

Hiring Under Separation Risk: Unemployment Insurance Taxes and the Geography of Job Postings

Finance Working Paper N° 1144/2026

October 2026

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This paper can be downloaded without charge from:
<https://doi.org/10.67929/ecgi-fin-1144-2026>

ECGI Working Paper Series in Finance

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Keywords: Unemployment insurance experience rating, workforce risk management, internal resource allocation, job postings, firm value

JEL Classification: G32, J23, J65, D22, R12

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Current Version: October 1, 2026

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Abstract

We study whether managers allocate new hiring across states to manage workforce-adjustment risk. U.S. unemployment insurance (UI) links employer tax rates partly to layoff histories, creating cross-state differences in prospective separation costs. Using Lightcast job postings matched to state UI rules from 2010–2024, we find that a one-standard-deviation increase in log-transformed maximum statutory UI tax liability per employee is associated with approximately 37% fewer expected postings. We find little evidence of lower firm-wide posting activity, consistent with geographic reallocation. Higher exposure is also associated with a lower share of full-time, non-internship postings. Geographic responses are stronger when expected separation costs are more salient and firms have greater geographic flexibility. Evidence from Title XII borrowing during 2020 further supports the interpretation that anticipated UI-related labor costs influence hiring allocation. A greater posting tilt toward lower-exposure states is associated with higher market valuation but lower realized profitability and short-run operating efficiency. These findings connect managerial discretion over internal hiring allocation to workforce-risk management and firm outcomes, highlighting a potential trade-off between anticipated separation-cost savings and the operating consequences of where firms deploy labor.

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1. Introduction

Firms with operations spanning multiple units or locations face variation in expected returns, costs, and risks across alternative internal uses of resources. A fundamental idea in theories of the firm is that, within firm boundaries, managers can use internal allocation mechanisms to coordinate activities and redirect resources across units (e.g., [Alchian and Demsetz, 1972](#); [Williamson, 1975](#); [Stein, 1997](#)). A large literature examines how firms make these allocation decisions. Early studies focus primarily on capital investment within diversified firms and document limited sensitivity of segment investment to cross-unit opportunities, raising questions about the efficiency of internal capital markets ([Shin and Stulz, 1998](#)). More recent research documents active resource reallocation within firm boundaries. For example, [Giroud and Mueller \(2015\)](#) show that firms respond to shocks to investment opportunities at one plant by reallocating both capital and labor across plants, while studies of business groups document similar reallocations across affiliated firms ([Almeida et al., 2015](#)). This literature shows that internal organization shapes how firms allocate resources across competing uses. Less is known about whether managers use the geographic placement of new vacancies as an *ex ante* internal allocation margin to manage prospective workforce-adjustment risk before employment relationships are formed.

Separation costs are an important determinant of firms’ investment and financing policies ([Serfling, 2016](#); [Bai et al., 2020](#)). For multi-unit firms, variation in these costs across locations may create an additional margin for internal resource allocation. Hiring is a distinctive allocation margin because each vacancy represents an intended employment commitment and a prospective worker–firm relationship. The value of that relationship depends not only on current staffing needs, but also on the cost of adjusting employment if the position is later terminated. Job postings allow us to observe this decision before the employment relationship is formed, when managers retain discretion over where to direct new hiring commitments and what type of position to create. For a multi-location firm, the state in which a vacancy is posted determines where the firm seeks to add workers and where it may incur future separation-related costs. When those costs differ across jurisdictions, managers can direct hiring toward locations with lower expected separation costs.

Unemployment insurance (UI) provides a useful setting for examining this allocation margin. In the United States, UI operates through a federal–state system and is financed by employer payroll taxes that are partly experience rated and largely determined at the state level. Experience rating links an employer’s payroll tax rate to its layoff history, so hiring a worker today may generate future tax obligations if that worker is later separated from

the firm. This feature links current hiring decisions to expected separation costs, consistent with models in which firing costs affect hiring through forward-looking considerations (Bentolila and Bertola, 1990; Lazear, 1990). Empirical evidence further shows that UI tax increases can reduce hiring and employment (Johnston, 2021). Variation across states in UI tax schedules, experience-rating formulas, and taxable wage bases means that multi-state firms face different expected separation costs when filling similar vacancies across locations. These cross-state differences make the geographic placement of new hiring commitments a managerial allocation choice.¹ Managers decide not only how much labor to hire, but also where within the firm to initiate employment relationships that carry different prospective separation costs.

To examine how firms respond to these differences in expected separation costs, we use Lightcast job postings from 2010 to 2024 to measure firms’ geographic recruiting footprints and match these postings to state-level UI policy rules. Our empirical design compares a firm’s postings across states within the same year. By including firm-by-year fixed effects, the specification absorbs common firm-level hiring demand and other time-varying firm characteristics. Identification therefore relies on cross-state variation in UI tax exposure within a firm’s recruiting footprint in a given year. This within-firm comparison tests whether managers adjust hiring geographically, directing new vacancies within the firm’s recruiting footprint away from states with greater expected separation-cost exposure and toward lower-exposure locations before employment relationships are formed.

To measure the cross-state differences in UI tax exposure underlying this comparison, we use statutory policy parameters, as employer-specific UI tax rates are not observed in our data. Following Guo (2024), we construct $MaxUIT$ as the statutory maximum UI tax rate multiplied by the taxable wage base. It measures maximum annual statutory UI tax liability per employee whose earnings reach the taxable wage base. We also construct $MinUIT$ by multiplying the statutory minimum tax rate by the same wage base, capturing annual liability at the lower end of the state’s statutory tax schedule. We interpret these measures as policy-based proxies for upper- and lower-bound UI tax exposure, not as precise measures of a firm’s additional future UI taxes generated by a separation.²

Our baseline results show that UI tax exposure shapes the within-firm allocation of hiring across states. Higher $MaxUIT$ is associated with fewer job postings, whereas the relation

¹For detailed comparisons of state UI tax rules, see U.S. Department of Labor, Employment and Training Administration, *Comparison of State Unemployment Insurance Laws*, and Anderson and Meyer (2000).

²The tax consequences of a separation depend on the employer’s position on the experience-rating schedule, the extent to which benefit payments are charged to its account, and how those charges affect subsequent tax liabilities (Anderson and Meyer, 2000; Ratner, 2013).

between *MinUIT* and postings is sensitive to specification, changing from negative to positive when *MaxUIT* is included. The estimated magnitudes are economically meaningful. A one-standard-deviation increase in $\log(1 + \text{MaxUIT})$ is associated with approximately 37% fewer expected postings at the firm–state–year level, equivalent to about five fewer postings when evaluated at the sample median of 14 postings. Results based on relative exposure further support a reallocation interpretation. Firms post more vacancies in states with lower UI tax exposure relative to the firm’s average across its hiring locations. At the firm level, we find little evidence that greater UI tax exposure reduces total posting activity, consistent with geographic reallocation rather than an overall contraction in recruiting. Firms also adjust the type of employment relationship they seek to establish, with a lower share of full-time, non-internship postings in states with greater UI tax exposure. Overall, the evidence is consistent with firms responding by reallocating new hiring commitments across states and changing the types of employment relationships they seek to establish, suggesting how managerial discretion over internal hiring allocation can shape firms’ exposure to expected separation costs.

To strengthen the identification analysis, we exploit state borrowing under Title XII of the Social Security Act. When state UI trust funds are depleted, states may borrow from the federal government to finance benefit payments. These borrowing episodes signal fiscal stress in state UI systems and may lead firms to anticipate higher future employer UI taxes through subsequent changes in tax schedules, taxable wage bases, or related financing adjustments. Although Title XII advances do not mechanically alter statutory employer tax rates or taxable wage bases, they provide a setting in which expected UI tax exposure may rise. We use this setting to examine whether firms reduce postings in states where future separation-related costs are expected to increase. A key concern is that firms’ geographic recruiting footprints may be endogenous. Firms may enter, exit, or expand in particular states for reasons correlated with UI financing pressure. We therefore hold firms’ pre-COVID recruiting footprints fixed by restricting the analysis to incumbent firm–state pairs with pre-shock postings and comparing changes in posting intensity within these existing recruiting relationships, without incorporating entry into new posting states.

The Title XII tests provide additional support for the baseline interpretation. Following the COVID shock, postings grow less or decline more in borrowing states than in non-borrowing states. Complementary tests examine changes in statutory UI tax exposure relative to each firm’s pre-COVID recruiting footprint. These tests permit state-by-year fixed effects and show stronger negative responses among firms with greater pre-COVID geographic flexibility. The result is robust to specifications that include state-by-year fixed effects, help-

ing to absorb contemporaneous state-level shocks. Comparable placebo tests outside the COVID period do not produce similar effects. These findings strengthen the interpretation that anticipated increases in UI-related separation costs contributed to the reallocation of postings away from borrowing states. Together, the evidence from pre-existing recruiting relationships, state-by-year fixed effects, and placebo tests makes it less likely that the results reflect broader pandemic-era disruptions or changes in the states in which firms recruit.

We then investigate whether the hiring-allocation response varies with the economic environment. If UI tax exposure operates through expected separation costs, the relation between UI tax exposure and job postings should be stronger when expected separation costs associated with new employment commitments are more salient. The evidence is consistent with this prediction. The negative association is more pronounced in states with higher layoff rates, consistent with firms placing greater weight on potential UI tax costs when local layoff activity signals a higher risk of having to reduce their own workforce in the future. It is weaker for firms with stronger sales growth, where greater demand raises the value of expanding employment and may lower the expected need for future workforce reductions. The relation is also stronger in more concentrated labor markets. In these markets, workers may have fewer outside options, potentially lengthening unemployment spells following a separation and increasing the benefit charges that feed into employers' future UI tax rates under experience-rated UI systems. Together, these results support the interpretation that firms' internal hiring-allocation response is strongest when the expected separation costs are more consequential.

We also examine how geographic flexibility conditions firms' responses to UI tax exposure. Our analysis captures related dimensions of this flexibility using the number of states in which a firm recruits, the dispersion of its postings across states, and the share of postings outside its headquarters state. These measures distinguish the breadth of the firm's recruiting network, the extent to which hiring is spread across locations, and its reliance on recruiting beyond the headquarters state. The negative relation between UI tax exposure and job postings is stronger among firms with broader geographic recruiting networks, more dispersed hiring activity across states, and greater reliance on postings outside the headquarters state. These results suggest that expected separation costs matter more when firms have feasible alternatives for placing marginal vacancies. Firms with established multi-state recruiting networks may be better positioned to redirect hiring away from higher-exposure states without necessarily reducing overall hiring demand or entering unfamiliar labor markets. By contrast, firms with more concentrated hiring footprints may face operational, organizational, or labor-market constraints that limit their ability to substitute

across locations. Taken together, the evidence suggests that the ability to recruit across alternative locations helps firms adjust the geography of new hiring commitments in response to expected separation costs.

Finally, we explore the financial implications of managers' cross-state allocation of new hiring commitments in response to UI tax exposure. For multi-state firms, directing vacancies toward states with lower expected separation costs may reduce future workforce-adjustment costs, but it may also move hiring away from locations where additional workers are operationally more valuable. We therefore assess whether firms that tilt postings toward lower-separation-cost states exhibit different subsequent valuation and operating outcomes. We find that a greater tilt toward lower-separation-cost states is associated with higher market valuation, as measured by *Tobin's Q*, but lower realized profitability and operating efficiency. These outcome differences are consistent with a trade-off between the anticipated benefits of lower separation-cost exposure and the potential operating costs of reallocating hiring across locations.

This paper contributes to several strands of research in corporate finance, labor, and public policy. First, we advance the corporate finance literature on internal resource allocation. Prior work shows that multi-unit firms reallocate capital and labor across establishments in response to local shocks and differences in investment opportunities (Giroud and Mueller, 2015, 2019). Related research examines how state taxation shapes the location of business activity (Suárez Serrato and Zidar, 2016). In particular, Giroud and Rauh (2019) show that multistate firms adjust establishments, employment, and capital in response to state business taxes, with part of the response reflecting reallocation across states. We extend this literature by examining how prospective workforce-adjustment costs enter the geographic allocation of new hiring commitments before employment relationships are formed. Job postings make this *ex ante* allocation margin observable, allowing us to examine where managers intend to initiate employment relationships carrying different prospective separation-cost exposures. Our evidence links jurisdictional differences in expected separation costs to the internal placement of new hiring commitments and relates these allocation choices to subsequent valuation and operating performance. This connects internal resource allocation to the management of prospective workforce-adjustment exposure.

Second, we connect labor adjustment costs to firms' organizational scope and geographic flexibility. A large labor economics literature shows that firing costs and employment protection affect hiring, labor-market dynamics, and workforce composition by increasing the cost of adjusting employment *ex post* (Bentolila and Bertola, 1990; Lazear, 1990; Hopenhayn and Rogerson, 1993; Autor, 2003; Autor et al., 2006, 2007). A related corporate finance litera-

ture shows that labor adjustment costs also shape firms’ financial and investment decisions. For example, [Serfling \(2016\)](#) finds that higher firing costs reduce financial leverage, consistent with greater operating leverage and expected financial-distress costs, while [Bai et al. \(2020\)](#) find that stronger employment protection reduces investment and slows sales growth by making projects more irreversible. We extend this literature by showing that expected separation costs affect not only the level of new employment commitments, but also their allocation across locations within the firm. The stronger effects when future separation risk is more salient and among firms with broader geographic reach indicate that organizational scope expands managers’ ability to redirect hiring among states in response to differences in UI regimes.

Third, we bring a firm-level allocation perspective to experience-rated UI taxation. Prior research examines worker responses to UI benefits and their effects on job-search behavior and unemployment durations ([Card et al., 2007](#)). Research on employers shows that UI taxation influences plant closures within multistate firms ([Guo, 2023](#)) and hiring responses to payroll-tax increases ([Guo, 2024](#)). We complement this evidence by showing that cross-state differences in UI rules are associated with the geographic allocation of new vacancies within firms’ recruiting networks. This identifies a margin of adjustment before employment relationships are formed when managers retain discretion over where to initiate new hiring commitments. These allocation choices also have financial implications. A greater tilt toward lower-separation-cost states coincides with higher market valuation but lower realized profitability and short-run operating efficiency. These findings are consistent with a trade-off between the anticipated benefits of lower separation-cost exposure and the potential operating costs of redirecting hiring across locations.

2. Institutional Setting

State UI systems expose multi-state firms to differences in expected separation costs. Under the State Unemployment Tax Act framework, unemployment insurance is financed primarily through employer payroll taxes that are partially experience rated and largely set at the state level. Because these systems differ across jurisdictions, hiring otherwise similar workers can entail different expected separation costs depending on where they are hired. For firms operating in more than one state, this variation makes the geographic placement of new hiring commitments economically consequential. Managers exercise discretion over this choice by determining which states receive new vacancies and, in turn, where workforce-adjustment costs associated with separations may arise.

Unemployment insurance in the U.S. provides temporary income support to workers who lose their jobs through no fault of their own and is financed primarily through employer payroll taxes. The system is jointly administered by the federal government and the states. The federal payroll tax component, governed by the Federal Unemployment Tax Act (FUTA), is comparatively limited and largely uniform across states.³ In contrast, state UI systems determine the main features of employer tax liability and generate the cross-state variation that underlies our analysis. States set their own tax schedules, taxable wage bases, experience-rating formulas, and financing rules. These statutory parameters reflect long-standing policy choices about how to finance unemployment protection and how to allocate its costs across employers and over time (Anderson and Meyer, 2000). States differ in how broadly they tax payroll, how steeply tax burdens rise across the statutory rate schedule, and how strongly employer tax rates are linked to prior layoff experience (Anderson and Meyer, 2000).⁴ Thus, a higher taxable wage base expands the portion of payroll subject to UI taxation, while a higher maximum tax rate or wider tax-rate range increases the potential tax burden faced by employers with adverse experience ratings. These institutional features of state UI financing systems can persist through statutory structures and historical policy choices, without mechanically reflecting contemporaneous labor-market conditions (Parsons, 2017; Vroman et al., 2017). At the same time, UI parameters may evolve with trust-fund conditions, prior benefit outflows, and financing pressure, raising the possibility that UI tax exposure is correlated with broader state labor-market environments. This concern motivates our empirical design. We compare postings across states within the same firm and year, control for state economic conditions, and use Title XII borrowing during the COVID period to provide additional evidence based on anticipated increases in employer UI tax exposure.

A defining feature of state UI systems is experience rating, which links employer tax rates to prior separations. State UI tax schedules assign employers to rates within a statutory range, with a minimum rate for employers with favorable experience ratings and a maximum rate for employers with adverse layoff histories. Firms with fewer benefit charges generally face rates closer to the statutory minimum, while firms with greater layoff experience face rates closer to the statutory maximum. These rates are based on multi-year histories of benefit charges relative to payroll, and states differ in the lookback periods and formulas used to translate prior layoffs into current tax rates, including reserve-ratio and benefit-

³The federal unemployment tax applies under FUTA and is largely uniform across states after credits for state UI taxes. Our analysis focuses on state UI systems, which generate the main cross-state variation in employer-facing UI tax exposure.

⁴See U.S. Department of Labor, Employment and Training Administration, *Conformity Requirements for State UC Laws: Experience Rating*, for a description of state experience-rating systems and how employer tax rates are linked to benefit charges.

ratio systems.⁵ Because layoffs can raise future payroll tax obligations, the expected cost of forming an employment relationship today depends in part on the possibility that the relationship will later end. Although tax rates are bounded and apply only to earnings below a state-specific taxable wage base, employers partially internalize the benefit costs generated by separations (Anderson and Meyer, 2000). From the firm’s perspective, a new hire can therefore give rise to future separation-cost exposure if the worker is later laid off and the resulting UI benefits are charged to the employer’s account, potentially moving the firm toward a higher future UI tax rate within the state’s experience-rating schedule.

The combination of experience rating and capped taxable wage bases also shapes the way firms are likely to respond to UI tax differences. An important implication, emphasized in prior work, is that UI taxes often operate more like a per-worker cost than a proportional tax on wages because taxable wage bases are relatively low (Guo, 2024). In most states, payroll taxes apply only to earnings up to a capped wage base, and that cap is often small relative to annual earnings. For workers whose earnings exceed the threshold, the employer’s UI tax liability does not rise with additional wages, so the tax resembles a fixed cost per employee rather than a constant share of compensation. This feature implies that cross-state differences in UI policy enter hiring decisions primarily through expected headcount-related separation costs rather than through proportional wage costs. Moreover, because experience-rated UI taxes depend on firms’ own layoff histories, these costs vary across employers and over time. Unlike broad-based payroll taxes that apply more uniformly across firms, experience-rated UI taxes may therefore be harder to pass through into wages.⁶ Combined, these features make workforce adjustment a more plausible response than wage adjustment when firms face differences in expected separation costs (Johnston, 2021; Guo, 2024). They also suggest that multi-state firms can respond through the geographic

⁵Under a reserve-ratio system, an employer’s UI tax rate depends on the balance in its experience-rating account, which is credited for UI tax contributions and charged for benefits paid to former employees. The reserve balance is then scaled by the employer’s payroll. Under a benefit-ratio system, the tax rate depends more directly on benefits charged to the employer relative to payroll over a recent multi-year period. Most states use reserve-ratio systems, while a smaller group uses benefit-ratio systems. In some states, firms can also make voluntary contributions to reduce their experience-rated tax burdens. These provisions allow limited adjustments within a state’s tax schedule, but they do not remove the sizable cross-state differences in employer exposure that arise from the underlying policy rules. See U.S. Department of Labor, Employment and Training Administration, 2023 Comparison of State Unemployment Insurance Laws, Chapter 2, “Financing,” available at <https://oui.doleta.gov/unemploy/pdf/uilawcompar/2023/financing.pdf>.

⁶For example, if a state taxes only the first \$10,000 of wages, an employer’s UI tax liability for a worker earning \$50,000 is determined by the tax rate applied to the first \$10,000, not by the worker’s full salary. The resulting cost increase is therefore tied to employing an additional worker rather than to paying a higher wage. Because wages are often shaped by competitive labor markets, internal pay scales, and cross-location pay norms, employers may find it difficult to pass these state-specific costs through to workers.

placement of new vacancies. By choosing where to post vacancies, firms determine where prospective employment relationships are formed and where exposure to future experience-rated separation costs arises. This institutional setting therefore links state-level UI rules to managerial discretion over the geographic placement of new hiring commitments within multi-state firms.

3. Data, Variable Construction, and Sample Selection

3.1 Data Sources

Our study combines data on firm-level job postings, state-level unemployment insurance (UI) tax rules, state economic and demographic conditions, and firm financial characteristics. Our primary source of hiring data is the Lightcast database, formerly Burning Glass Technologies. Lightcast data are widely used to study firms' hiring behavior using online vacancy postings ([Deming and Kahn, 2018](#); [Hershbein and Kahn, 2018](#); [Azar et al., 2020](#)). The database provides detailed information on individual job postings, including employer names, job titles, hiring locations, required skills, education and experience requirements, contract types, and job descriptions. Lightcast aggregates postings from more than 220,000 online sources worldwide, including firm career pages, national and local job boards, and job-posting aggregators. We use Lightcast postings to measure firms' hiring demand across U.S. states. These data are well suited to our setting because postings capture firms' intended hiring before worker-firm matches are realized and before any future separation costs are incurred. Although postings may still reflect local labor-supply conditions, they allow us to observe firms' ex ante allocation of vacancies rather than realized employment outcomes that combine labor demand, worker supply, offer acceptance, and subsequent separations. The geographic detail in the Lightcast data allows us to compare how the same firm allocates vacancies across states within a year, which is central to our within-firm test.

We combine the posting-level data with state-level UI tax policy variables from the U.S. Department of Labor, including statutory minimum and maximum UI tax rates and taxable wage bases at the state-year level. These data provide the policy inputs used to measure statutory UI tax exposure across states and over time. We supplement the UI tax data with state-level controls that capture economic conditions, labor-market environments, demographic composition, and political representation, using data from federal statistical agencies, the American Community Survey, and the U.S. House of Representatives. These variables help account for state environments that may be correlated with both UI policy

design and firms’ hiring decisions. We also obtain firm financial characteristics from Standard & Poor’s Compustat and match firms to CRSP identifiers, allowing us to control for firm scale, financial condition, investment activity, profitability, and market valuation.

3.2 Sample Construction

The Lightcast job postings data are available beginning in January 2010, so our sample covers 2010–2024. Because the same vacancy can appear on multiple job boards or be reposted while it remains unfilled, we rely on Lightcast’s standardized deduplication procedure to identify unique vacancies. This procedure uses parsed posting attributes, including employer name, job title, location, and other vacancy characteristics, to remove duplicate listings and consolidate postings associated with the same opening (Azar et al., 2020). We link Lightcast employers to firms in the Compustat–CRSP universe using a combination of algorithmic name matching and manual verification, following prior studies that connect online vacancy data to public firms (Hershbein and Kahn, 2018; Nguyen and Sila, 2025). This procedure yields matched Lightcast employer records for approximately 74.4% of Compustat–CRSP firms.

We restrict the sample to job postings located in the 50 U.S. states.⁷ We then aggregate postings to the firm–state–fiscal-year level based on the posting date recorded in Lightcast. The baseline unit of observation is therefore a firm–state–year. A firm enters the sample in a given fiscal year if it posts at least one job opening in at least one U.S. state. When a firm posts job openings in multiple states during that fiscal year, each firm–state pair enters the sample as a separate observation. After excluding observations with missing firm financial data, the final analysis sample consists of 673,692 firm–state–year observations. These observations represent 6,428 distinct firms, 45,543 firm–year observations, and 89,767,458 job postings. This structure permits comparisons of a firm’s postings across states within a fiscal year. The resulting within-firm-year variation is the main source of identification in the baseline analysis. It absorbs aggregate firm-year hiring demand and other time-varying firm characteristics, while exploiting differences in UI tax exposure across the states in which the same firm posts jobs.

⁷We exclude Washington, D.C., because our empirical design exploits state-level UI tax rules and state-year variation. Focusing on the 50 states keeps the cross-sectional units comparable in terms of state-level policy authority and labor-market institutions.

3.3 Variable Construction

Job Postings

Our main dependent variable is the number of job postings by firm f in state s during year t . We construct this measure from individual vacancy postings in Lightcast. Each posting contains a standardized employer identifier, a posting date, and a reported job location. We first restrict postings to U.S. jobs with identifiable state locations and matched employer identifiers. We then assign each posting to the state in which the job is located and aggregate postings to the firm–state–year level. The resulting count, $JobPostings_{f,s,t}$, captures a firm’s recruitment demand in a given state and year, at a stage when managers can still determine where to seek new workers before hires are made.

Unemployment Insurance Tax Exposure

For each state–year, we construct statutory measures of UI tax exposure using the maximum and minimum tax rates in the state UI schedule and the state’s taxable wage base. We define $MaxUIT$ as the statutory maximum UI tax rate multiplied by the taxable wage base, and $MinUIT$ as the statutory minimum UI tax rate multiplied by the taxable wage base. We adjust both measures for inflation using the Consumer Price Index and express them in constant 1983 dollars, so that comparisons across states and over time reflect differences in real employer tax exposure rather than changes in the price level.

$MaxUIT$ captures the upper bound of statutory UI tax exposure per worker, whereas $MinUIT$ captures the baseline statutory UI tax floor per worker ([Anderson and Meyer, 2000](#)). The maximum-based measure is more closely tied to the experience-rated portion of the UI system because employers with adverse layoff histories can move toward higher rates on the schedule. We therefore use $MaxUIT$ as our primary measure of potential separation-cost exposure. $MinUIT$ captures the lower-bound payroll-tax obligation embedded in the same statutory system and serves as a control for the baseline UI tax component before experience-rated adjustments are applied. Both measures are policy-based proxies rather than actual firm-level marginal tax costs. Actual UI tax liabilities depend on firms’ positions on state experience-rating schedules, which are shaped by firms’ layoff histories and benefit charges. The advantage of $MaxUIT$ and $MinUIT$ is that they provide comparable statutory measures across states that are not based on firms’ realized tax positions or firm-specific financial conditions. Our tests therefore examine whether firms respond to cross-state differences in policy-based exposure to expected separation-related labor costs.

Firm and State-Level Controls

We include firm- and state-level controls that may be correlated with both UI tax exposure

and firms’ job-posting decisions. In specifications without firm-by-year fixed effects, we include firm-level controls measured at the firm–year level; in specifications with firm-by-year fixed effects, these firm-year characteristics are absorbed by the fixed effects. Specifically, where applicable, we control for firm size using $\text{Log}(\text{Assets})$, defined as the natural logarithm of total assets, and $\text{Log}(\text{Employees})$, defined as the natural logarithm of the number of employees. We control for financial condition using *Leverage Ratio*, measured as total debt scaled by total assets. We control for profitability using *ROA*, measured as operating income scaled by total assets, and for investment activity using $\text{CAPEX}/\text{Assets}$, measured as capital expenditures scaled by total assets. We also include *Tobin’s Q* to account for market valuation and growth opportunities.

State-level controls are measured at the state–year level. We include *State Unemployment Rate* to capture local labor-market conditions, $\text{Log}(\text{GDP per Capita})$ to capture the level of state economic activity, and *GDP Growth* to capture changes in state economic activity. To account for demographic composition, we include $\text{Log}(\text{Average Population Age})$, *Male Population Share*, and *White Population Share*; for 2020, when these demographic measures are unavailable, we use their 2019 values. We also include *Democratic House Representation*, measured as the share of a state’s congressional delegation in the U.S. House of Representatives affiliated with the Democratic Party, as a proxy for the state’s political environment. In robustness tests, we further control for additional state-level policy and labor-market characteristics, including personal income tax rates, corporate tax rates, unionization, and education levels. Unless otherwise noted, we winsorize continuous variables at the 1st and 99th percentiles, with the exception of state-level controls and count variables. Appendix A provides detailed definitions, data sources, and construction details for all variables used in the analysis.

3.4 Summary Statistics

Table 1 reports summary statistics on the geographic distribution of firms’ job posting activity and the cross-state variation in UI tax exposure. Panel A shows that firms frequently post jobs across multiple jurisdictions. The average firm posts jobs in 14.79 states per year, with a median of eight states. The multi-state posting indicator shows that 81 percent of firm–year observations involve posting activity in more than one state. Nearly half of firm–years, 46 percent, involve posting activity in ten or more states. These statistics indicate that multi-state job posting activity is common in our sample. This geographic breadth is important for our empirical design because it gives firms scope to adjust the allocation of

job postings across states in response to differences in UI-related labor costs.

Panel B quantifies the magnitude of cross-state variation in statutory UI tax exposure faced by multi-state firms. Among firm-years with postings in more than one state, the average within-firm range in *MaxUIT*, defined as the difference between the highest and lowest *MaxUIT* across posting states within the same firm-year, is about \$794 per worker, with a median of \$886 per worker. The corresponding within-firm standard deviation is \$260. These values indicate that, within the same firm-year, the upper-bound statutory UI tax exposure associated with employing a worker can differ substantially across the states in which the firm posts jobs. Because *MaxUIT* is based on statutory maximum tax rates, this dispersion captures differences in potential exposure to experience-rated UI tax costs rather than realized tax payments. The within-firm variation in *MaxUIT* reflects differences in both statutory tax rates and taxable wage bases across states. In our sample, the average within-firm range in maximum UI tax rates is 6.52 percentage points, while the average range in taxable wage bases exceeds \$11,045. These two components jointly generate large differences in potential UI tax exposure across locations. In contrast, dispersion in *MinUIT* is substantially smaller, with an average range of \$120 and a standard deviation of \$34. This contrast indicates that most of the cross-state variation relevant for our setting arises from differences in potential exposure to the experience-rated component of UI taxation rather than from the baseline statutory UI tax component.

Table 2 reports summary statistics for the variables used in the baseline regression. Panel A summarizes the unemployment insurance policy variables and state-level controls. The average *MaxUIT*, defined as the payroll tax exposure implied by the statutory maximum UI tax rate applied to the taxable wage base, is \$474 per worker, while the average *MinUIT* is approximately \$32 per worker. The large difference between these values underscores that potential exposure to experience-rated UI tax costs can far exceed the baseline statutory UI tax floor (Anderson and Meyer, 2000). The panel also reports $\log(1 + \textit{MaxUIT})$ and $\log(1 + \textit{MinUIT})$, which are the transformed UI exposure measures used in the baseline regressions. The panel further summarizes the state-level controls. State unemployment rates average 5.75 percent, GDP growth averages 4.43 percent, and GDP per capita averages \$23,220. On average, 46 percent of a state's congressional delegation is affiliated with the Democratic Party. These variables capture differences in labor-market conditions, economic activity, demographics, and political composition that may be correlated with state UI policies and firms' job-posting decisions.

Panel B reports job postings at the firm-state-year level. Firms post an average of 133 job openings per firm-state-year, with a median of 14, indicating a highly skewed distribution

of job-posting activity. Because job postings are nonnegative counts and highly skewed, we use Poisson pseudo-maximum likelihood (PPML) specifications when the number of job postings is the dependent variable. Panel C reports firm characteristics at the firm–year level. The average firm holds \$6.56 billion in assets, employs about 14,330 workers, has a leverage ratio of 0.24, a return on assets of 4 percent, a Tobin’s Q of 2.10, and capital expenditures equal to 3 percent of assets. These statistics indicate substantial heterogeneity in firm scale, financial condition, profitability, investment intensity, and market valuation. We control for these characteristics in specifications without firm–year fixed effects because they may affect firms’ overall hiring demand and the allocation of postings across states; in specifications with firm–year fixed effects, they are absorbed by the fixed effects.

4. Within-Firm Allocation under State-Level Expected Separation Costs

This section examines whether firms allocate job postings across states in response to state-level variation in expected separation costs arising from experience-rated unemployment insurance systems. We first exploit within-firm-year variation, comparing a firm’s postings across states in the same year while absorbing firm-wide labor demand and other time-varying firm characteristics. We then turn to deviation-based measures that compare each state’s UI tax exposure with the firm’s average exposure across its posting locations in the same year. These measures sharpen the reallocation test by examining whether firms tilt postings away from states with relatively higher expected separation-cost exposure and toward states with relatively lower exposure within the firm-year. Finally, we examine aggregate firm-level posting activity to assess whether this geographic adjustment is accompanied by a reduction in overall recruiting.

4.1 Firms’ Responses to State-Level Expected Separation Costs

We begin by estimating whether lagged state-level UI tax exposure predicts how firms allocate job postings across states. The baseline specification relates firm–state–year job postings to cross-state differences in unemployment insurance tax exposure:

$$\mathbb{E}[\text{JobPostings}_{f,s,t} \mid \cdot] = \exp \left\{ \alpha + \beta_1 \log(1 + \text{MaxUIT}_{s,t-1}) + \beta_2 \log(1 + \text{MinUIT}_{s,t-1}) + \Gamma' X_{f,s,t-1} + FE \right\}. \quad (1)$$

where f indexes firms, s indexes states, and t indexes years. The dependent variable, $JobPostings_{f,s,t}$, is the number of job postings by firm f in state s during year t . Equation (1) specifies the conditional mean of this count, which we estimate using PPML. Our primary explanatory variable is $\log(1 + MaxUIT_{s,t-1})$, which measures prior-year maximum statutory UI tax liability per employee and serves as our primary proxy for prospective UI tax exposure. We also include $\log(1 + MinUIT_{s,t-1})$ to account for variation in statutory UI tax exposure at the minimum rate in the state’s tax schedule. Both measures capture the employer’s annual statutory UI tax liability per employee, evaluated at the respective maximum or minimum rate and assuming the employee’s annual earnings reach the taxable wage base. The vector $X_{f,s,t-1}$ contains the lagged firm- and state-level controls described in Section 3.

The fixed effects, denoted by FE , consist of either firm and year fixed effects or firm $\times$ year fixed effects, depending on the specification. Specifications with firm and year fixed effects use variation in job postings across firms, states, and years while absorbing time-invariant firm heterogeneity and common year shocks. Specifications with firm $\times$ year fixed effects provide our sharper within-firm comparison. They compare the same firm’s postings across states in year t , thereby absorbing firm-wide labor demand and other time-varying firm characteristics in that year. Firm-level controls are therefore absorbed by these fixed effects. In these specifications, β_1 captures the association between prior-year $MaxUIT$ and expected job postings across states within the same firm and year, conditional on the prior-year baseline UI payroll-tax component captured by $\log(1 + MinUIT_{s,t-1})$ and the included lagged state-level controls. A negative coefficient indicates that the same firm posts fewer vacancies in states with higher prior-year maximum statutory UI tax exposure, holding these factors constant.

Estimates of equation (1) are reported in Table 3. Panel A presents the main PPML estimates using job-posting counts in levels as the dependent variable. Columns (1)–(2) include $\log(1 + MaxUIT)$, columns (3)–(4) include $\log(1 + MinUIT)$, and columns (5)–(6) include both measures. Across the specifications that include $\log(1 + MaxUIT)$, the coefficient is negative and statistically significant, indicating that firms post fewer jobs in states with higher prior-year maximum statutory UI tax exposure. The magnitudes are economically meaningful. Because PPML uses a log link, the coefficients imply multiplicative changes in expected posting counts. Using the standard deviation of $\log(1 + MaxUIT)$, reported as 0.58 in Table 2, the coefficients in Panel A on $\log(1 + MaxUIT)$ imply that a one-standard-deviation increase in this logged exposure measure is associated with a decline of approximately 36.6% to 37.3% in expected job postings. For scale, this exposure change corresponds to about a

\$299 increase in maximum annual statutory UI tax exposure per worker, evaluated at the sample median of $MaxUIT$.⁸ Applying the estimated percentage decline to the median of 14 postings per firm–state–year yields roughly five fewer postings.

To assess whether the negative association with postings is more closely related to maximum statutory UI tax exposure or the statutory payroll-tax floor, we compare the estimates for $\log(1 + MaxUIT)$ and $\log(1 + MinUIT)$. A more persistent negative association with the maximum-based measure would be consistent with firms responding to prospective separation-cost exposure. Columns (3)–(4) show that $\log(1 + MinUIT)$ is negative and statistically significant when entered on its own, suggesting that the statutory floor is also negatively associated with postings in the absence of the maximum-based exposure measure. However, columns (5)–(6) show that its coefficient changes sign once $\log(1 + MaxUIT)$ is included. The coefficient on $\log(1 + MaxUIT)$ remains negative and sizable, while the coefficient on $\log(1 + MinUIT)$ becomes positive and remains statistically significant. Appendix Table A.1 reports a correlation of approximately 0.29 between $\log(1 + MaxUIT)$ and $\log(1 + MinUIT)$, indicating that they capture related but distinct variation in statutory UI tax exposure. The estimates therefore show a consistently negative association for the maximum-based measure, whereas the association with the statutory floor is sensitive to specification.

Panel B provides corroborating OLS evidence using log-transformed job postings as the dependent variable. The coefficient on $\log(1 + MaxUIT)$ remains negative and statistically significant across specifications, while the coefficient on $\log(1 + MinUIT)$ is positive and statistically significant when both measures are included. Thus, the negative relation between $MaxUIT$ and job postings is not specific to the PPML functional form.

Panel C presents a further test of whether the posting response reflects the experience-rated component of UI tax exposure. Rather than entering $\log(1 + MaxUIT)$ and $\log(1 + MinUIT)$ separately, the panel uses the logged spread between the maximum and minimum statutory UI tax exposure, $\log(MaxUIT - MinUIT)$, as the explanatory variable. This spread captures the range of annual statutory UI tax liabilities per worker within the state’s schedule. A larger spread implies a wider gap between the statutory floor and the maximum potential liability associated with adverse separation experience. The coefficient on

⁸The implied percentage change in expected postings following a one-standard-deviation increase is computed as $\exp(\hat{\beta} \times 0.58) - 1$, where 0.58 is the standard deviation of $\log(1 + MaxUIT)$ reported in Table 2. Using the Panel A coefficients on $\log(1 + MaxUIT)$, which range from -0.786 to -0.806 , this calculation yields approximately -36.6% to -37.3% . To translate the logged exposure change into dollars, a 0.58 increase in $\log(1 + MaxUIT)$ corresponds to multiplying $(1 + MaxUIT)$ by $\exp(0.58)$, or approximately 1.79. Evaluated at the sample median $MaxUIT$ of \$379.07, this is roughly equivalent to increasing $MaxUIT$ to about \$678, or by about \$299 per worker.

$\log(MaxUIT - MinUIT)$ is negative and statistically significant in both PPML specifications, providing additional evidence consistent with firms responding to prospective separation-cost exposure. Together, Panels A–C show that job-posting activity is lower in states with higher maximum statutory UI tax exposure and wider maximum–minimum spreads. By contrast, the association between postings and the statutory floor captured by $MinUIT$ changes sign when $MaxUIT$ is included.

We perform additional checks to assess the robustness and interpretation of the baseline relation. First, we examine whether the result is sensitive to potential changes in job-location reporting after 2019 and the exclusion of firm–state–year observations with zero postings. The rise of remote work during and after the COVID-19 pandemic may have weakened the link between advertised job locations and intended employment locations, while the baseline sample excludes firm–state–years with no observed postings. To assess sensitivity to these features, Appendix Table A.2 interacts $\log(1 + MaxUIT)$ with an indicator for years after 2019, while Appendix Table A.3 expands the sample to include firm–state–year observations with zero postings under two alternative zero-imputation rules. Across these alternative specifications, the coefficient on $\log(1 + MaxUIT)$ remains negative and statistically significant. In the interaction specifications, this coefficient captures the association before 2020. The expanded-sample results show that the negative association persists when zero-posting observations are included.

Second, we assess whether the posting response is reflected in firms’ realized employment footprints. Job postings capture intended labor demand before employment relationships are formed, but advertised vacancies may not always result in hires. Firms may post jobs to maintain candidate pipelines, signal growth, or test labor-market conditions, so posting activity need not translate directly into hiring. Such behavior would explain the within-firm-year estimates only if it varied systematically across a firm’s posting states with lagged UI tax exposure. Nevertheless, realized employment provides a useful benchmark for the geographic allocation of labor, because it captures where firms maintain existing employment relationships. We use employment data from the National Establishment Time-Series (NETS) database, a longitudinal establishment-level database derived from Dun & Bradstreet records that tracks establishments’ locations, parent-firm affiliations, industries, and employment. We aggregate establishment-level employment to the firm–state–year level and use it as an alternative measure of firms’ labor allocation across states. Appendix Table A.4 shows that the coefficient on $\log(1 + MaxUIT)$ remains negative and statistically significant across all specifications in which it is included, with firm–state employment as the dependent variable. This evidence suggests that UI tax exposure is associated not only with where

firms advertise vacancies, but also with where they maintain employment. The NETS results thus provide complementary evidence that UI tax exposure is associated with the geographic allocation of firms' realized employment.

4.2 Relative UI Tax Exposure and Job Postings

The baseline evidence shows that firms post fewer jobs in states with higher maximum statutory UI tax exposure. We next ask whether this association differs depending on whether a state's exposure is above or below the firm's average across its recruiting locations. This distinction aligns the test more closely with the firm's internal allocation problem. For a firm recruiting across multiple states, the relevant comparison is not only whether a state has high UI tax exposure in absolute terms, but also how its exposure compares with that of alternative recruiting locations. Managers face this comparison when choosing where to direct marginal vacancies across states within the firm. We therefore use relative-exposure measures to test whether the sensitivity of postings to UI tax exposure differs between relatively low- and high-exposure states within the firm's recruiting network.

For each firm-state-year, we define the signed deviation in logged $MaxUIT$ as

$$DevMaxUIT_{f,s,t-1} = \log(1 + MaxUIT_{s,t-1}) - \overline{\log(1 + MaxUIT)}_{f,t-1}, \quad (2)$$

where $\overline{\log(1 + MaxUIT)}_{f,t-1}$ is the average value of $\log(1 + MaxUIT)$ across the states in which firm f posts jobs in year $t - 1$. Positive values of $DevMaxUIT_{f,s,t-1}$ indicate that a state has above-average $MaxUIT$ exposure relative to the firm's prior-year posting footprint, while negative values indicate below-average exposure. We define $DevMinUIT_{f,s,t-1}$ analogously using $\log(1 + MinUIT_{s,t-1})$. We also define $\mathbf{1}\{DevMaxUIT_{f,s,t-1} > 0\}$ as an indicator equal to one when a state's $MaxUIT$ exposure is above the firm's prior-year average across posting states, and zero otherwise. The corresponding indicator for $DevMinUIT_{f,s,t-1}$ is defined analogously. Thus, $DevMaxUIT$ captures the firm's UI tax exposure in a given state relative to its average exposure across prior-year recruiting locations, rather than whether the firm as a whole is exposed to a high- or low- $MaxUIT$ environment.

We estimate a continuous piecewise-linear specification within the PPML conditional

mean:

$$\begin{aligned} \mathbb{E}[JobPostings_{f,s,t} \mid \cdot] = \exp \Big\{ & \alpha + \beta_1 DevMaxUIT_{f,s,t-1} \\ & + \beta_2 (DevMaxUIT_{f,s,t-1} \times \mathbf{1}\{DevMaxUIT_{f,s,t-1} > 0\}) \\ & + \beta_3 DevMinUIT_{f,s,t-1} \\ & + \beta_4 (DevMinUIT_{f,s,t-1} \times \mathbf{1}\{DevMinUIT_{f,s,t-1} > 0\}) \\ & + \Gamma' X_{f,s,t-1} + \mu_{f,t} \Big\}. \end{aligned} \quad (3)$$

Equation 3 is estimated using PPML, with the same firm–state–year job-posting outcome as in the baseline analysis. The term $\mu_{f,t}$ denotes firm $\times$ year fixed effects, so the estimates are identified from cross-state differences in lagged relative UI tax exposure within the same firm-year. The vector $X_{f,s,t-1}$ includes the same lagged state-level controls as in the baseline analysis. Firm-level controls are absorbed by the firm $\times$ year fixed effects. The specification also includes $DevMinUIT_{f,s,t-1}$ and its interaction with an indicator for positive $DevMinUIT_{f,s,t-1}$, allowing the association with relative exposure to the statutory tax floor to differ above and below the firm’s average. Subtracting the firm’s average exposure leaves cross-state exposure differences within each firm-year unchanged. The additional test therefore comes from allowing the relation between exposure and postings to differ above and below that average. The coefficient β_1 captures the slope of log expected postings with respect to $DevMaxUIT$ for states with below-average exposure, while $\beta_1 + \beta_2$ captures the corresponding slope for states with above-average exposure. The interaction coefficient β_2 tests whether these slopes differ.

Table 4 reports the results. In column (1), the coefficient on $DevMaxUIT$ is negative and statistically significant, indicating that, among states with below-average exposure, expected postings decline as lagged $\log(1 + MaxUIT)$ rises relative to the firm’s prior-year average. The implied above-average slope is $-0.503 = -1.023 + 0.520$, compared with a below-average slope of -1.023 . The above-average slope is also statistically significant. Column (2) adds $DevMinUIT$ and its corresponding interaction. The results remain similar, with a below-average slope of -1.042 and an above-average slope of $-0.445 = -1.042 + 0.597$, both negative and statistically significant.

These estimates indicate that higher relative UI tax exposure is associated with fewer expected postings both below and above the firm’s prior-year average, but the association is stronger below that benchmark. Thus, the results are consistent with firms allocating more postings to relatively low-exposure states, with particularly pronounced sensitivity to exposure differences among those locations. This asymmetry suggests that differences in

prospective separation costs may matter especially when managers choose among lower-exposure alternatives within their recruiting networks.

4.3 Expected Separation Costs and Aggregate Job Postings

The preceding results indicate that firms post fewer vacancies in states with higher prior-year UI tax exposure, both in absolute terms and relative to their own recruiting footprints. We next examine whether these geographic differences are accompanied by lower aggregate firm-level posting activity. This distinction is important because the internal-allocation view predicts that firms can reallocate vacancies across states without necessarily reducing the total number they create. If higher expected separation costs reduce aggregate firm-level posting activity, average UI tax exposure across a firm’s posting states should be associated with fewer firm-level postings. Geographic adjustment, however, may allow firms to limit their exposure without reducing overall recruiting. The firm-level test therefore examines whether average UI tax exposure across a firm’s posting states predicts total firm-level postings.

To examine this issue, we estimate the following conditional-mean specification using PPML:

$$\mathbb{E}[JobPostings_{f,t} \mid \cdot] = \exp \left\{ \alpha + \beta_1 \overline{\log(1 + MaxUIT)}_{f,t-1} + \beta_2 \overline{\log(1 + MinUIT)}_{f,t-1} + \Gamma' X_{f,t-1} + \mu_f + \delta_t \right\}. \quad (4)$$

where $JobPostings_{f,t}$ denotes total job postings by firm f in year t . We estimate the model using PPML, with job postings measured in levels. The main variable of interest, $\overline{\log(1 + MaxUIT)}_{f,t-1}$, is the average of prior-year $\log(1 + MaxUIT)$ across the fixed set of states in which firm f posts jobs at any point during the sample period. This full-sample posting footprint serves as a proxy for the firm’s potential recruiting locations and includes states with zero postings in a given year. We also include $\overline{\log(1 + MinUIT)}_{f,t-1}$, constructed analogously, to account for average exposure to the statutory UI tax floor. The vector $X_{f,t-1}$ includes lagged firm-level controls and, where included, lagged state-level controls averaged across the same set of states. The terms μ_f and δ_t denote firm and year fixed effects, respectively.

Table 5 reports the results. We find no statistically significant association between lagged average UI tax exposure and aggregate firm-level job postings. The coefficients on $\overline{\log(1 + MaxUIT)}$ are statistically insignificant across all specifications, including when state-

level controls are added in columns (2) and (4) and when average minimum statutory UI tax exposure is included in columns (3) and (4). The coefficients on $\overline{\log(1 + MinUIT)}$ are also statistically insignificant. The results are similar when we restrict the sample to firm-years with positive total job postings. Together with the within-firm evidence, these findings are consistent with geographic reallocation of vacancies, with no statistically significant evidence of an accompanying decline in aggregate firm-level job postings.

4.4 Longer-Term Employment Commitments

The preceding results show that firms post fewer vacancies in states with greater prior-year statutory UI tax exposure, with no statistically significant evidence of an accompanying decline in aggregate firm-level postings. We next examine whether firms also adjust the type of employment relationships they seek to initiate. If experience-rated UI exposure operates through expected employment adjustment costs, firms may respond not only by reallocating vacancies across states, but also by changing the composition of positions they post within a state. When future separations are expected to be more costly, firms may be less willing to create positions associated with stronger ongoing employment commitments. They may instead preserve flexibility by relying relatively less on full-time, non-internship postings.

Table 6 examines this adjustment using the share of full-time non-internship postings at the firm–state–year level, measured as the fraction of postings identified as full-time positions and not internships.⁹ The coefficient on $\log(1 + MaxUIT)$ is negative and statistically significant across all specifications, indicating that firms facing higher prior-year statutory exposure to experience-rated UI costs post a smaller share of full-time non-internship positions. The coefficient on $\log(1 + MinUIT)$, however, is statistically insignificant, suggesting that the composition response is tied more closely to the experience-rated component of UI costs than to the baseline payroll-tax component. This evidence is consistent with firms adjusting to higher expected separation costs along both geographic and employment-composition margins. The geographic results indicate a shift in postings away from higher-exposure states, while the composition results show a lower share of positions associated with stronger ongoing employment commitments. A uniform contraction in postings across position types would not produce this change in composition. Thus, UI tax exposure appears to shape

⁹The contract-type classification is based on Lightcast’s parsed contract-type fields. Lightcast assigns postings to full-time, part-time, full-time/part-time, or internship categories. We define a posting as full-time non-internship if it is identified as full-time and is not classified as an internship. We treat full-time/part-time postings as non-full-time because they do not unambiguously represent full-time employment commitments. In robustness checks, the results are similar when these postings are treated as full-time.

both vacancy location and the degree of employment commitment embodied in the positions firms seek to fill.

5. Heterogeneity in Job-Posting Responses

This section studies whether the relation between UI tax exposure and job postings varies with economic and organizational conditions that affect the expected costs of future work-force adjustment and firms' ability to redirect hiring across locations. We first examine whether the posting response is stronger when expected separation costs are more consequential, using proxies for local layoff risk, firm demand strength, and labor-market concentration. We then assess whether the response is stronger among firms with greater geographic flexibility, which may give managers more alternatives for placing new hiring commitments.

5.1 Economic Conditions and Separation-Cost Salience

Under experience-rated UI taxation, hiring decisions may depend on both the benefits of adding workers and the potential tax costs of subsequent layoffs. Economic conditions can affect this trade-off by changing expected labor demand, the likelihood of future separations, or their anticipated costs (Bentolila and Bertola, 1990). To test whether the job-posting response to UI tax exposure varies with these conditions, we augment equation (1) with a conditioning variable and its interaction with lagged UI tax exposure:

$$\begin{aligned} \mathbb{E}[JobPostings_{f,s,t} \mid \cdot] = \exp \bigg\{ & \alpha + \beta_1 \log(1 + MaxUIT_{s,t-1}) + \beta_2 Z_{f,s,t-1} \\ & + \beta_3 [\log(1 + MaxUIT_{s,t-1}) \times Z_{f,s,t-1}] \\ & + \lambda \log(1 + MinUIT_{s,t-1}) + \Gamma' X_{f,s,t-1} + FE \bigg\}, \end{aligned} \quad (5)$$

where $Z_{f,s,t-1}$ denotes the conditioning variable in each heterogeneity test. The coefficient β_3 captures whether the association between prior-year UI tax exposure and expected job postings varies with the relevant economic condition. All other controls, fixed effects, and estimation choices follow the baseline framework in equation (1). When the conditioning variable varies only at the firm-year level, its main effect is absorbed by firm $\times$ year fixed effects, but its interaction with state-level UI tax exposure remains estimable.

We consider three economic conditions that may influence firms' sensitivity to prospective UI tax costs. The first is local layoff conditions. Elevated state-level layoffs and discharges

may signal an environment in which firms anticipate a greater risk of future workforce reductions, increasing the relevance of prospective UI tax costs to current hiring decisions. We measure this condition using an indicator equal to one for states in the top quartile of layoffs and discharges in a given year, based on data from the Bureau of Labor Statistics. The second condition is demand strength. Stronger firm-level sales growth may indicate greater expected benefits from expanding employment, potentially weakening firms' sensitivity to future separation costs. We measure demand strength using an indicator equal to one for firms in the top quartile of annual sales growth, defined as $\log(\text{Sales}_t/\text{Sales}_{t-1})$, in a given year. The third condition is labor-market concentration. In more concentrated state-industry labor markets, workers may face fewer alternative employers (Azar et al., 2020). Following a separation, limited reemployment opportunities may prolong unemployment and increase the UI benefits charged to the former employer's account. Under experience rating, these charges may translate into higher future UI tax rates, particularly for employers below the statutory maximum. Labor-market concentration may therefore increase the expected UI tax cost of a separation, even if its probability is unchanged. We measure labor-market concentration using an indicator equal to one for state-industry labor markets in the top quartile of employment-based Herfindahl-Hirschman Index values.

Table 7 reports how the association between UI tax exposure and postings varies with these conditions. In Panel A, the interaction between $\log(1 + \text{MaxUIT})$ and *High State Layoff* is negative and statistically significant across all specifications. This result indicates that the negative relation between prior-year UI tax exposure and current-year job postings is stronger in states with higher layoff activity. The finding is consistent with prospective UI tax costs weighing more heavily on hiring decisions when local conditions signal a greater risk of future workforce reductions. In Appendix Table A.5, we obtain similar results using industry-level layoffs, providing complementary evidence that the negative association is stronger in environments with more prevalent layoffs.

Panel B examines demand conditions. The interaction between $\log(1 + \text{MaxUIT})$ and *High Sales Growth* is positive across specifications but statistically significant only in the firm $\times$ year fixed-effects specifications. This evidence suggests a weaker negative association between UI tax exposure and postings among firms with stronger sales growth. Panel C examines labor-market structure. The interaction between $\log(1 + \text{MaxUIT})$ and *High Labor Market Concentration* is negative and statistically significant across all specifications, indicating that the negative relation between prior-year UI tax exposure and current-year postings is stronger in more concentrated labor markets. This finding supports the interpretation that firms anticipate greater UI tax consequences from separations where displaced

workers have fewer reemployment opportunities.

These results suggest that firms’ sensitivity to statutory UI tax exposure depends on the economic conditions surrounding new hiring commitments. Together, the evidence on layoffs, demand, and labor-market concentration supports the interpretation that managers consider prospective separation costs when allocating vacancies across locations.

5.2 Spatial Frictions

Spatial frictions can limit firms’ ability to respond to cross-state differences in expected separation costs. Although experience-rated UI schedules create this variation, firms differ in their capacity to redirect hiring. Broader recruiting networks, more dispersed posting activity, and greater reliance on postings outside the headquarters state capture related dimensions of geographic flexibility. These characteristics may indicate that firms have established alternatives for placing new vacancies, making them better positioned to redirect hiring away from higher-exposure states. By contrast, geographically concentrated firms may face organizational, operational, or labor-market constraints that limit this allocation margin. If firms respond to UI tax exposure by reallocating recruiting across states, the response should be strongest when they have feasible alternative locations for vacancies within their existing recruiting networks.

Table 8 tests this prediction using the interaction framework in equation (5), with $Z_{f,s,t-1}$ defined using three measures of geographic flexibility: geographic scope, geographic dispersion, and multi-state intensity. Geographic scope measures the breadth of a firm’s recruiting footprint and is proxied by *HighScope*, an indicator equal to one for firms in the top quartile of the number of states in which they post vacancies. Geographic dispersion captures the concentration of postings across states. We measure it using *HighDispersion*, an indicator equal to one for firms in the bottom quartile of the Herfindahl–Hirschman Index of postings across states. The index is calculated as the sum of squared state-level posting shares within the firm, so lower values indicate less geographic concentration and greater dispersion in posting activity. Multi-state intensity gauges the firm’s reliance on recruiting outside the headquarters state. This proxy, denoted *HighMSI*, is an indicator equal to one for firms in the top quartile of the share of postings outside the headquarters state. These measures capture related but distinct aspects of geographic flexibility. A broad network can coexist with highly concentrated postings, and a high non-headquarters share need not imply a broad or dispersed network. The interaction coefficient β_3 in equation (5) indicates whether the negative relation between prior-year UI tax exposure and current-year job postings is

stronger among firms for which the relevant indicator equals one.

The table provides evidence that geographic flexibility is associated with stronger responses to UI tax exposure. Panel A shows a negative and statistically significant interaction between $\log(1 + \text{MaxUIT})$ and *HighScope* across all PPML specifications. The estimates range from -0.054 to -0.057 , indicating that the negative relation between prior-year *MaxUIT* exposure and current-year job postings is stronger among firms with broader recruiting footprints. A broader network provides a larger set of established locations that may offer alternatives for placing marginal vacancies. Firms may therefore be better positioned to redirect postings toward lower-exposure states without necessarily reducing overall recruiting or entering unfamiliar labor markets.

Panels B and C extend this evidence beyond the number of states in a firm’s recruiting network. The interaction coefficients for *HighDispersion* and *HighMSI* are also negative and statistically significant, indicating that the response to UI tax exposure is stronger when firms’ postings are less concentrated across states and when hiring activity is less centered on the headquarters state. A firm may recruit in many states yet rely heavily on a single location for most new positions, potentially limiting the practical alternatives for placing additional vacancies. More dispersed recruiting and greater reliance on postings outside the headquarters state suggest that locations beyond the firm’s principal recruiting market or headquarters state play a substantive role in recruiting.

These findings connect the incentive to manage prospective separation-cost exposure with the organizational capacity to adjust hiring locations. Established recruiting networks may give managers greater scope to direct new vacancies toward lower-exposure states, while spatial frictions can constrain that response.

6. Identification Tests

The preceding relation between UI tax exposure and job postings raises two potential endogeneity concerns. First, *MaxUIT* may be correlated with state economic and policy conditions that also influence hiring, including labor-market conditions, industrial composition, and UI benefit generosity.¹⁰ Firm-by-year fixed effects and lagged state controls may not fully capture changes in these conditions. State-by-year fixed effects would absorb shocks common to firms within each state-year, but would also absorb the state-year variation in

¹⁰Appendix Table A.1 reports pairwise correlation coefficients between UI tax exposure and observable state-level variables.

MaxUIT in the baseline specification. Second, firms’ choices about where to operate and recruit may reflect persistent differences in local demand, labor supply, and production needs. To help address these concerns, we examine posting adjustments during the COVID-era UI financing shock within firms’ pre-existing recruiting networks. Restricting the analysis to incumbent firm–state relationships holds fixed the set of recruiting locations included in the analysis, excluding entry into new posting states. We then use firm-specific relative exposure measures that permit state-by-year fixed effects, absorbing contemporaneous state conditions common to firms within each state-year that could otherwise confound the relation between UI tax exposure and postings.

We exploit cross-state variation in Title XII borrowing during 2020 to examine firms’ responses to anticipated UI financing pressure. When state UI trust funds are depleted, states may borrow from the federal government under Title XII of the Social Security Act to finance unemployment benefit payments. Borrowing does not mechanically raise employer-facing UI tax parameters in the same year, but it signals financing pressure that may lead to higher future tax rates, taxable wage bases, or surcharges. Persistent outstanding borrowing can also increase federal UI taxes through FUTA credit reductions. Because only some states borrowed during 2020,¹¹ we compare posting responses across borrowing and non-borrowing states to test whether firms allocate fewer vacancies to locations facing greater anticipated UI financing pressure. We implement the Title XII tests using a short-window design with 2019 as the pre-period and 2021 as the post-period, omitting 2020 as the transition year. To help address concerns about endogenous geographic footprints, we restrict the sample to incumbent firm–state pairs with positive postings in 2019, holding fixed the set of recruiting locations included in the analysis. We also require at least 10 total postings per firm in 2019 to ensure meaningful pre-period recruiting activity. We impose no restriction based on 2021 postings, thereby avoiding sample selection based on post-treatment posting outcomes.

¹¹We define borrowing states as states that received Title XII advances during calendar year 2020, based on U.S. Treasury Fiscal Data, *SSA Title XII Advance Activities*. The 21 borrowing states are California, Colorado, Connecticut, Delaware, Georgia, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, New York, Ohio, Pennsylvania, Texas, Virginia, and West Virginia. This classification reflects receipt of advances during 2020, regardless of whether a state had an outstanding balance at year-end. Delaware, Georgia, Indiana, and Virginia borrowed during 2020 but had repaid their outstanding advances by January 1, 2021. The list is consistent with the U.S. Department of Labor’s *2021 State Unemployment Insurance Trust Fund Solvency Report*, which identifies 22 borrowing jurisdictions, including the U.S. Virgin Islands, which is outside our state sample.

We first estimate a borrowing-based specification:

$$\mathbb{E}[JobPostings_{f,s,t} \mid \cdot] = \exp \left\{ \alpha + \beta (Borrow_s \times Post_t) + \Gamma' X_{s,t-1} + \mu_{f,t} + \lambda_s \right\}, \quad (6)$$

where $Borrow_s$ equals one for states that borrowed under Title XII during 2020, $Post_t$ equals one for 2021 and zero for 2019, and $X_{s,t-1}$ includes lagged state-level controls. Firm $\times$ year fixed effects, $\mu_{f,t}$, absorb firm-wide changes in recruiting, while state fixed effects, λ_s , absorb time-invariant differences common to firms recruiting in a state. The specification is estimated using PPML with the same firm–state–year job-posting outcome as in the baseline analysis. A negative β indicates that expected postings grow less or decline more, in proportional terms, in borrowing states than in non-borrowing states between 2019 and 2021. Interpreting this difference as a response to anticipated UI costs requires comparable counterfactual posting trends across the two groups in the absence of borrowing-related financing pressure, conditional on the included controls and fixed effects.

Columns (1)–(2) of Table 9 report the borrowing-based results. Column (2) adds Census region $\times$ year fixed effects to absorb common regional shocks while retaining within-region variation in borrowing status.¹² The coefficient on $Borrow \times Post$ is negative and statistically significant in both specifications, indicating that job postings grow less or decline more in borrowing states than in non-borrowing states from 2019 to 2021. The results support the interpretation that anticipated increases in UI-related labor costs influence firms’ geographic allocation of new vacancies.

To connect UI financing pressure more directly to statutory employer costs, we next examine changes in $MaxUIT$ from 2020 to 2021 relative to each firm’s pre-COVID recruiting footprint. An increase in a state’s exposure should provide a stronger incentive to redirect vacancies when the firm’s other incumbent posting states experience smaller increases or declines. Similar changes across these states, by contrast, provide less incentive for geographic reallocation. We measure each state’s change in $MaxUIT$ relative to the firm’s posting-weighted average change across its pre-COVID posting states. For each incumbent firm–state pair,

$$\Delta MaxUIT_{f,s}^{rel} = \Delta MaxUIT_s - \sum_{k \in S_f^{pre}} w_{f,k}^{pre} \Delta MaxUIT_k, \quad (7)$$

¹²State $\times$ year fixed effects would absorb $Borrow_s \times Post_t$, which takes the same value for all firms in a given state and year.

where $\Delta MaxUIT_s = MaxUIT_{s,2021} - MaxUIT_{s,2020}$, $\mathcal{S}_f^{pre}$ is the set of states in which firm f posted jobs in 2019, and $w_{f,k}^{pre}$ is the share of firm f 's 2019 postings in state k . Both the recruiting footprint and the posting weights are fixed at their pre-COVID values. We define $HighRelExp_{f,s}$ as an indicator equal to one if $\Delta MaxUIT_{f,s}^{rel} > 0$, and zero otherwise. This indicator identifies states where exposure increased more, or decreased less, than the firm's weighted average change across its pre-COVID posting states.

Columns (3)–(4) of Table 9 replace the borrowing-state treatment in equation (6) with $HighRelExp_{f,s} \times Post_t$. Column (3) includes region $\times$ year fixed effects, while column (4) includes state $\times$ year fixed effects. The coefficients are negative and marginally significant in both columns, indicating that postings grow less or decline more in states whose UI tax exposure rose relative to the firm's pre-COVID posting-weighted average change. These results provide some evidence that firms adjust postings in response to changes in statutory UI tax exposure relative to their established recruiting alternatives.

We next exploit differences in firms' pre-COVID ability to shift hiring across states. Firms with broader and more dispersed pre-COVID posting footprints may have more feasible recruiting alternatives. If firms respond to higher expected UI-related separation costs by reallocating vacancies, the negative posting response to relative increases in exposure should be stronger among geographically flexible firms. We test this prediction using a triple-difference specification:

$$\begin{aligned} \mathbb{E}[JobPostings_{f,s,t} \mid \cdot] = \exp \Big\{ & \alpha + \beta \left(HighRelExp_{f,s} \times Post_t \times Ability_f^{pre} \right) \\ & + \gamma_1 HighRelExp_{f,s} + \gamma_2 \left(HighRelExp_{f,s} \times Post_t \right) \\ & + \gamma_3 \left(HighRelExp_{f,s} \times Ability_f^{pre} \right) + \mu_{f,t} + \lambda_{s,t} \Big\}. \end{aligned} \quad (8)$$

The variable $Ability_f^{pre}$ measures pre-COVID geographic flexibility using the proxies introduced in Section 5.2, constructed over 2017–2019. The specification includes firm $\times$ year fixed effects, $\mu_{f,t}$, and state $\times$ year fixed effects, $\lambda_{s,t}$. The specification includes the relevant main effects and lower-order interactions not absorbed by the fixed effects, as shown in equation 8. The coefficient β tests whether the response to relative increases in $MaxUIT$ is stronger among firms with greater pre-COVID geographic flexibility.

Columns (5)–(7) of Table 9 report negative coefficients on all three triple-interaction terms. The coefficient is statistically significant at the 5% level for *HighDispersion* and at the 10% level for *HighScope* and *HighMSI*. These estimates indicate that postings respond more negatively to relative increases in UI tax exposure among firms with greater pre-COVID

geographic flexibility. The findings support the interpretation that established recruiting alternatives enable firms to redirect vacancies in response to prospective UI costs, even after accounting for firm-wide recruiting changes and common state-year shocks.

Finally, placebo tests using non-COVID event windows do not reproduce the borrowing-based, firm-relative exposure, or triple-difference results from the COVID window (Appendix Table A.6).¹³ These findings reduce concerns that the Title XII results reflect recurring differences in posting trends across borrowing groups or incumbent recruiting locations. Together, the Title XII results and placebo evidence strengthen the interpretation that prospective UI-related costs influence firms' internal allocation of new vacancies.

7. Posting Reallocation and Future Firm Outcomes

We next examine whether firms' allocation of postings toward lower-UI-cost states is associated with subsequent valuation and operating performance. This analysis connects managers' geographic hiring choices to the value and operating consequences of internal resource allocation. Redirecting postings toward states with lower expected separation costs may reduce future workforce-adjustment exposure, but these states may not be the most productive or strategically valuable hiring locations. Firms may face thinner labor markets, weaker worker-firm matches, or operational disruption when redirecting hiring across states. The financial implications therefore depend on both anticipated separation-cost savings and the operating consequences of hiring location. We assess these implications using *Tobin's Q*, *ROA*, and *Asset Turnover*, which measure market valuation, profitability, and operating efficiency, respectively.

To implement this analysis, we build on the firm-year UI exposure measures introduced in Section 4.3. The evidence in that section suggests that UI tax exposure affects where firms post jobs more than the total number of vacancies they create. We therefore construct $LowCostTilt_{f,t-1}$, which measures the extent to which a firm's posting allocation favors lower- $MaxUIT$ states relative to an equal allocation across its existing recruiting states.

$$LowCostTilt_{f,t-1} = \overline{\log(1 + MaxUIT)}_{f,t-1}^{Equal} - \overline{\log(1 + MaxUIT)}_{f,t-1}^{Post} \quad (9)$$

¹³The placebo tests apply the same short-window estimation approach outside the five-year window surrounding the COVID shock. Appendix Table A.6 uses 2014 as the placebo event year, comparing 2013 with 2015 and omitting 2014. We apply the same sample-construction rules as in the Title XII tests, defining incumbent firm-state pairs and the minimum firm-level posting threshold using the placebo pre-period, without conditioning on post-period postings.

The first term is the equal-weighted average of $\log(1 + \text{MaxUIT})$ across the states in which firm f posts jobs in year $t - 1$, while the second term is the posting-weighted average across the same states. A higher value indicates that the firm’s posting allocation implies lower average statutory exposure relative to the equal-weighted benchmark. The measure captures the geographic tilt of postings within the firm’s recruiting footprint, rather than a change in that allocation over time. We use the within-year standardized value, $Z(\text{LowCostTilt})$, so the coefficient measures the association between a one-standard-deviation increase in posting tilt and subsequent firm outcomes.

We estimate the following firm-level specification separately for outcomes one and two years after the posting allocation is measured:

$$Y_{f,t+h} = \alpha + \beta_1 Z(\text{LowCostTilt})_{f,t-1} + \beta_2 \overline{\log(1 + \text{MinUIT})}_{f,t-1} + \Gamma' X_{f,t-1} + \Lambda' W_{f,t-1}^{\text{Post}} + \alpha_f + \delta_t + \varepsilon_{f,t+h}, \quad h \in \{0, 1\}. \quad (10)$$

The dependent variable is evaluated in year t or $t + 1$, while posting tilt and all controls are measured in year $t - 1$. The vector $X_{f,t-1}$ includes lagged firm-level controls, and $W_{f,t-1}^{\text{Post}}$ includes posting-weighted state-level controls using the firm’s year- $t - 1$ posting shares. We also control for average statutory UI tax exposure at the minimum rate through $\overline{\log(1 + \text{MinUIT})}_{f,t-1}$. All specifications include firm and year fixed effects. The coefficient of interest, β_1 , captures the association between low-cost posting tilt and subsequent firm outcomes.

Table 10 reveals contrasting associations with market valuation and realized operating performance. On the valuation side, the coefficient on $Z(\text{LowCostTilt})$ in the *Tobin’s Q* regressions is positive and statistically significant in year t , and remains positive, though marginally significant, in year $t + 1$. The higher valuation associated with low-cost posting tilt is consistent with investors valuing anticipated reductions in future separation-cost exposure. The profitability results, however, point in the opposite direction. The coefficient in the *ROA* regressions is negative and statistically significant in both years. The *Asset Turnover* results also indicate weaker operating performance, with a negative and statistically significant coefficient in year t , but a small and statistically insignificant coefficient in year $t + 1$. The evidence of lower operating efficiency is therefore limited to the shorter horizon.

These contrasting outcomes are consistent with a trade-off between the anticipated benefits of lower separation-cost exposure and the potential operating costs of reallocating hiring across locations. Managerial discretion over hiring location gives firms a means of managing prospective workforce-adjustment exposure, but the value of these choices also depends

on how effectively workers contribute to operations in the selected locations. The findings therefore underscore the importance of evaluating managerial hiring allocation in terms of both prospective cost exposure and the productive deployment of labor within the firm.

8. Conclusion

This paper examines how managers of multi-state firms use the geographic allocation of new hiring commitments to manage prospective workforce-adjustment exposure. Using variation in UI systems across U.S. states, we find that firms post more vacancies in states with lower expected separation-cost exposure, with little evidence of a reduction in total firm-level recruiting. These findings are consistent with geographic reallocation of hiring. Higher exposure to experience-rated UI costs is also associated with a lower share of full-time, non-internship postings, suggesting adjustments in both the location and composition of prospective employment relationships. The geographic response is stronger when expected separation costs are more salient and when firms have greater geographic flexibility. Evidence from Title XII borrowing provides additional support for the interpretation that anticipated increases in UI-related labor costs influence hiring allocation. A greater posting tilt toward lower-exposure states is also associated with higher market valuation but lower realized profitability and short-run operating efficiency.

The broader insight concerns how firms' internal organization shapes their responses to prospective workforce-adjustment costs. Allocating new hiring commitments across locations determines both where the firm deploys productive resources and which state UI rules govern the resulting employment relationships. Established recruiting networks give managers alternatives for placing these commitments before hiring occurs. Geographic flexibility therefore provides a means of responding to differences in prospective separation costs through the location of new vacancies. The evidence thus connects the incentives created by state UI rules with firms' organizational capacity to adjust hiring locations, identifying new employment commitments as a margin of internal resource allocation.

The financial results point to a potential trade-off between prospective employment costs and the operating benefits of alternative hiring locations. A greater posting tilt toward states with lower statutory UI tax exposure is associated with higher market valuation but weaker realized profitability and short-run operating efficiency. These contrasting associations suggest that the potential benefits of lower future adjustment costs need to be considered alongside the operational consequences of hiring allocation, although they do not establish the mechanism underlying either outcome. For managers and investors, evaluating

these decisions therefore requires weighing prospective cost savings against the productive opportunities available across the firm's locations. The broader implication is that lower statutory cost exposure alone is insufficient to assess the value of a hiring allocation; that assessment also depends on where labor can be deployed productively.

References

- Alchian, Armen A., and Harold Demsetz, 1972, Production, information costs, and economic organization, *American Economic Review* 62, 777–795.
- Almeida, Heitor, Chang-Soo Kim, and Hwanki Brian Kim, 2015, Internal capital markets in business groups: Evidence from the Asian Financial Crisis, *Journal of Finance* 70, 2539–2586.
- Anderson, Patricia M., and Bruce D. Meyer, 2000, The effects of the unemployment insurance payroll tax on wages, employment, claims and denials, *Journal of Public Economics* 78, 81–106.
- Autor, David H., 2003, Outsourcing at will: The contribution of unjust dismissal doctrine to the growth of employment outsourcing, *Journal of Labor Economics* 21, 1–42.
- Autor, David H., John J. Donohue, and Stewart J. Schwab, 2006, The costs of wrongful-discharge laws, *Review of Economics and Statistics* 88, 211–231.
- Autor, David H., William R. Kerr, and Adriana D. Kugler, 2007, Does employment protection reduce productivity? Evidence from U.S. states, *Economic Journal* 117, F189–F217.
- Azar, José, Ioana Marinescu, Marshall Steinbaum, and Bledi Taska, 2020, Concentration in U.S. labor markets: Evidence from online vacancy data, *Labour Economics* 66, 101886.
- Bai, John (Jianqiu), Douglas Fairhurst, and Matthew Serfling, 2020, Employment protection, investment, and firm growth, *The Review of Financial Studies* 33, 644–688, doi: 10.1093/rfs/hhz066.
- Bentolila, Samuel, and Giuseppe Bertola, 1990, Firing costs and labour demand: How bad is eurosclerosis?, *Review of Economic Studies* 57, 381–402.
- Bloom, Nicholas, 2009, The impact of uncertainty shocks, *Econometrica* 77, 623–685.
- Bloom, Nicholas, Stephen Bond, and John Van Reenen, 2007, Uncertainty and investment dynamics, *Review of Economic Studies* 74, 391–415.
- Card, David, Raj Chetty, and Andrea Weber, 2007, The spike at benefit exhaustion: Leaving the unemployment system or starting a new job?, *American Economic Review* 97, 113–118.
- Deming, David J., and Lisa B. Kahn, 2018, Skill requirements across firms and labor markets: Evidence from job postings for professionals, *Journal of Labor Economics* 36, S337–S369.
- Giroud, Xavier, and Holger M. Mueller, 2015, Capital and labor reallocation within firms, *Journal of Finance* 70, 1767–1804.
- Giroud, Xavier, and Holger M. Mueller, 2019, Firms’ internal networks and local economic shocks, *American Economic Review* 109, 3617–3649.

- Giroud, Xavier, and Joshua Rauh, 2019, State taxation and the reallocation of business activity: Evidence from establishment-level data, *Journal of Political Economy* 127, 1262–1316, doi: 10.1086/701357.
- Guo, Audrey, 2023, The effects of state business taxes on plant closures: Evidence from unemployment insurance taxation and multiestablishment firms, *Review of Economics and Statistics* 105, 580–595.
- Guo, Audrey, 2024, Payroll tax incidence: Evidence from unemployment insurance, *Journal of Public Economics* 239, 105209.
- Hershbein, Brad, and Lisa B. Kahn, 2018, Do recessions accelerate routine-biased technological change? Evidence from vacancy postings, *American Economic Review* 108, 1737–1772.
- Hopenhayn, Hugo, and Richard Rogerson, 1993, Job turnover and policy evaluation: A general equilibrium analysis, *Journal of Political Economy* 101, 915–938.
- Johnston, Andrew C., 2021, Unemployment insurance taxes and labor demand: Quasi-experimental evidence from administrative data, *American Economic Journal: Economic Policy* 13, 266–293.
- Lazear, Edward P., 1990, Job security provisions and employment, *Quarterly Journal of Economics* 105, 699–726.
- Nguyen, Duc Duy, and Vathunyoo Sila, 2025, Corporate hiring under uncertainty, *Review of Corporate Finance Studies* 14, 949–988.
- Parsons, Donald O., 2017, The unemployment insurance taxable wage base mystery, IZA Discussion Paper 10893, IZA Institute of Labor Economics.
- Ratner, David D., 2013, Unemployment insurance experience rating and labor market dynamics, Finance and Economics Discussion Series 2013-86, Board of Governors of the Federal Reserve System.
- Serfling, Matthew A., 2016, Firing costs and capital structure decisions, *Journal of Finance* 71, 2239–2286.
- Shin, Hyun-Han, and René M. Stulz, 1998, Are internal capital markets efficient?, *Quarterly Journal of Economics* 113, 531–552.
- Stein, Jeremy C., 1997, Internal capital markets and the competition for corporate resources, *Journal of Finance* 52, 111–133.
- Suárez Serrato, Juan Carlos, and Owen Zidar, 2016, Who benefits from state corporate tax cuts? A local labor markets approach with heterogeneous firms, *American Economic Review* 106, 2582–2624, doi: 10.1257/aer.20141702.

Vroman, Wayne, Elaine Maag, Christopher J. O’Leary, and Stephen A. Woodbury, 2017, A comparative analysis of unemployment insurance financing methods, Technical report, Urban Institute, Washington, DC, Prepared for the U.S. Department of Labor, Chief Evaluation Office.

Williamson, Oliver E., 1975, *Markets and Hierarchies: Analysis and Antitrust Implications* (Free Press, New York, NY).

Table 1
Geographic Breadth of Job Posting Activity and Cross-State Variation in UI Tax Exposure

This table reports firm-year-level statistics for firms in the Compustat-CRSP-Lightcast database from 2010 to 2024. The sample includes firm-year observations in which the firm posts at least one job opening. Panel A reports the geographic breadth of firms' job posting activity. A firm is considered present in a state in a given firm-year if it posts at least one job opening in that state during that year. *Multi-State Posting Indicator* equals one if the firm posts job openings in more than one state. *Number of Posting States* is the number of U.S. states in which the firm posts at least one job opening. *Posting in 10+ States Indicator* equals one if the firm posts job openings in at least 10 states. Panel B reports within-firm-year cross-state variation in statutory UI tax exposure for 36,783 firm-year observations with postings in more than one state. *RangeMaxUIT* and *SDMaxUIT* are computed across states in which the firm posts job openings within a firm-year, using *MaxUIT*. *RangeMinUIT* and *SDMinUIT* are defined analogously using *MinUIT*. *MaxUIT* is computed as the product of a state's statutory maximum UI tax rate and taxable wage base, adjusted for inflation using the CPI, and captures the upper bound of statutory UI tax exposure per worker. *MinUIT* is computed analogously using the statutory minimum UI tax rate and captures the baseline statutory UI tax component per worker. *RangeMaxTaxRate* and *RangeMinTaxRate* are the within-firm-year ranges in maximum and minimum UI tax rates, respectively. *RangeTaxableWage* is the within-firm-year range in taxable wage bases.

	Mean	SD	25th	Median	75th
Panel A: Geographic Breadth of Job Posting Activity (Firm-Year Level)					
<i>Multi-State Posting Indicator</i>	0.81	0.39	1.00	1.00	1.00
<i>Number of Posting States</i>	14.79	15.56	2.00	8.00	24.00
<i>Posting in 10+ States Indicator</i>	0.46	0.50	0.00	0.00	1.00
Panel B: Cross-State Variation in UI Tax Exposure (Multi-State Firm-Years)					
<i>Dollar Variation in UI Tax Exposure</i>					
<i>RangeMaxUIT</i> (\$ / worker)	794.42	356.70	546.95	886.43	1,042.03
<i>SDMaxUIT</i> (\$ / worker)	259.71	102.52	208.62	277.23	309.68
<i>RangeMinUIT</i> (\$ / worker)	119.52	83.73	50.21	107.11	161.51
<i>SDMinUIT</i> (\$ / worker)	34.38	19.58	21.26	31.91	43.59
<i>Institutional Sources of Variation</i>					
<i>RangeMaxTaxRate</i> (%)	6.52	3.68	4.36	6.30	8.10
<i>RangeMinTaxRate</i> (%)	1.71	0.74	1.40	1.50	2.39
<i>RangeTaxableWage</i> (\$)	11,045.13	5,534.98	7,027.92	12,600.54	15,249.12

Table 2
Summary Statistics for Baseline Regression Variables

This table reports summary statistics for the baseline regression variables from the Compustat–CRSP–Lightcast database over 2010–2024. Panels A and B are based on 673,692 firm–state–year observations. Panel A reports unemployment insurance (UI) policy variables and state-level characteristics. Panel B reports job-posting characteristics. Panel C reports firm characteristics based on 45,543 firm–year observations. *MaxUIT* and *MinUIT* denote the maximum and minimum statutory UI tax exposure implied by a state’s UI tax schedule. These measures are computed as the product of the statutory maximum or minimum UI tax rate and the taxable wage base in a given state–year, adjusted for inflation using the Consumer Price Index. *MaxUIT* captures the upper bound of statutory UI tax exposure per worker, whereas *MinUIT* captures the baseline statutory UI tax component per worker. $\text{Log}(1+\text{MaxUIT})$ and $\text{Log}(1+\text{MinUIT})$ are the natural logarithms of one plus the corresponding statutory UI tax exposure measures. *JobPostings* is the number of job postings by firm f in state s during year t . All continuous variables, except state-level controls, UI policy variables, and count variables, are winsorized at the 1% and 99% levels. *Average Population Age*, *Male Population Share*, and *White Population Share* are not available for 2020; we use their 2019 values for that year. Detailed variable definitions and data sources are provided in Appendix A.

	Mean	SD	25th	Median	75th
Panel A: UI Policy and State Characteristics (Firm–State–Year Level)					
<i>MaxUIT</i> (\$)	474.01	286.47	253.69	379.07	632.15
<i>MinUIT</i> (\$)	31.57	43.15	2.64	18.89	42.67
$\text{Log}(1+\text{MaxUIT})$	6.00	0.58	5.54	5.94	6.45
$\text{Log}(1+\text{MinUIT})$	2.55	1.57	1.29	2.99	3.78
<i>State Unemployment Rate</i> (%)	5.75	2.34	3.90	5.20	7.30
<i>GDP per Capita</i> (\$ thousand)	23.22	4.25	20.09	22.82	25.66
<i>GDP Growth</i> (%)	4.43	4.05	2.40	4.00	6.20
<i>Average Population Age</i>	38.62	1.64	37.73	38.67	39.65
<i>Male Population Share</i>	0.50	0.01	0.49	0.50	0.51
<i>White Population Share</i>	0.74	0.12	0.66	0.75	0.83
<i>Democratic House Representation</i>	0.46	0.31	0.23	0.38	0.70
Panel B: Job Posting Characteristics (Firm–State–Year Level)					
<i>JobPostings</i>	133.25	728.42	3.00	14.00	68.00
Panel C: Firm Characteristics (Firm–Year Level)					
<i>Employees</i> (thousands)	14.33	39.72	0.41	2.05	9.20
<i>Assets</i> (\$ billion)	6.56	30.03	0.12	0.56	2.34
<i>CAPEX/Assets</i>	0.03	0.04	0.01	0.02	0.05
<i>ROA</i>	0.04	0.21	0.02	0.09	0.15
<i>Leverage Ratio</i>	0.24	0.23	0.04	0.18	0.37
<i>Tobin’s Q</i>	2.10	1.70	1.06	1.47	2.39

Table 3
Effects of UI Tax Exposure on Job Postings

This table reports estimates of the relation between state unemployment insurance tax exposure and firm job postings over 2010–2024. Panels A and C report PPML estimates using firm–state–year job postings as the dependent variable. Panel B reports OLS estimates using $\log(1 + \text{JobPostings})$ as the dependent variable. In Panels A and B, columns (1)–(2) use $\log(1 + \text{MaxUIT})$, columns (3)–(4) use $\log(1 + \text{MinUIT})$, and columns (5)–(6) include both measures. Panel C uses $\log(\text{MaxUIT} - \text{MinUIT})$ in place of the separate *MaxUIT* and *MinUIT* measures and reports two PPML specifications. Columns with firm and year fixed effects include separate firm and year fixed effects; columns with firm $\times$ year fixed effects absorb firm-year shocks. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the firm–year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Number of Job Postings (PPML)						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log(1+MaxUIT)</i>	-0.786*** (0.000)	-0.790*** (0.000)			-0.802*** (0.000)	-0.806*** (0.000)
<i>Log(1+MinUIT)</i>			-0.047*** (0.000)	-0.047*** (0.000)	0.026*** (0.000)	0.027*** (0.000)
<i>Log(Assets)</i>	0.246*** (0.000)		0.245*** (0.000)		0.246*** (0.000)	
<i>Leverage Ratio</i>	0.168* (0.090)		0.173* (0.080)		0.167* (0.091)	
<i>ROA</i>	-0.026 (0.893)		-0.037 (0.846)		-0.027 (0.890)	
<i>Tobin's Q</i>	0.045*** (0.004)		0.045*** (0.004)		0.045*** (0.004)	
<i>CAPEX/Assets</i>	1.245 (0.146)		1.263 (0.138)		1.238 (0.148)	
<i>Log(Employees)</i>	0.263*** (0.000)		0.251*** (0.000)		0.263*** (0.000)	
<i>State Unemployment Rate</i>	0.170*** (0.000)	0.183*** (0.000)	0.207*** (0.000)	0.222*** (0.000)	0.164*** (0.000)	0.176*** (0.000)
<i>Log(Average Population Age)</i>	-3.721*** (0.000)	-3.632*** (0.000)	-2.628*** (0.000)	-2.527*** (0.000)	-3.759*** (0.000)	-3.665*** (0.000)
<i>Log(GDP per Capita)</i>	1.675*** (0.000)	1.706*** (0.000)	1.349*** (0.000)	1.377*** (0.000)	1.641*** (0.000)	1.670*** (0.000)
<i>GDP Growth</i>	4.917*** (0.000)	5.621*** (0.000)	5.825*** (0.000)	6.651*** (0.000)	4.982*** (0.000)	5.748*** (0.000)
<i>Male Population Share</i>	0.573 (0.327)	0.409 (0.477)	6.851*** (0.000)	7.046*** (0.000)	0.609 (0.298)	0.451 (0.433)
<i>White Population Share</i>	-0.065 (0.122)	-0.068* (0.089)	-1.258*** (0.000)	-1.271*** (0.000)	-0.074* (0.079)	-0.083** (0.034)
<i>Democratic House Representation</i>	0.271*** (0.000)	0.251*** (0.000)	0.096*** (0.000)	0.073*** (0.001)	0.235*** (0.000)	0.215*** (0.000)
F-test p-value: $\text{Log}(1+\text{MaxUIT}) = \text{Log}(1+\text{MinUIT})$					<0.001	<0.001
Firm FE	Yes	No	Yes	No	Yes	No
Year FE	Yes	No	Yes	No	Yes	No
Firm $\times$ Year FE	No	Yes	No	Yes	No	Yes
Observations	673,238	664,932	673,238	664,932	673,238	664,932
Pseudo R^2	0.620	0.677	0.579	0.636	0.620	0.678

Table 3 (continued)
Effects of UI Tax Exposure on Job Postings

Panel B: Log(1+ JobPostings) (OLS)						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log(1+MaxUIT)</i>	-0.518*** (0.000)	-0.537*** (0.000)			-0.521*** (0.000)	-0.538*** (0.000)
<i>Log(1+MinUIT)</i>			-0.037*** (0.000)	-0.042*** (0.000)	0.006*** (0.000)	0.003** (0.019)
F-test: <i>Log(1+MaxUIT) = Log(1+MinUIT)</i>					<0.001	<0.001
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes
State-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	No	Yes	No	Yes	No
Year FE	Yes	No	Yes	No	Yes	No
Firm $\times$ Year FE	No	Yes	No	Yes	No	Yes
Observations	673,692	673,692	673,692	673,692	673,692	673,692
Adjusted R^2	0.438	0.495	0.418	0.473	0.438	0.495
Panel C: Number of Job Postings (PPML), Spread Specification						
	(1)		(2)			
<i>Log(MaxUIT- MinUIT)</i>	-0.751*** (0.000)		-0.754*** (0.000)			
Firm-level controls	Yes		No			
State-level controls	Yes		Yes			
Firm FE	Yes		No			
Year FE	Yes		No			
Firm $\times$ Year FE	No		Yes			
Observations	673,238		664,932			
Pseudo R^2	0.620		0.678			

Table 4
Within-Firm Reallocation of Job Postings and Relative UI Tax Exposure

This table reports PPML estimates of the relation between relative UI tax exposure and the within-firm geographic allocation of job postings. *DevMaxUIT* is the difference between a state's prior-year $\log(1 + \text{MaxUIT})$ and the firm's average prior-year $\log(1 + \text{MaxUIT})$ across posting states. *DevMinUIT* is defined analogously using prior-year $\log(1 + \text{MinUIT})$ and is included in the expanded specification. The indicators $\mathbf{1}\{\text{DevMaxUIT} > 0\}$ and $\mathbf{1}\{\text{DevMinUIT} > 0\}$ equal one when the corresponding deviation is positive, and zero otherwise. Their interactions with the deviation measures allow slopes to differ above and below the firm's prior-year average, as specified in Equation (3). The two deviation measures capture relative exposure to the maximum and minimum statutory UI tax liabilities, respectively. The dependent variable is the number of job postings at the firm–state–year level. The sample includes firm–years in which the firm posts jobs in at least two states. All specifications include firm $\times$ year fixed effects. The row labeled $\beta_1 + \beta_2$ reports the slope of log expected postings with respect to *DevMaxUIT* when *DevMaxUIT* > 0 . The accompanying *p*-value tests whether this sum equals zero. Detailed variable definitions and data sources are provided in Appendix A. *p*-values based on standard errors clustered at the firm $\times$ year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)
<i>DevMaxUIT</i>	-1.023*** (0.000)	-1.042*** (0.000)
<i>DevMaxUIT</i> $\times$ $\mathbf{1}\{\text{DevMaxUIT} > 0\}$	0.520*** (0.000)	0.597*** (0.000)
<i>DevMinUIT</i>		0.128*** (0.000)
<i>DevMinUIT</i> $\times$ $\mathbf{1}\{\text{DevMinUIT} > 0\}$		-0.238*** (0.000)
Above-average exposure slope: $\beta_1 + \beta_2$	-0.503***	-0.445***
<i>p</i> -value: $\beta_1 + \beta_2 = 0$	(< 0.001)	(< 0.001)
Controls	Yes	Yes
Firm $\times$ Year FE	Yes	Yes
Observations	664,932	664,932
Pseudo R^2	0.679	0.681

Table 5
Firm-Level Total Job Postings and UI Tax Exposure

This table reports firm-level PPML regressions of total job postings on firm-level unemployment insurance tax exposure. The dependent variable is total firm job postings at the firm-year level. $\overline{\log(1 + MaxUIT)}_{f,t-1}$ is the firm-year average of $\log(1 + MaxUIT_{s,t-1})$ across states in which firm f posts job openings, measured using prior-year state UI exposure. $\overline{\log(1 + MinUIT)}_{f,t-1}$ is defined analogously. Conceptually, $\overline{\log(1 + MaxUIT)}_{f,t-1}$ captures average exposure to the experience-rated component of UI tax costs, whereas $\overline{\log(1 + MinUIT)}_{f,t-1}$ captures the average baseline UI payroll-tax component. All specifications include firm-level controls, firm fixed effects, and year fixed effects. Columns with state-level controls use firm-year averages across the firm's posting states. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the firm level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
$\overline{\log(1 + MaxUIT)}$	-0.066 (0.937)	-0.030 (0.971)	0.004 (0.997)	0.074 (0.936)
$\overline{\log(1 + MinUIT)}$			-0.038 (0.744)	-0.057 (0.587)
Firm-level controls	Yes	Yes	Yes	Yes
State-level controls	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	52,872	52,872	52,872	52,872
Pseudo R^2	0.943	0.944	0.943	0.944

Table 6
Longer-Term Employment Commitments under UI Tax Exposure

This table reports OLS regressions of the share of full-time non-internship postings on unemployment insurance tax exposure. The dependent variable is the share of full-time non-internship postings at the firm–state–year level, which proxies for the extent to which posted vacancies involve longer-term employment commitments. Lightcast classifies postings as full-time, part-time, full-time/part-time, or internship positions. We classify full-time/part-time postings as non-full-time; in robustness checks, the results are similar when these postings are classified as full-time. $\text{Log}(1+MaxUIT)$ is the natural logarithm of one plus the maximum statutory unemployment insurance tax exposure implied by a state’s experience-rating schedule, computed as the product of the statutory maximum unemployment insurance tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+MinUIT)$ is defined analogously using the statutory minimum unemployment insurance tax rate. Conceptually, $\text{Log}(1+MaxUIT)$ captures exposure to the experience-rated component of UI tax costs, whereas $\text{Log}(1+MinUIT)$ captures the baseline UI payroll-tax component. The UI tax exposure variables and controls are measured in the prior year. All specifications include state-level controls. Columns (1)–(2) include firm-level controls, firm fixed effects, and year fixed effects; columns (3)–(4) include firm $\times$ year fixed effects, which absorb firm-level controls and firm-year shocks. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the firm–year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
$\text{Log}(1+MaxUIT)$	-0.004*** (0.000)	-0.004*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
$\text{Log}(1+MinUIT)$		-0.000 (0.253)		-0.000 (0.342)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	673,692	673,692	673,692	673,692
Adjusted R^2	0.360	0.360	0.556	0.556

Table 7
Economic Conditions and the Effects of UI Tax Exposure on Job Postings

This table reports cross-sectional variation in the relation between unemployment insurance tax exposure and job postings across economic environments. The dependent variable is the number of job postings at the firm–state–year level, and all specifications are estimated using Poisson pseudo–maximum likelihood (PPML). $\text{Log}(1+\text{MaxUIT})$ is the natural logarithm of one plus the maximum statutory unemployment insurance tax exposure implied by a state’s experience-rating schedule, computed as the product of the statutory maximum unemployment insurance tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+\text{MinUIT})$ is defined analogously using the statutory minimum unemployment insurance tax rate. The UI tax exposure variables and controls are measured in the prior year. Panel A uses an indicator for states in the top quartile of layoffs and discharges within a year. Panel B uses an indicator for firms in the top quartile of sales growth. Panel C uses *High Concentration*, an indicator for state–industry labor market concentration, measured as a top-quartile Herfindahl–Hirschman Index. All specifications include the same set of firm-level and state-level controls as in Table 3. Columns (1)–(2) include firm and year fixed effects, and columns (3)–(4) include firm $\times$ year fixed effects. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the firm–year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Separation Risk and State Layoffs				
	(1)	(2)	(3)	(4)
$\text{Log}(1+\text{MaxUIT}) \times \text{High State Layoff}$	-0.391*** (0.000)	-0.395*** (0.000)	-0.393*** (0.000)	-0.398*** (0.000)
$\text{Log}(1+\text{MaxUIT})$	-0.397*** (0.000)	-0.387*** (0.000)	-0.403*** (0.000)	-0.390*** (0.000)
<i>High State Layoff</i>	3.039*** (0.000)	3.067*** (0.000)	3.053*** (0.000)	3.090*** (0.000)
$\text{Log}(1+\text{MinUIT})$		-0.014*** (0.000)		-0.015*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	673,238	673,238	664,932	664,932
Pseudo R^2	0.645	0.645	0.702	0.702

Table 7 (continued)
Economic Conditions and the Effects of UI Tax Exposure on Job Postings

Panel B: Demand Conditions and Sales Growth				
	(1)	(2)	(3)	(4)
<i>Log(1+MaxUIT) × High Sales Growth</i>	0.056 (0.132)	0.057 (0.125)	0.075* (0.056)	0.077* (0.051)
<i>Log(1+MaxUIT)</i>	-0.796*** (0.000)	-0.812*** (0.000)	-0.804*** (0.000)	-0.820*** (0.000)
<i>High Sales Growth</i>	-0.369* (0.086)	-0.375* (0.081)		
<i>Log(1+MinUIT)</i>		0.026*** (0.000)		0.027*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm × Year FE	No	No	Yes	Yes
Observations	669,310	669,310	661,949	661,949
Pseudo R^2	0.620	0.620	0.677	0.677
Panel C: Labor Market Concentration				
	(1)	(2)	(3)	(4)
<i>Log(1+MaxUIT) × High Concentration</i>	-0.187*** (0.000)	-0.189*** (0.000)	-0.196*** (0.000)	-0.198*** (0.000)
<i>Log(1+MaxUIT)</i>	-0.770*** (0.000)	-0.787*** (0.000)	-0.770*** (0.000)	-0.787*** (0.000)
<i>High Concentration</i>	1.127*** (0.000)	1.135*** (0.000)	1.155*** (0.000)	1.166*** (0.000)
<i>Log(1+MinUIT)</i>		0.030*** (0.000)		0.032*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm × Year FE	No	No	Yes	Yes
Observations	403,450	403,450	399,898	399,898
Pseudo R^2	0.632	0.633	0.687	0.687

Table 8
Spatial Frictions in the Effects of UI Tax Exposure on Job Postings

This table reports cross-sectional variation in the relation between unemployment insurance tax exposure and job postings across firms with different geographic posting structures. The dependent variable is the number of job postings at the firm–state–year level, and all specifications are estimated using Poisson pseudo–maximum likelihood (PPML). $\text{Log}(1+MaxUIT)$ is the natural logarithm of one plus the maximum statutory unemployment insurance tax exposure implied by a state’s experience-rating schedule, computed as the product of the statutory maximum unemployment insurance tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+MinUIT)$ is defined analogously using the statutory minimum unemployment insurance tax rate. The UI tax exposure variables and controls are measured in the prior year. Panel A examines geographic scope using *HighScope*, an indicator equal to one for firms in the top quartile of the number of posting states over the last three years. Panel B examines geographic dispersion using *HighDispersion*, an indicator equal to one for firms in the bottom quartile of the HHI of postings across states over the last three years. Panel C examines multi-state intensity using *HighMSI*, an indicator equal to one for firms in the top quartile of the share of postings outside the headquarters state over the last three years. All specifications include the same firm-level and state-level controls as in Table 3. Columns (1)–(2) include firm and year fixed effects, and columns (3)–(4) include firm $\times$ year fixed effects. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the firm–year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Number of Posting States (<i>HighScope</i>)				
	(1)	(2)	(3)	(4)
$\text{Log}(1+MaxUIT) \times \text{HighScope}$	-0.054** (0.028)	-0.056** (0.022)	-0.054** (0.037)	-0.057** (0.030)
$\text{Log}(1+MaxUIT)$	-0.771*** (0.000)	-0.786*** (0.000)	-0.773*** (0.000)	-0.788*** (0.000)
<i>HighScope</i>	0.528*** (0.001)	0.540*** (0.001)		
$\text{Log}(1+MinUIT)$		0.027*** (0.000)		0.028*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	559,733	559,733	554,030	554,030
Pseudo R^2	0.633	0.633	0.682	0.682

Table 8 (continued)
Spatial Frictions in the Effects of UI Tax Exposure on Job Postings

Panel B: Dispersion in Posting States (<i>HighDispersion</i>)				
	(1)	(2)	(3)	(4)
$\text{Log}(1+MaxUIT) \times HighDispersion$	-0.116*** (0.000)	-0.119*** (0.000)	-0.116*** (0.000)	-0.119*** (0.000)
$\text{Log}(1+MaxUIT)$	-0.727*** (0.000)	-0.741*** (0.000)	-0.730*** (0.000)	-0.743*** (0.000)
$HighDispersion$	0.670*** (0.000)	0.687*** (0.000)		
$\text{Log}(1+MinUIT)$		0.028*** (0.000)		0.028*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	559,733	559,733	554,030	554,030
Pseudo R^2	0.632	0.632	0.682	0.682
Panel C: Multi-State Intensity (<i>HighMSI</i>)				
	(1)	(2)	(3)	(4)
$\text{Log}(1+MaxUIT) \times HighMSI$	-0.151*** (0.000)	-0.152*** (0.000)	-0.148*** (0.000)	-0.148*** (0.000)
$\text{Log}(1+MaxUIT)$	-0.736*** (0.000)	-0.751*** (0.000)	-0.740*** (0.000)	-0.755*** (0.000)
$HighMSI$	1.156*** (0.000)	1.158*** (0.000)		
$\text{Log}(1+MinUIT)$		0.027*** (0.000)		0.027*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	510,459	510,459	505,385	505,385
Pseudo R^2	0.640	0.640	0.688	0.688

Table 9
Title XII Borrowing during COVID, Relative UI Tax Exposure, and Job Postings

This table reports short-window PPML estimates using Title XII borrowing during the COVID shock as a source of variation in state UI financing pressure. The dependent variable is the number of job postings at the firm–state–year level. The sample includes 2019 and 2021, with 2019 serving as the pre-period and 2021 serving as the post-period; 2020 is omitted as the transition year. The sample is restricted to incumbent firm–state pairs with positive job postings in 2019 and to firms with at least 10 total job postings in 2019. No restriction is imposed based on job postings in 2021. *Borrow* is an indicator equal to one for states that borrowed under Title XII during the COVID shock. *HighRelExp* is an indicator equal to one if the change in *MaxUIT* from 2020 to 2021 exceeds the firm’s 2019-posting-weighted average change in *MaxUIT* across its incumbent states. *HighScope* equals one for firms in the top quartile of the number of posting states over 2017–2019. *HighDispersion* equals one for firms in the bottom quartile of the HHI of postings across states over 2017–2019. *HighMSI* equals one for firms in the top quartile of the share of postings outside the headquarters state over 2017–2019. *Post* equals one for 2021 and zero for 2019. Columns (1)–(3) include firm $\times$ year fixed effects, state fixed effects, and, where indicated, region $\times$ year fixed effects and state-level controls as in Table 3. Columns (4)–(7) include firm $\times$ year and state $\times$ year fixed effects. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the state level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Borrow</i> $\times$ <i>Post</i>	-0.070** (0.044)	-0.094*** (0.009)					
<i>HighRelExp</i> $\times$ <i>Post</i>			-0.144* (0.086)	-0.313* (0.057)			
<i>HighRelExp</i> $\times$ <i>HighScope</i> $\times$ <i>Post</i>					-0.242* (0.076)		
<i>HighRelExp</i> $\times$ <i>HighDispersion</i> $\times$ <i>Post</i>						-0.230** (0.031)	
<i>HighRelExp</i> $\times$ <i>HighMSI</i> $\times$ <i>Post</i>							-0.194* (0.060)
State-level controls	Yes	Yes	Yes	No	No	No	No
Firm $\times$ Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	No	No	No	No
Region $\times$ Year FE	No	Yes	Yes	No	No	No	No
State $\times$ Year FE	No	No	No	Yes	Yes	Yes	Yes
Observations	94,181	94,181	94,181	94,181	94,181	94,181	85,531
Pseudo R^2	0.767	0.767	0.767	0.768	0.768	0.768	0.772

Table 10
Firm Outcomes and Low-Cost Job-Posting Reallocation

This table reports regressions of firm outcomes in years t and $t + 1$ on lagged job-posting reallocation toward lower-UI-cost states. The dependent variables are *Tobin's Q*, *ROA*, and *Asset Turnover*. The sample includes firms with at least two posting states and more than 10 total postings in the firm-year. The main explanatory variable, $Z(\text{LowCostTilt})$, is standardized within year and is defined as the difference between the equal-weighted average and the posting-weighted average of $\log(1 + \text{MaxUIT})$ across the firm's posting states in year $t - 1$. Higher values indicate that postings are tilted toward lower-*MaxUIT* states within the firm's own recruiting footprint. $\log(1 + \text{MinUIT})$ is the firm-year average of $\log(1 + \text{MinUIT})$ across the firm's posting states in year $t - 1$, and captures the baseline payroll-tax component of UI taxation. All regressions include firm and year fixed effects, firm-level controls, and posting-weighted state-level controls. Firm-level controls are as in Table 3. Posting-weighted state-level controls include state unemployment rate, log GDP per capita, GDP growth, log average population age, male population share, white population share, and Democratic House representation, aggregated to the firm-year level using the firm's posting shares across states in year $t - 1$. The lagged values of *Tobin's Q* and *ROA* are excluded from the control set in all specifications. Detailed variable definitions and data sources are provided in Appendix A. P-values clustered at the firm level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	<i>Tobin's Q</i>		<i>ROA</i>		<i>Asset Turnover</i>	
	t	$t + 1$	t	$t + 1$	t	$t + 1$
	(1)	(2)	(3)	(4)	(5)	(6)
$Z(\text{LowCostTilt})$	0.056** (0.018)	0.049* (0.059)	-0.006*** (0.005)	-0.007*** (0.004)	-0.014** (0.015)	-0.001 (0.813)
$\log(1 + \text{MinUIT})$	-0.075 (0.271)	0.019 (0.785)	0.001 (0.891)	-0.006 (0.422)	0.019 (0.167)	0.014 (0.374)
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes
State-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	34,607	30,256	33,738	29,464	34,651	30,312
Adjusted R^2	0.732	0.741	0.800	0.795	0.920	0.917

Appendix A

Variable Definitions and Sources

Variable Name	Definition	Sources
Job Posting Variables		
$JobPostings_{f,s,t}$	Number of job postings by firm f in state s in year t .	Lightcast
$Full-Time$ $Non-Internship\ Share$	Share of firm f 's job postings in state s in year t that are classified as full-time and not internship positions. This variable proxies for the extent to which posted vacancies involve longer-term employment commitments.	Lightcast
Unemployment Insurance Tax Exposure Measures		
$MaxUIT$	Maximum statutory unemployment insurance tax exposure per worker implied by a state's UI tax schedule in a given state-year. It is computed as the statutory maximum UI tax rate multiplied by the taxable wage base and adjusted for inflation using the CPI.	U.S. Department of Labor; CPI (FRED)
$MinUIT$	Minimum statutory unemployment insurance tax exposure per worker implied by a state's UI tax schedule in a given state-year. It is computed as the statutory minimum UI tax rate multiplied by the taxable wage base and adjusted for inflation using the CPI.	U.S. Department of Labor; CPI (FRED)
$Log(1+MaxUIT)$	Natural logarithm of one plus $MaxUIT$. This variable captures policy-based exposure to the experience-rated component of UI tax costs.	U.S. Department of Labor; CPI (FRED)
$Log(1+MinUIT)$	Natural logarithm of one plus $MinUIT$. This variable captures the baseline statutory UI payroll-tax component.	U.S. Department of Labor; CPI (FRED)

$\frac{\text{Log}(\text{MaxUIT} - \text{MinUIT})}{\log(1 + \text{MaxUIT})}_{f,t}$	Natural logarithm of the difference between MaxUIT and MinUIT in a given state-year. Firm-year average of $\log(1 + \text{MaxUIT}_{s,t})$ across the states in which firm f posts job openings at least once during the sample period.	U.S. Department of Labor; CPI (FRED) U.S. Department of Labor; CPI (FRED); Lightcast
$\overline{\log(1 + \text{MinUIT})}_{f,t}$	Firm-year average of $\log(1 + \text{MinUIT}_{s,t})$ across the states in which firm f posts job openings at least once during the sample period.	U.S. Department of Labor; CPI (FRED); Lightcast
DevMaxUIT	Difference between a state's $\log(1 + \text{MaxUIT})$ and the firm's average $\log(1 + \text{MaxUIT})$ across the states in which the firm posts jobs in the same year. Positive values indicate that a state has above-average exposure to the experience-rated UI tax component relative to the firm's other posting states.	U.S. Department of Labor; CPI (FRED); Lightcast
DevMinUIT	Difference between a state's $\log(1 + \text{MinUIT})$ and the firm's average $\log(1 + \text{MinUIT})$ across the states in which the firm posts jobs in the same year. Positive values indicate that a state has above-average exposure to the baseline UI payroll-tax component relative to the firm's other posting states.	U.S. Department of Labor; CPI (FRED); Lightcast
Max Positive	Indicator equal to one if $\text{DevMaxUIT} > 0$, and zero otherwise.	U.S. Department of Labor; CPI (FRED); Lightcast
Min Positive	Indicator equal to one if $\text{DevMinUIT} > 0$, and zero otherwise.	U.S. Department of Labor; CPI (FRED); Lightcast
RangeMaxUIT	Within-firm-year difference between the largest and smallest values of MaxUIT across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; CPI (FRED); Lightcast

<i>RangeMinUIT</i>	Within-firm-year difference between the largest and smallest values of <i>MinUIT</i> across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; CPI (FRED); Lightcast
<i>SDMaxUIT</i>	Within-firm-year standard deviation of <i>MaxUIT</i> across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; CPI (FRED); Lightcast
<i>SDMinUIT</i>	Within-firm-year standard deviation of <i>MinUIT</i> across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; CPI (FRED); Lightcast
<i>RangeMaxTaxRate</i>	Within-firm-year difference between the largest and smallest statutory maximum UI tax rates across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; Lightcast
<i>RangeMinTaxRate</i>	Within-firm-year difference between the largest and smallest statutory minimum UI tax rates across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; Lightcast
<i>RangeTaxableWage</i>	Within-firm-year difference between the largest and smallest taxable wage bases across U.S. states in which the firm posts at least one job opening.	U.S. Department of Labor; CPI (FRED); Lightcast

Title XII and Identification-Test Variables

<i>Borrow</i>	Indicator equal to one for states that borrowed under Title XII during the COVID shock, and zero otherwise.	U.S. Treasury Fiscal Data; U.S. Department of Labor
<i>Post</i>	Indicator equal to one for 2021 and zero for 2019 in the Title XII short-window tests.	Constructed by authors
<i>HighRelExp</i>	Indicator equal to one if $\Delta MaxUIT_{f,s}^{rel} > 0$, and zero otherwise.	U.S. Department of Labor; CPI (FRED); Lightcast

Geographic Job Posting Variables

<i>Number of Posting States</i>	Number of distinct U.S. states in which a firm posts at least one job opening in a given firm-year.	Lightcast
<i>Multi-State Posting Indicator</i>	Indicator equal to one if a firm posts job openings in two or more U.S. states in a given firm-year, and zero otherwise.	Lightcast
<i>Posting in 10+ States Indicator</i>	Indicator equal to one if a firm posts job openings in at least ten U.S. states in a given firm-year.	Lightcast
<i>HighScope</i>	Indicator equal to one for firms in the top quartile of the number of posting states over the prior three years. For the Title XII tests, this measure is constructed over 2017–2019 so that it is predetermined relative to the COVID shock.	Lightcast
<i>HHI of Postings Across States</i>	Herfindahl–Hirschman Index of a firm’s postings across states, calculated as the sum of squared state-level posting shares within the firm-year. Higher values indicate more concentrated posting activity across states.	Lightcast
<i>HighDispersion</i>	Indicator equal to one for firms in the bottom quartile of the HHI of postings across states over the prior three years. Lower HHI values indicate less concentrated, more geographically dispersed posting activity. For the Title XII tests, this measure is constructed over 2017–2019 so that it is predetermined relative to the COVID shock.	Lightcast
<i>HighMSI</i>	Indicator equal to one for firms in the top quartile of the share of postings outside the headquarters state over the prior three years. For the Title XII tests, this measure is constructed over 2017–2019 so that it is predetermined relative to the COVID shock.	CRSP; Compact Disclosure; SEC Filings; Lightcast

Economic Condition Variables

<i>High State Layoff</i>	Indicator equal to one for states in the top quartile of layoffs and discharges within a year.	Bureau of Labor Statistics
<i>High Sales Growth</i>	Indicator equal to one for firms in the top quartile of annual sales growth, defined as $\log(\text{Sales}_t/\text{Sales}_{t-1})$.	Compustat
<i>High Concentration</i>	Indicator equal to one for state–industry labor markets in the top quartile of the Herfindahl–Hirschman Index of labor market concentration.	Lightcast

Job-Posting Reallocation Variable

<i>Z(LowCostTilt)</i>	Standardized value, within year, of the difference between the equal-weighted average and the posting-weighted average of $\log(1 + \text{MaxUIT})$ across the firm’s posting states in year $t - 1$. Higher values indicate that the firm allocates relatively more postings to lower- <i>MaxUIT</i> states within its own recruiting footprint.	U.S. Department of Labor; CPI (FRED); Lightcast
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Firm-Level Variables

<i>Log(Assets)</i>	Natural logarithm of book value of total assets at fiscal year-end, adjusted for inflation using the CPI.	Compustat
<i>Log(Employees)</i>	Natural logarithm of the number of employees reported by the firm in a given fiscal year.	Compustat
<i>Leverage Ratio</i>	Total debt divided by total assets.	Compustat
<i>CAPEX/Assets</i>	Capital expenditures divided by total assets.	Compustat
<i>ROA</i>	Operating income divided by total assets.	Compustat
<i>Tobin’s Q</i>	Market value of assets divided by book value of assets.	Compustat
<i>Asset Turnover</i>	Sales divided by total assets, measured at the firm-year level.	Compustat

State-Level Control Variables

<i>State Unemployment Rate</i>	Annual average unemployment rate at the state level.	Bureau of Labor Statistics
<i>GDP per Capita</i>	State-level gross domestic product divided by population.	Bureau of Economic Analysis
<i>GDP Growth</i>	Annual percentage growth rate of state-level gross domestic product.	Bureau of Economic Analysis
<i>Average Population Age</i>	Average age of the state population.	U.S. Census Bureau
<i>Male Population Share</i>	Ratio of the male population to total state population.	U.S. Census Bureau
<i>White Population Share</i>	Ratio of the population identifying as White to total state population.	U.S. Census Bureau
<i>Democratic House Representation</i>	Share of a state's congressional delegation in the U.S. House of Representatives affiliated with the Democratic Party.	U.S. House of Representatives

Appendix Table A.1

Correlations among State-Level Variables

This table reports Pearson pairwise correlation coefficients among state-level variables. The diagonal is omitted for readability. The sample consists of 750 state-year observations from 2010 to 2024. *Wage Growth*, which excludes 2020 and 2021, and *Share of Part-Time Workers*, *Log(Average Population Age)*, *Male Population Share*, and *White Population Share* which excludes 2020, are omitted in the affected years because of data limitations in the American Community Survey Public Use Microdata Sample (PUMS) during the COVID-19 period. All variables are measured contemporaneously.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) $\log(1 + \text{MaxUIT})$												
(2) $\log(1 + \text{MinUIT})$	0.290											
(3) <i>Job Growth</i>	-0.010	0.003										
(4) <i>Wage Growth</i>	0.033	-0.012	-0.131									
(5) <i>Share of Part-Time Workers</i>	0.354	0.235	-0.184	-0.022								
(6) <i>State Unemployment Rate</i>	-0.081	0.240	-0.492	-0.057	0.202							
(7) <i>Male Population Share</i>	-0.050	-0.116	0.192	0.057	-0.206	-0.446						
(8) <i>White Population Share</i>	0.184	0.008	-0.243	0.003	0.540	-0.023	-0.118					
(9) $\log(\text{Average Population Age})$	-0.163	-0.014	0.234	-0.012	-0.004	-0.332	0.162	0.028				
(10) $\log(\text{GDP per Capita})$	0.256	0.086	0.139	0.069	-0.076	-0.269	0.159	-0.199	-0.039			
(11) <i>GDP Growth</i>	-0.014	-0.099	0.750	-0.176	-0.164	-0.434	0.161	-0.183	0.262	0.155		
(12) <i>Democratic House Representation</i>	0.069	0.298	-0.069	0.014	0.245	0.117	-0.032	-0.252	0.339	0.296	-0.041	

Appendix Table A.2
Post-COVID Remote-Work Period and the Effect of UI Tax Exposure on Job Postings

This table reports whether the relation between unemployment insurance tax exposure and job postings differs after the COVID period, when remote-work postings became more prevalent. The dependent variable is the number of job postings at the firm–state–year level, and all specifications are estimated using Poisson pseudo–maximum likelihood (PPML). $\text{Log}(1+\text{MaxUIT})$ denotes the natural logarithm of one plus the maximum statutory UI tax exposure implied by a state’s UI tax schedule, computed as the product of the statutory maximum UI tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+\text{MinUIT})$ is defined analogously using the statutory minimum UI tax rate. Conceptually, $\text{Log}(1+\text{MaxUIT})$ captures exposure to the experience-rated component of UI tax costs, whereas $\text{Log}(1+\text{MinUIT})$ captures the baseline UI payroll-tax component. *Post COVID* is an indicator equal to one for years after 2019, and zero otherwise. All specifications include the state-level controls used in Table 3. Columns (1)–(2) additionally include firm-level controls, firm fixed effects, and year fixed effects. Columns (3)–(4) include firm $\times$ year fixed effects, which absorb firm-level controls. The *Post COVID* main effect is absorbed by the year fixed effects in columns (1)–(2) and by the firm $\times$ year fixed effects in columns (3)–(4). The interactions between *Post COVID* and UI tax exposure remain identified. P-values clustered at the firm–year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
$\text{Log}(1+\text{MaxUIT}) \times \text{Post COVID}$	0.031 (0.209)	0.040* (0.097)	0.026 (0.287)	0.036 (0.136)
$\text{Log}(1+\text{MaxUIT})$	-0.800*** (0.000)	-0.820*** (0.000)	-0.802*** (0.000)	-0.822*** (0.000)
<i>Post COVID</i>	0.725*** (0.000)	0.648*** (0.000)		
$\text{Log}(1+\text{MinUIT})$		0.027*** (0.000)		0.027*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	673,238	673,238	664,932	664,932
Pseudo R^2	0.620	0.620	0.677	0.678

Appendix Table A.3
UI Tax Exposure and Job Postings Including Zero-Posting Firm-State-Years

This table reports Poisson pseudo-maximum likelihood (PPML) estimates using the number of job postings at the firm-state-year level as the dependent variable. The table addresses the possibility that the baseline estimates are affected by the exclusion of firm-state-year observations with zero postings. In Panel A, the sample expands the Compustat-CRSP-Lightcast firm-state-year panel from 2010 to 2024 by setting postings to zero in years when a firm has no postings in a state but posts in that state at least once during the sample period. In Panel B, the sample uses a more conservative zero-imputation rule, setting postings to zero only when a firm has no postings in a state-year but has posted in that state in a prior year. $\text{Log}(1+\text{MaxUIT})$ denotes the natural logarithm of one plus the maximum statutory UI tax exposure implied by a state's UI tax schedule, computed as the product of the statutory maximum UI tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+\text{MinUIT})$ is defined analogously using the statutory minimum UI tax rate. Conceptually, $\text{Log}(1+\text{MaxUIT})$ captures exposure to the experience-rated component of UI tax costs, whereas $\text{Log}(1+\text{MinUIT})$ captures the baseline UI payroll-tax component. Columns (1)–(2) present estimates using $\text{Log}(1+\text{MaxUIT})$. Columns (3)–(4) replace $\text{Log}(1+\text{MaxUIT})$ with $\text{Log}(1+\text{MinUIT})$. Columns (5)–(6) jointly include both measures. All specifications include the state-level controls used in Table 3. Columns (1), (3), and (5) include firm-level controls, firm fixed effects, and year fixed effects. Columns (2), (4), and (6) include firm $\times$ year fixed effects, which absorb firm-level controls. P-values clustered at the firm-year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Zero-Imputed Postings for Ever-Posting Firm-State Pairs						
$\text{Log}(1+\text{MaxUIT})$	-0.865*** (0.000)	-0.861*** (0.000)			-0.881*** (0.000)	-0.876*** (0.000)
$\text{Log}(1+\text{MinUIT})$			-0.062*** (0.000)	-0.062*** (0.000)	0.024*** (0.000)	0.024*** (0.000)
Firm-level controls	Yes	No	Yes	No	Yes	No
State-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	No	Yes	No	Yes	No
Year FE	Yes	No	Yes	No	Yes	No
Firm $\times$ Year FE	No	Yes	No	Yes	No	Yes
Observations	1,211,899	1,166,742	1,211,899	1,166,742	1,211,899	1,166,742
Pseudo R^2	0.658	0.705	0.619	0.665	0.658	0.705
Panel B: Zero-Imputed Postings for Previously Active Firm-State Pairs						
$\text{Log}(1+\text{MaxUIT})$	-0.809*** (0.000)	-0.810*** (0.000)			-0.825*** (0.000)	-0.826*** (0.000)
$\text{Log}(1+\text{MinUIT})$			-0.051*** (0.000)	-0.051*** (0.000)	0.026*** (0.000)	0.026*** (0.000)
Firm-level controls	Yes	No	Yes	No	Yes	No
State-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	No	Yes	No	Yes	No
Year FE	Yes	No	Yes	No	Yes	No
Firm $\times$ Year FE	No	Yes	No	Yes	No	Yes
Observations	768,474	758,217	768,474	758,217	768,474	758,217
Pseudo R^2	0.626	0.682	0.584	0.640	0.626	0.682

Appendix Table A.4
UI Tax Exposure and Firm-State Employment

This table reports Poisson pseudo-maximum likelihood (PPML) estimates using the number of employees at the firm-state-year level as the dependent variable. The employment measure is constructed from the NETS database. $\text{Log}(1+\text{MaxUIT})$ denotes the natural logarithm of one plus the maximum statutory UI tax exposure implied by a state's UI tax schedule, computed as the product of the statutory maximum UI tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+\text{MinUIT})$ is defined analogously using the statutory minimum UI tax rate. Conceptually, $\text{Log}(1+\text{MaxUIT})$ captures exposure to the experience-rated component of UI tax costs, whereas $\text{Log}(1+\text{MinUIT})$ captures the baseline UI payroll-tax component. Columns (1)–(2) present estimates using $\text{Log}(1+\text{MaxUIT})$. Columns (3)–(4) replace $\text{Log}(1+\text{MaxUIT})$ with $\text{Log}(1+\text{MinUIT})$. Columns (5)–(6) jointly include both measures. All specifications include the state-level controls used in Table 3. Columns (1), (3), and (5) include firm-level controls, firm fixed effects, and year fixed effects. Columns (2), (4), and (6) include firm $\times$ year fixed effects, which absorb firm-level controls. P-values clustered at the firm-year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Log}(1+\text{MaxUIT})$	-0.663*** (0.000)	-0.668*** (0.000)			-0.673*** (0.000)	-0.675*** (0.000)
$\text{Log}(1+\text{MinUIT})$			-0.041*** (0.000)	-0.046*** (0.000)	0.016*** (0.001)	0.011** (0.022)
F-test: $\text{Log}(1+\text{MaxUIT}) = \text{Log}(1+\text{MinUIT})$					<0.001***	<0.001***
Year FE	Yes	No	Yes	No	Yes	No
Firm FE	Yes	No	Yes	No	Yes	No
Firm $\times$ Year FE	No	Yes	No	Yes	No	Yes
Observations	442,624	430,073	442,624	430,073	442,624	430,073
Pseudo R^2	0.543	0.598	0.517	0.573	0.543	0.599

Appendix Table A.5
Industry Layoffs and the Effect of UI Tax Exposure on Job Postings

This table reports cross-sectional variation in the relation between unemployment insurance tax exposure and job postings across industry layoff conditions. The dependent variable is the number of job postings at the firm–state–year level, and all specifications are estimated using Poisson pseudo–maximum likelihood (PPML). $\text{Log}(1+\text{MaxUIT})$ is the natural logarithm of one plus the maximum statutory unemployment insurance tax exposure implied by a state’s experience-rating schedule, computed as the product of the statutory maximum unemployment insurance tax rate and the taxable wage base and adjusted for inflation using the Consumer Price Index. $\text{Log}(1+\text{MinUIT})$ is defined analogously using the statutory minimum unemployment insurance tax rate. *High Industry Layoff* is an indicator equal to one for state–industry observations in the top quartile of layoffs and discharges within a given year. All specifications include the same set of state-level controls as in Table 3. Columns (1)–(2) include firm-level controls, firm fixed effects, and year fixed effects. Columns (3)–(4) include firm $\times$ year fixed effects, which absorb firm-level controls. P-values clustered at the firm–year level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
$\text{Log}(1+\text{MaxUIT}) \times \text{High Industry Layoff}$	-0.097*** (0.000)	-0.098*** (0.000)	-0.092*** (0.000)	-0.092*** (0.000)
$\text{Log}(1+\text{MaxUIT})$	-0.744*** (0.000)	-0.760*** (0.000)	-0.751*** (0.000)	-0.766*** (0.000)
<i>High Industry Layoff</i>	0.616*** (0.000)	0.623*** (0.000)		
$\text{Log}(1+\text{MinUIT})$		0.026*** (0.000)		0.027*** (0.000)
Firm-level controls	Yes	Yes	No	No
State-level controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
Firm $\times$ Year FE	No	No	Yes	Yes
Observations	660,526	660,526	652,469	652,469
Pseudo R^2	0.624	0.624	0.681	0.681

Appendix Table A.6
Placebo Title XII Tests Using a Non-COVID Event Window

This table reports placebo short-window PPML estimates that apply the Title XII design to a non-COVID event window. The dependent variable is the number of job postings at the firm–state–year level. The reported placebo event year is 2014. The year 2013 serves as the placebo pre-period, 2015 serves as the placebo post-period, and 2014 is omitted as the placebo event year. The sample is restricted to incumbent firm–state pairs with positive job postings in the placebo pre-period and to firms with at least 10 total job postings in that pre-period. No restriction is imposed based on job postings in the placebo post-period. *Borrow* is an indicator equal to one for states that borrowed under Title XII during the COVID shock. Superscript *P* denotes placebo variables measured around the non-COVID placebo event window. $Post^P$ equals one for the placebo post-period and zero for the placebo pre-period. $HighRelExp^P$ equals one if the change in *MaxUIT* from the placebo event year to the placebo post-period exceeds the firm’s placebo-pre-period-posting-weighted average change in *MaxUIT* across incumbent states. *HighScope* equals one for firms in the top quartile of the number of posting states measured over the placebo pre-period window. *HighDispersion* equals one for firms in the bottom quartile of the HHI of postings across states measured over the placebo pre-period window. *HighMSI* equals one for firms in the top quartile of the share of postings outside the headquarters state measured over the placebo pre-period window. All columns include firm $\times$ year fixed effects. Columns (1)–(3) additionally include state fixed effects and state-level controls, and columns (2)–(3) also include region $\times$ year fixed effects. Columns (4)–(7) additionally include state $\times$ year fixed effects and omit state-level controls, which are absorbed by these fixed effects. P-values clustered at the state level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$Borrow \times Post^P$	0.003 (0.912)	-0.015 (0.590)					
$HighRelExp^P \times Post^P$			0.089 (0.304)	0.141 (0.336)			
$HighRelExp^P \times HighScope \times Post^P$					0.129 (0.338)		
$HighRelExp^P \times HighDispersion \times Post^P$						-0.008 (0.947)	
$HighRelExp^P \times HighMSI \times Post^P$							-0.034 (0.725)
State-level controls	Yes	Yes	Yes	No	No	No	No
Firm $\times$ Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	No	No	No	No
Region $\times$ Year FE	No	Yes	Yes	No	No	No	No
State $\times$ Year FE	No	No	No	Yes	Yes	Yes	Yes
Observations	79,421	79,421	79,421	79,421	79,421	79,421	72,810
Pseudo R^2	0.727	0.727	0.727	0.727	0.727	0.727	0.730

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