133)	-0.0268* (0.0146)
A $\times$ Constituency Statute	0.0036** (0.0015)	0.0038** (0.0016)
Business Combinations Law		0.0207 (0.0137)
Poison Pill Law		0.0138* (0.0081)
Control Shares Acquisition Law		0.0099 (0.0127)
Fair Price Law		-0.0337** (0.0130)
Incorporation-Headquarters State FE	Yes	Yes
Year FE	Yes	Yes
N	7,245	7,245
Adj. R-squared	0.0771	0.0778

**Table IA.12: Target State UI Levels and Deal Completion Rate**

This table examines the effect of UI benefits on deal completion likelihood in a sample of initiated deals. The dependent variable is an indicator that equals 1 for completed deals and 0 otherwise. The key independent variable is the UI level in the headquarters state. All models control for firm and state characteristics. For brevity, we do not report them. Firm characteristics include *ROA*, *R&D expense*, *Leverage*, *Sales Growth*, *PPE/Assets*, *Market-to-Book Ratio*, *Firm Size* and *Firm Age*. State-level controls include *Log annual GDP per capita*, *Unemployment rate*, *Gubernatorial election year indicator*. Variable definitions are provided in Table IA.13. All continuous variables (except UI levels) are winsorized at the 1st and 99th percentiles. Robust standard error is clustered by headquarters 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)
	<i>Complete [0, 1]</i>	
Target UI level $t_{-1}$	0.0035** (0.0015)	0.0033** (0.0016)
SDC Premium	0.0367*** (0.0091)	0.0345*** (0.0093)
Competing Bids	-0.0477*** (0.0131)	-0.0695*** (0.0135)
Friendly	0.2701*** (0.0191)	0.2683*** (0.0198)
Toehold	-0.6640*** (0.0210)	-0.6706*** (0.0222)
Stock Acquisition	-0.0262** (0.0122)	-0.0267* (0.0134)
Cash Acquisition	0.0089 (0.0106)	0.0054 (0.0104)
State FE	Yes	Yes
Year FE	Yes	Yes
Exclude Dispersed Industries	No	Yes
N	4,097	3,565
Adj. R-squared	0.8256	0.8314

**Table IA.13: Variable Description**

<b>Variable Name</b>	<b>Description</b>
Acquisition [0, 1]	An indicator variable that 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 Platinum Database.
Board Independence	An indicator variable which equals 1 if over 60% of directors are independent and 0 otherwise. Source: ISS Database.
Board Size	The number of directors on the board in each annual board meeting. Source: ISS Database.
Business Combination Law	Equals to 1 after a firm's incorporated state passed Business Combination Law, and 0 otherwise. Source: Karpoff and Wittry (2018).
Constituency Statute	Equals to 1 after a firm's incorporated state passed Constituency Statute (Directors Duty Law), and 0 otherwise. Source: Karpoff and Wittry (2018).
Control Shares Acquisition Law	Equals to 1 after a firm's incorporated state passed Control Shares Acquisition Law, and 0 otherwise. Source: Karpoff and Wittry (2018).
Deal Duration	The number of days between deal announcement and deal become effective. Source: SDC Platinum Database.
Deal Ratio	The number of deals in each state-level divided by the number of public firms in each state. Source: SDC Platinum and Compustat Fundamental Annual Databases.
Deal Value	Natural log of deal value in millions. Source: SDC Platinum Database.
Election Year Indicator	An indicator variable that equals 1 for the year of the gubernatorial election, and 0 otherwise. Source: National Governors Association (NGA).
Fair Price Law	Equals to 1 after a firm's incorporated state passed Fair Price Law, and 0 otherwise. Source: Karpoff and Wittry (2018).
Female ID	An indicator variable which equals 1 if a firm has at least one independent female board member, and 0 otherwise. Source: ISS Database.
Firm Age	Number of years since becoming publicly listed. Source: CRSP.
Firm Size	Natural log of market capitalization of the target (acquirer). Source: Compustat Fundamental Annual.
Friendly Deal	An indicator that equals 1 of a deal is friendly, and 0 otherwise. Source: SDC Platinum Database.
High Labor Intense	Equals 1 if a firm operates in an industry with above-median labor intensity and 0 otherwise. Labor intensity is measured as the ratio of total employment over total output at the industry level across our sample period (John <i>et al.</i> , 2015). Source: Bureau Labor Statistics.
High Local Social Capital	An indicator that equals 1 if the level of social capital in the firm's headquarters county is in the top quartile of the U.S. counties and 0 otherwise. Social capital is the first component from a principal component analysis on census mail response rate, the votes cast in the presidential election, the number of social organizations, and the number of nonprofit organizations per 10,000 people. Source: Rupasingha, Goetz and Freshwater (2006).

High Short-Term IO	An indicator that equals 1 if a firm's short-term institutional ownership is above the sample median for the year and 0 otherwise. Short-term institutional ownership is calculated following Gaspar, Massa and Matos (2005). Source: Thomas Reuters 13F filings.
Highly Unionization	An indicator variable that equals 1 if the time-series average of the union coverage rates in a firm's 2-digit SIC industry during our sample period is above the sample median of these time-series averages across industries, and 0 otherwise. average industry-level union coverage 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).
Large UI Rise	Equals to 1 for the years that experience at least 10% increase of UI benefits in year $t$ , but do not have other large increases during the $[t-6, t+6]$ year window. Source: Bureau of Economic Analysis (BEA).
Leverage	The sum of long- and short-term liabilities divided by total book value of assets. Source: Compustat Fundamental Annual Database.
Log (Combined No. of Employees)	Natural logarithm of the combined number of employees in the acquirer and the target. Source: Compustat Fundamental Annual Database.
Log GDP Per Capita	Natural log of state annual real GDP divided by state population. Source: Bureau of Economic Analysis (BEA).
Low Local Population	An indicator that equals 1 if a firm's headquarters county population is in the bottom quartile of the U.S. counties in the year and 0 otherwise. Source: Bureau of Economic Analysis (BEA).
Market to Book	Fiscal-year-end market value of equity plus book value of liabilities divided by total assets. Source: Compustat Fundamental Annual Database.
Percent of Cash Payment	The percentage of payment made by cash. Source: SDC Platinum Database.
Poison Pill Law	Equals to 1 after a firm's incorporated state passed Poison Pill Law, and 0 otherwise. Source: Karpoff and Wittry (2018).
Post-Merger	Equals to 1 for the years after deal completion and 0 for the years before deal completion. Source: SDC Platinum Database.
PPE/Assets	Book value of property, plant and equipment divided by the book value of total assets. Source: Compustat Fundamental Annual Database.
R&D Expense	Research & Development expenditure divided by total assets. If the R&D expenditure is missing, the R&D expense is set to 0. Source: Compustat Fundamental Annual Database.
ROA	Operating income before depreciation divided by total assets. Source: Compustat Fundamental Annual Database.
Sales Growth	Sales changes in year $t$ relative to year $t-1$ . Source: Compustat Fundamental Annual Database.
SDC Premium	The takeover premium from the SDC Platinum database. It is calculated as the difference between the offer price and the target's stock price four weeks before the announcement divided by the latter price. Source: SDC Platinum Database.
State Acquisition Ratio	The state acquisition ratio is defined as the proportion of firms in the Compustat database headquartered in the state that are acquired in the year. Source: SDC Platinum Database and Compustat Fundamental Annual. An indicator that equals 1 of a deal is 100% paid by stock, and 0 otherwise.

All Stock	Source: SDC Platinum Database.
Target CAR	The target firm's cumulative market-adjusted abnormal stock returns (CAR) over the event window (-20, 1) where day 0 is defined as the takeover announcement date. Source: CRSP and SDC Platinum Database.
Target UI level	The maximum amount of total UI benefits offered by the regular UI program in a target headquarters state-year. It is calculated as the maximum amount of weekly benefits $\times$ 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: Bureau of Economic Analysis (BEA).
Unemployment Rate	Average monthly State Unemployment Rate for each year. Source: Bureau of Economic Analysis (BEA).

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## References

- Agrawal, A., Matsa, D., 2013. Labor unemployment risk and corporate financing decisions. *Journal of Financial Economics*, 108(2), 449–470.
- Cohen, A., Wang, C. C. Y., 2013. How do staggered boards affect shareholder value? Evidence from a natural experiment. *Journal of Financial Economics*, 110(3), 627–641.
- Ellul, A., Wang, C., Zhang, K., 2016. Labor unemployment risk and CEO incentive compensation. Unpublished working paper. University of Indiana
- Ghaly, M., Anh Dang, V. and Stathopoulos, K., 2017. Cash holdings and labor heterogeneity: the role of skilled labor. *The Review of Financial Studies*, 30(10), pp.3636-3668.
- Grossman, S. J., Hart, O. D., 1980. Takeover bids, the free-rider problem, and the theory of the corporation. *The Bell Journal of Economics*, 42–64.
- Jenter, D., Lewellen, K. 2015. CEO preferences and acquisitions. *The Journal of Finance*, 70(6), 2813–2852.
- John, K., Knyazeva, A. and Knyazeva, D., 2015. Employee rights and acquisitions. *Journal of Financial Economics*, 118(1), pp.49-69.
- Karpoff, J. M., Wittry, M. D. 2018. Institutional and legal context in natural experiments: The case of state antitakeover laws. *The Journal of Finance*, 73(2), 657–714.
- Lagaras, S., 2017. Corporate takeovers and labor restructuring. Available at SSRN 3222950.