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Corporate Hiring under Uncertainty

By *Duc Duy Nguyen and Vathunyoo Sila*

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Abstract

Using granular data on job postings and employee flows, we examine how firms adjust human capital investments during periods of uncertainty brought on by gubernatorial elections. We find that firms reduce job postings in the six months leading up to an election, particularly for roles more costly to reverse, such as high-skilled, less flexible, and unionized positions. We also explore the sources of election uncertainty, finding stronger effects in elections where public interests focus more heavily on labor issues. Our results are consistent with the real options framework, where firms adopt a "wait and see" approach in response to uncertainty.

Keywords: Human capital, Skilled labor, Uncertainty, Real Options

JEL Classification: J2, G3

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A large body of empirical literature has examined the impact of uncertainty on corporate decision making, particularly in relation to capital investment (e.g., Bhagwat et al., 2016; Campello et al., 2024a; Chen et al., 2023; Colak et al., 2017; Gulen & Ion, 2016; Jens, 2017; Julio & Yook, 2012). However, less is known about how uncertainty shapes corporate investment in human capital, which is an equally important aspect of firms' operation. Alongside capital investment, firms need to invest in hiring suitable employees to operate equipment, develop new products and services, and ensure effective internal control (e.g., Lee & Yu, 2021). Our paper addresses this gap in the literature by using granular data on job postings and employee flows to examine how firms adjust their human capital investment decisions in response to uncertainty.

Specifically, we evaluate how a firm's hiring activities evolve around plausibly exogenous variation in uncertainty generated by US state-level gubernatorial elections. Gubernatorial elections provide a suitable setting to examine corporate hiring activities. Although the timing of these elections is anticipated, the outcomes and implications for firms often remain unknown for several months after the election (e.g., Kim & Nguyen, 2024). Furthermore, because each election is different from all others, the resulting hiring responses involve nonrepetitive, complex, and unstructured decision-making processes. Additionally, gubernatorial elections are staggered across various business and economic cycles, allowing us to isolate the effects of election uncertainty from unobserved macroeconomic shocks on hiring decisions (Jens, 2017).

Gubernatorial elections could introduce substantial uncertainty regarding potential changes in state policies, such as taxation, regulations, or labor laws (see, e.g., Jens, 2017). These elections could also induce uncertainty surrounding the state's budget, spending priorities, and regulatory environments. Therefore, gubernatorial elections represent positive second-moment

("uncertainty") shocks to business conditions.[1] To understand how uncertainty shocks influence corporate hiring, we use a conceptual framework that draws on the concept of investment irreversibility and the associated real option value (see e.g., Bernanke, 1983; Bloom et al., 2007; Dixit & Pindyck, 1994). Under this framework, a hiring decision is viewed as a forward-looking investment by the firm, involving costs such as screening, interviewing, and onboarding, which cannot be reversed even if a firm later decides to lay off the hired employees. Facing uncertainty, the option value of delaying hiring decisions becomes more valuable since the firm has the option to "wait and see" how conditions evolve. Consequently, this framework predicts that firms reduce hiring in response to election uncertainty, particularly for roles that are more costly to reverse.

To examine the effect of election uncertainty on corporate hiring, we rely on big data on millions of job postings of public US firms from Lightcast. Each posting provides detailed information on the employer's name, job title, location, as well as level of education, experience, and skills required for the job. Our data offer several advantages. Firstly, by observing the job location, we are able to directly link state-level gubernatorial elections to hiring decisions in the same state where the job is based. Secondly, the Lightcast database is unique in providing detailed information on the experience and skill requirements of each job posting. This allows us to provide new, labor-specific insights into how firms adjust not only the number of jobs, but also the skill requirements in response to uncertainty shocks. We complement the Lightcast database with data from Revelio Labs, which enable us to track the number of employee inflows and outflows at each firm in each job location state in each month-year. The inflow and outflow data allow us to further

[1] Campello and Kankanhalli (2024) raise an important concern that the effect of uncertainty (i.e., changes in the second-moment of the distribution of the cash flows to the firm) may be confounded by the economic environment (i.e., changes in the distribution's first-moment). In our case, the election events may contain information that prompts firms to speculate on the direction of changes in labor and economic policies. We subsequently present various empirical findings that are at odds with this first-moment explanation. Instead, our results are more consistent with gubernatorial elections primarily representing second-moment shocks.

explore the possible role of concurrent changes in employees' labor supply decisions on observed changes in corporate hiring.

We aggregate Lightcast job postings data to a firm-state-month panel consisting of 2,805,091 observations from 1,463 unique firms between 2010 and 2019. Our regression specifications include firm, headquarters' state x year, job location state x year, industry (defined at the two-digit NAICS code) x year, and month fixed effects. Thus, the effect is identified within the same firm while controlling for time-varying industry and location characteristics that could affect both labor demand and labor supply.

Consistent with the prediction from the real options framework, we find that firms reduce hiring prior to an election. Specifically, the number of monthly job postings decreases by 1.6% and 1.9% one and two quarters before a scheduled gubernatorial election in the state in which the job is based. These estimates correspond to a cumulative 10.5% (= (1.6%+1.9%) x 3) decline in the number of job postings over the six months before the election. To distinguish between the increase in uncertainty (i.e., a positive second-moment shock) and any potential speculation on bad news associated with the election (i.e., a negative first-moment shock), we also examine layoff decisions and find no significant increase in mass layoffs carried out by firms prior to a gubernatorial election. Collectively, our evidence points to an "inaction" that arises due to uncertainty rather than any expectation of bad news.

The real options framework also generates another prediction regarding the heterogenous effects of uncertainty on corporate hiring decisions. Specifically, the option to delay hiring is more valuable when the hiring decision is more costly to reverse. Consequently, hiring cuts should be more pronounced in job roles where hiring in more irreversible. We find evidence consistent with this prediction along several dimensions of irreversibility. First, we show that the effects of

gubernatorial election on corporate hiring are concentrated on job roles that involve less flexible contracts, i.e., full-time positions and jobs in industries that enable workers to work remotely[2] (Papanikolaou & Schmidt, 2022). The effects are also more pronounced in jobs based in the firm's HQ state, where positions are typically less flexible, require higher skills, and are therefore more costly to reverse.

Second, we find that the impact of gubernatorial elections on firm hiring is more pronounced in industries with higher unionization rates. Hiring in these industries tends to be more costly to reverse since it is more difficult to hire and re-hire unionized workers (e.g., Campello et al. 2022). This finding suggests greater irreversibility costs and, consequently, a stronger response to uncertainty.[3]

Third, we show that in addition to reducing job posting quantity, firms also cut back on hiring high-skill workers when facing election uncertainty. In particular, firms lower the skill and experience requirements in each job postings and are less likely to advertise for high-skill roles ahead of an election. Compared to low-skill workers, high-skill workers are typically more costly and often have less flexible employment contracts (e.g., Campello et al., 2024b). Collectively, our results are consistent with the real options framework, where election uncertainty causes firms to delay making investments in human capital, particularly those that are more costly to reverse.

In addition to the real options channel, we consider two other potential channels through which election uncertainty could affect hiring decisions, namely financial constraints and CEO risk preferences. We find limited evidence in support of these channels. Specifically, while

[2] Roles that offer remote work arrangements are less flexible from the perspective of the employers, since these arrangements typically include clauses that protect the employee's right to job continuity. Therefore, these roles are less reversible.

[3] Importantly, our finding is not driven by elections that are contested on unionization issues, or those that are concurrent with other state legislations that could affect unionization policies. Therefore, we are able to interpret this finding as the effect of uncertainty, rather than the effect of any potential negative news to firms in more unionized industries.

financially constrained firms appear to make a larger hiring cut before an election than less constrained firms, the differential response is not statistically significant. Furthermore, CEO risk preferences, proxied using their compensation's vega (Coles et al., 2006), do not differentially explain pre-election hiring cuts.[4]

Next, we explore the potential sources of uncertainty associated with gubernatorial elections that affect hiring decisions. While each gubernational election could generate substantial policy uncertainty across several areas, such as taxation, regulations, or labor laws, some of these uncertainties may be less relevant to hiring decisions (see, e.g., Campello & Kankanhali, 2024). Using Google Trends search interest to gauge public interests around elections, we find that firms react more strongly prior to elections that focus more heavily on labor-related issues such job stability, minimum wage, and union rights.[5] The results, thus, indicate that the uncertainty related to labor policies is an important factor that explains firms' hiring responses to gubernational elections. We also find that firms significantly reduce hiring, though to a lesser extent, before elections that are less focused on labor-related issues. This finding suggests that broader policy uncertainty also influences hiring decisions. We verify this by showing that hiring cuts are more pronounced before elections that generate greater state-level Economic Policy Uncertainty (EPU), which captures more general economic and policy uncertainty (Baker et al., 2022). Overall, our results suggest that, while firms make stronger hiring cuts in response to labor-related policy uncertainty, the general-state level uncertainty also influences their hiring decisions.

[4] We acknowledge that financial constraints and CEO risk preferences are inherently difficult to measure. Therefore, the lack of results could be attributable to measurement errors.

[5] Specifically, we obtain Google weekly time series of search volume data on the following terms: "job stability", "minimum wage", "paid leave", "union rights", and "workplace safety". We then calculate the growth in search interest as the total search volumes for all five search terms six months before the election (months -1 to -6) by the total search volumes from the prior six months (months -7 to -12). An election is classified as focusing more heavily on labor-related issues if its pre-election growth in Google Trends search interest for labor-related terms is above the sample median.

In the final part of the paper, we present suggestive evidence that our results on corporate hiring may also reflect changes in employees' labor supply decisions. Unlike physical capital, human capital cannot be owned and can act strategically (Matsa, 2018). Using micro-level data on worker flows from Revelio Labs, we find that fewer employees join the firm during the period before an election, and once they join, they are more likely to leave the firm within 12 months.[6] Our results suggest that worker-firm matching might deteriorate during periods of uncertainty (Rogerson et al., 2005); in the equilibrium, firms may internalize these changes in labor supply by reducing their hiring demand.

Our paper contributes to several active strands of the literature. First, we contribute to the literature on the impact of election uncertainty on corporate investment activities. The existing literature primarily provides evidence of how election uncertainty affects physical capital investment (e.g., Gulen and & Ion, 2016; Jens, 2017; Julio & Yook, 2012). In contrast, our paper uses granular job posting data to examine the impact of election uncertainty on human capital investment. Our findings are consistent with prior theoretical studies that predict the decrease in human capital investment amid uncertainty (e.g., Gervais et al., 2008; Roufagalas & Orlov, 2020). Consistent with our results that election uncertainty leads to a reduction in labor demand particularly those on irreversible roles, Gervais et al. (2008) argue that, while specific human capital tends to be more productive, it also tends to be less flexible and therefore more vulnerable to economic turbulence.

While our paper is not the first to empirically examine the relationship between uncertainty and human capital investment,[7] we explore the distinction between physical capital and human

[6] We do not find that employee outflows increase nor decrease significantly prior to elections.
[7] For example, Naidenova (2022) documents a significant negative relationship between the EPU index and firms' investment in human capital, as measured by employee costs relative to sales. Campello et al. (2024b) find substantial

capital in more detail, including the differential hiring responses in various job roles and the potential role of labor supply changes. To this end, we also contribute more broadly to the literature that examines corporate decisions on human capital investment (e.g., Borisov et al., 2021; Chemmanur et al., 2013; Matsa, 2018).

Second, our paper contributes to the literature on corporate decisions under uncertainty by examining the "decision-relevant" sources of uncertainty. Campello and Kankanhalli (2024) emphasize the need to distinguish between various sources of uncertainty stemming from macro-level events such as gubernatorial elections. Our results indicate that the uncertainty related to labor policies is an important factor that explains firms' hiring responses to gubernational elections. Furthermore, by demonstrating that elections reduce hiring without increasing layoffs, we provide evidence that gubernatorial elections are more likely to increase uncertainty (i.e., a positive second-moment shock to the firm's cash flow distribution) rather than signal negative news (i.e., a negative first-moment shock).

1. Conceptual frameworks

Our conceptual framework draws on the concept of investment irreversibility and the associated real option value to explain the effects of uncertainty on investment (see e.g., Bernanke, 1983; Bloom et al., 2007; Dixit & Pindyck, 1994). Consider a firm's decision to post a job advertisement for a new employee. This decision represents a forward-looking investment by the firm since the choice to hire is based on expectations of future cash flows brought by this marginal human capital investment. In making this investment, the firm incurs sunk costs, including recruitment expenses such as screening and interviewing and training costs once the employee joins the firm. Many of

reductions in hiring and changes in job roles due to the impact of COVID-19, reflecting both negative first-moment (bad news) and positive second-moment (increased uncertainty) shocks to business conditions.

these costs are irreversible even if the firm later decides to lay off the employee (Matsa, 2018; Oi, 1962; Pindyck, 1991).

The firm can choose to either hire now or hire later. The decision to hire now incurs irreversible costs, whereas the decision to hire later forgoes potential cash inflows generated by labor input. The firm has the option to "wait and see" how business conditions evolve. Facing uncertainty, the option to delay hiring becomes valuable in the presence of irreversible hiring costs (Bernanke, 1983; Campello et al., 2024b). Accordingly, we predict that increased uncertainty due to the upcoming gubernational election leads firms to reduce hiring.[8]

Prediction 1: *In response to election uncertainty, firms reduce hiring.*

The extent of the sunk costs, as well as the associated hiring decisions, may also vary with the degree of irreversibility. We examine this variation across three dimensions: worker skills; job flexibility; and the worker's bargaining power.

First, when investing in human capital, firms choose between hiring high- or low-skill workers. These hiring decisions differ in terms of fixed costs and the degree of irreversibility (Belo et al., 2017; Campello et al., 2024b). Hiring for high-skill roles typically involves higher recruitment costs, such as screening and interviewing. These roles may also require more specialized training, which makes any adjustments, such as moving the worker to a different role or firing, more costly (Becker, 1962; Wasmer, 2006). Additionally, firms may face higher costs

[8] It is worth noting that the real options theory is not the only prevailing framework that predicts the effect of uncertainty on investment. The strategic growth option theory views uncertainty as an opportunity for firms to strategically invest in growth opportunities relative to their competitors (Kulatilaka & Perotti, 1998). For example, since early investment can provide a future cost advantage over potential entrants (Dixit, 1979), committing to irreversible investments during uncertainty may discourage new competitors, increasing market share and profit (Gilbert, 1989). Using the financial crisis as an empirical setting, a number of studies have highlighted the importance of human capital in dealing with economic turbulence (e.g., Guevara & Bounfour, 2013; Shakina & Barajas, 2014) and the following recovery (e.g., Barajas et al., 2017). Notably, the strategic growth option theory leads to the opposite prediction of real-options theory. In the context of human capital investment, it suggests that firms are *less* likely to curtail hiring, particularly of highly skilled employees, during periods of uncertainty as investing in human capital could enhance the firm's strategic advantage over competitors.

related to firing and potential contractual constraints such as noncompete clauses. Therefore, hiring for high-skill roles is likely to be more costly to reverse than that for lower-skill roles. Consequently, we predict that firms will make a greater cut in high-skill hiring under increased uncertainty. Second, the irreversibility costs of human capital investment may also depend on the degree of role flexibility. Hiring into less flexible roles could be more costly to reverse than hiring into more flexible ones, implying greater irreversibility costs and a potentially greater uncertainty response. Finally, it is also reasonable to argue that hiring for roles where workers have greater bargaining power, such as unionized positions, is more costly to reverse due to the difficulties associated with firing and rehiring unionized employees.

Prediction 2: *In response to election uncertainty, firms disproportionately reduce hiring among jobs that are more costly to reverse.*

2 Data

2.1 Job posting data

Our primary analyses make use of job postings data from Lightcast, formerly known as Burning Glass Technologies, for the period between January 2010 and December 2019.[9] Lightcast develops an algorithm that continually scrapes through more than 40,000 online job boards and company websites, removes duplicate postings, aggregates the job postings data, and converts them into systematic, machine-readable forms. For each job posting, Lightcast provides detailed information on the job title, job location, occupation, and employer name. Each posting also provides information on the levels of education, prior experience, and specific kills that a worker must fulfil to be eligible for the position.

[9] The sample ends in December 2019 to avoid capturing the effects of the Covid-19 pandemic on firm hiring (Campello et al., 2024b).

The main advantage of Lightcast data is their broad coverage of and rich details on individual job postings. Carnevale et al. (2014) find that Lightcast data capture the near-universe of jobs that were posted online. Hershbein and Kahn (2018) further demonstrate that the aggregate and industry trends of Lightcast vacancies are consistent with other sources of job vacancies information such as the Job Opening and Labor Turnover Survey.

We merge the job-level Lightcast data to Compustat to obtain firms' financial data. Because Lightcast and Compustat do not share a common firm identifier, we merge observations from these two datasets by company names. We follow Autor et al. (2020) and use a matching algorithm in conjunction with an internet search engine. This process involves three sequential steps to ensure accuracy.

First, we standardize all company name strings in both datasets by removing punctuation, accent marks, and commonly used words such as "corp"/"corporation," "inc"/"incorporated," or "hldg"/"holding." We then attempt to match the names of employers from Lightcast with those of the firms in Compustat. Second, for Lightcast employers that remain unmatched from the first step, we conduct an internet search for each Lightcast employer name using the Bing Web Search API. We consider an employer to be a match with a Compustat firm if the top five search results for the Lightcast employer name contain the company website listed in Compustat (e.g., http://www.chs.net for Community Health Systems Inc). Finally, we obtain the top five search results for each Compustat firm name. For Lightcast employers that remain unmatched from the first two steps, we consider them to be a match with a Compustat firm if they have at least two out of the five top search results in common. Our matching procedure involves little human intervention and allows us to overcome complications from matching company names with different spelling variations.

We apply additional screening criteria to arrive at the final sample. First, we restrict the sample to job postings for full-time positions. Full-time roles are typically more costly, have less flexible contracts, implying substantially greater irreversibility costs and a more pronounced uncertainty response.[10] Second, we drop firms with missing total assets. Third, we exclude financial firms (two-digit NAICS code = 52) and utilities firms (NAICS = 22). Finally, following Kim and Nguyen (2024), we drop firms headquartered in and job postings that are based in the District of Columbia (DC).[11]

Our Lightcast-Compustat matched sample comprises 10.5 million job postings for full-time positions from 1,463 unique firms between January 2010 and December 2019. Summary statistics for the Lightcast-Compustat sample are shown in Table 1. On average, firms list 2.8 job openings for full-time positions per month in a given state. Firms have 436 million in total book assets (or, expressed in natural logarithms, 8.38). The average firm reports an ROA of 1.5% and has Tobin's Q of 1.85. These figures are broadly consistent with existing literature (e.g., Brogaard et al., 2024).

2.2 Worker flow and layoff data

We complement Lightcast's job posting data with further data on workforce composition and worker flows provided by Revelio Labs. Revelio collects online public profiles and transforms them into standardized resumes, including individual's identity, job title, standardized occupational classification (SOC) code, employer name, job locations, and the start and end dates of employment. The individual profiles are then aggregated into firm-level workforce composition,

[10] We confirm this in Section 4.1.1, where we show that the effect of gubernatorial elections on firm hiring is indeed mainly concentrated on full-time positions rather than part-time roles.
[11] DC is a federal district directly overseen by the federal government. Hence, it does not have gubernatorial elections.

which allows us to observe the total headcounts and employee inflows and outflows for each firm in each job location state in each month-year. [12] For example, we are able to observe that, in January 2015 in California, Boeing has a total of 11,362 employees, 228 "outflows" (i.e., employees leaving Boeing), and 173 "inflows" (i.e., employees joining Boeing).

[Table 1 around here]

We merge Revelio to Compustat by the firm's GVKEY using the crosswalk file provided by Revelio. We then apply the same screening criteria by excluding DC firms, firms with missing total assets, and financial and utility firms. Our Revelio-Compustat sample comprises 3,094 unique firms between January 2010 and December 2019.

3. Election uncertainty and job posting activities

In this section, we examine the effect of gubernatorial elections on firms' job posting activities. We aggregate job-level data from Lightcast into a firm-state-month panel consisting of 2,805,091 observations between 2010 and 2019. We estimate the following model:

$$Ln(1 + Job\ postings)_{istm} = \beta_1 \times Gubernatorial\ election_{\ stm} + Controls_{itm} + Fixed\ effects + \varepsilon_{istm} \quad (1)$$

The dependent variable $Ln(1 + Job\ postings)_{istm}$ is the natural logarithm of one plus the total number of job postings for full-time positions by firm *i* in state *s* in year *t* month *m*. $Gubernatorial\ election_{\ stm}$ refers to the specific time period, such as one or two quarters before a scheduled gubernatorial election in state *s* where the job is based. Data on gubernatorial election are obtained from the Congressional Quarterly Electronic Library.

[12] To account for the overrepresentation of users with certain jobs in online public profiles, e.g., white-collar jobs in relation to blue-collar jobs, Revelio applies sampling weights to adjust for occupation and location bias. For example, if an engineer has a 90% chance of having a public profile, Revelio considers every engineer to represent 1.1 people.

The main regression specifications include firm, headquarters' state x year, job location state x year, industry (defined at the two-digit NAICS code) x year, and month fixed effects. This empirical set-up allows us to identify the effect of election uncertainty on corporate hirings *within* the same firm while controlling for time-varying industry, as well as headquarters and job location factors. The inclusion of interacted fixed effects between year and the headquarters' state and year and the job location state is particularly important because they account for time-varying location specific factors that may affect both labor demand and supply, such as labor force participation rate or the state's unemployment insurance policies. Industry by year fixed effects absorb all variables that do not vary within a given industry and year, such as industry-wide investment opportunities and economy-wide business cycles, thereby controlling for industry characteristics that could affect the quantity and nature of jobs that firms seek to fill.[13]

We include a comprehensive set of firm-level control variables, $Controls_{itm}$, that could affect corporate hiring (e.g., Campello et al., 2024b). We use *Firm size* (the natural logarithm of one plus a firm's total assets) and *Tobin's Q* (the market value of total assets divided by book value of assets) to control for firm size and growth opportunities, respectively. We further include *ROA* (income before profit, tax, and depreciation divided by total assets) to control for firm profitability and *Capital expenditures* (capital expenditures divided by total assets) to account for investment intensity. We also include *Firm Age* (the number of years that the firm has been listed on Compustat with a non-missing stock price) to control for a firm's growth opportunities. Except for firm age, which is constructed at the firm-year level, other control variables are at the firm-quarter level.

[13] Since gubernational elections are staggered across states and our empirical specifications absorb any unobserved variation at the industry-year and at both HQ- and job-location-state-year levels, any confounding first-moment shocks will need to occur at the location-month or industry-month level.

Finally, we control for *Exposure to general economic policy uncertainty* using a measure developed by Alfaro et al. (2024). This measure captures the sensitivity of risk-adjusted stock returns in each industry group (at the 2-digit SIC code level) to changes in the US economic policy uncertainty index from Baker, Bloom, and Davis (2016). This allows us to evaluate whether the hiring cuts are driven by the uncertainty from the gubernatorial elections or the more general policy uncertainty. Robust standard errors are clustered at the firm level. Table 2 displays the results.

[Table 2 around here]

The results in Table 2 indicate that firms reduce hiring activities before a gubernatorial election is scheduled to take place in the job location's state. Specifically, the coefficients on *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* are both negative and statistically significant below the 1% level. The economic magnitude is sizable. The coefficients in Column 3 indicate that firms cut their monthly postings by approximately 1.6% one quarter before and 1.9% two quarters before the election is scheduled to take place at a job's location state. These estimates correspond to a cumulative 10.5% (= (1.6%+1.9%) x 3) decline in the number of job postings over the six-month period before the election. Overall, the results in Table 2 lend support to Prediction 1 that firms reduce hiring in response to the increased uncertainty due to the upcoming gubernational election.[14]

The control variables have expected signs. In particular, larger firms or firms exhibiting high growth have a greater demand for workers. Moreover, the coefficient on *Exposure to general economic policy uncertainty* is not statistically significant, indicating that it is the uncertainty from

[14] Our paper argues that the decline in job postings prior to an election is driven by election uncertainty. However, we recognize that part of the labor response to uncertainty could be mechanically related to the response of capital investment (see, e.g., Bloom et al., 2007). If labor and capital are complements (substitutes) in the production function, hiring will decline (increase) as physical capital investment declines. Since we cannot directly observe a firm's production function, and it could change during periods of uncertainty, we are unable to quantify the labor-capital substitutability effect in our current empirical setting. Therefore, the observed effects are likely the combined result of both the direct impact of uncertainty on hiring and the indirect influence of capital-labor dynamics.

the gubernatorial elections, rather than the general economic policy uncertainty, that drives the reduction in local firm hiring activities.

We perform various robustness tests on our baseline findings in Table 2 and display the results in Appendix 2. First, to address the concern that using log transformation on the dependent variable could potentially distort the inferences (Cohn et al., 2022), we re-estimate the baseline regressions using a Poisson fixed effects model. The results, reported in Column 1, remain unchanged. Second, one can argue that presidential elections may generate even higher levels of election uncertainty than gubernatorial elections (Baker et al., 2022). We do not use presidential elections as a source of uncertainty because these elections are common shocks to all states, making it difficult to separate the political cycles from the business cycle (Jens, 2017). To address the concern that the results are driven by presidential elections, we re-estimate the baseline specifications excluding the years of presidential elections 2012 and 2016 from the sample. As shown in Column 2, the results remain robust. Third, to account for the possibility that time-varying firm characteristics drive our results, we replace firm fixed effects with the interacted firm by year fixed effects in Column 3.[15] Finally, in Column 4, we double cluster our standard errors at the firm and the job location state and obtain robust results.

4. Economic mechanisms

In this section, we perform various tests to evaluate the main economic mechanism that could explain firms' hiring responses to election uncertainty—the irreversibility costs of human capital investment. We also consider two other potential channels through which uncertainty can influence hiring decisions, namely financial constraints and managerial risk preferences.

[15] Column 3 omits *Firm age* and *Exposure to General economic policy uncertainty* due to the presence of the firm-by-year fixed effects.

4.1 Irreversibility costs of hiring

As explained in the conceptual framework, the central mechanism that explains firms' hiring responses to election uncertainty is the investment's irreversibility costs. Specifically, real options models show that uncertainty leads firms to delay their investment only in the presence of irreversibility costs (Bernanke, 1983). In this section, we perform various analyses to shed light on this mechanism by exploiting variations in the costs of reversing a hiring decision. We examine this variation across several dimensions: role flexibility; the worker's bargaining power; and worker skills.

4.1.1 Role flexibility

Our first set of tests condition the baseline findings on role flexibility. First, in Panel A of Table 3, we distinguish full-time from part-time roles. Compared to part-time positions, full-time roles have less-flexible contracts, implying greater irreversibility costs and a potentially greater uncertainty response. To test for this, we examine the differential impact of election uncertainty on the number of job postings for full time and part time job roles in Columns 1 and 2, respectively. We find that while firms reduce the number of job postings for full-time positions (Column 1), they do not reduce the demand for jobs in part-time roles in response to election uncertainty (Column 2).

[Table 3 around here]

In Column 3, we use an alternative dependent variable, the proportion of full-time job postings relative to the total number of full- and part-time job postings. As shown in Column 3, the share of jobs postings for full-time positions drops significantly ahead of a scheduled gubernatorial election, indicating that firms substitute full-time positions with more flexible part-

time roles in response to election uncertainty. In summary, in line with Prediction 2, the results in Panel A of Table 3 show that firms significantly reduce hiring for full-time positions, which are less flexible and more costly to reverse compared to part-time roles. These findings also shed light on a new, labor-specific corporate response to uncertainty shocks, in which firms mitigate the irreversibility costs of hiring by adjusting their hiring toward more flexible and less costly to reverse roles in response to election uncertainty.

Second, in Panel B of Table 3, we explore heterogeneity in the effect across the firm's HQ state versus non-HQ states. HQs often perform centralized functions such as strategic planning, resource allocation, and coordination across business units (Kunisch et al., 2020). These roles suggest that jobs in a firm's HQ state are more likely to be human-capital intensive, higher-skill jobs, and often involve less flexible contracts compared to those in non-HQ states. Therefore, HQ jobs tend to have greater irreversibility costs and imply a potentially more pronounced uncertainty response. In our sample, 1,754,924 job postings (corresponding to 122,241 observations in the firm-state-month panel) are at the firm's HQ state. The remaining 8,700,185 job postings (or 2,682,850 observations in the firm-state-month panel) are outside the firm's HQ state.

To examine this hypothesis, we interact our gubernatorial election indicators with two dummy variables indicating the firm's HQ and non-HQ states. As shown in Panel B of Table 3, all of the interacted coefficients are statistically significant. These results suggest that firms reduce hiring in their HQ state in response to scheduled gubernatorial elections in that state and similarly reduce hiring in non-HQ locations in response to gubernatorial elections in the respective non-HQ states. Moreover, we observe a larger reduction in hiring in the firm's HQ state relative to non-HQ states. An F-test indicates that the differential response is statistically significant (p-value = 0.030). The estimates indicate a cumulative 22.8% (= (3.6%+4.0%) x 3) decline in the number of job

postings over the six-month period before the election at the firm's HQ state, compared to a cumulative 9.3% (= (1.4%+1.7%) x 3) decline at non-HQ states. Overall, the results in Panel B suggest that, in response to election uncertainty, firms disproportionately cut back on hiring in their HQ state compared to non-HQ states.

Finally, in Panel C of Table 3, we use remote work arrangements as another proxy for job flexibility. The recent pandemic has shown that there are substantial differences across firms in their ability to support remote work for their employees (e.g., Campello et al., 2024b). From the perspective of employers, roles that offer remote work arrangements often involve contracts that are less flexible since they typically include clauses that protect the employee's right to job continuity or require arbitration prior to termination (Busch et al., 2011). Since hiring into remote roles could be more costly to reverse, we expect firms with remote work arrangements to make a larger hiring cut in response to election uncertainty. To this end, *High (low) remote work* is a dummy variable that equals one for firms in industries below (above) median of work-from-home difficulty index (defined at the 4-digit NAICS code) (Papanikolaou & Schmidt, 2022). We interact our gubernatorial election indicators with two dummies indicating industries with high and low remote work, and display the results in Panel C.

The results in Panel C suggest that firms in industries with remote work arrangements reduce their job postings more than those in industries with onsite work arrangements. However, when we compare the differential effect using *F*-test, the difference is not statistically significant. Therefore, the results in Panel C offer suggestive evidence that the hiring responses to election uncertainty are stronger in industries with remote work arrangements.

4.1.2 Unionization

Next, we explore heterogeneity in the effect of gubernatorial election on firm hiring across an industry's unionization rate. Hiring into unionized roles is typically more costly to reverse since it is more difficult to fire and re-hire unionized workers (e.g., Campello et al. 2022). Since hiring into these roles implies greater irreversibility costs, we should expect more pronounced uncertainty responses. To test this hypothesis, we obtain data on industry-level unionization membership rates from the Union Membership and Coverage Database. We define *High (Low) unionization coverage* as a dummy variable that equals one if the proportion of workers covered by collective bargaining agreements in a given Census Industry Code is above (below) the sample's median.[16] We interact our gubernatorial election indicators with two dummies indicating industries with high and low unionization coverage rates, and report the results in Table 4.

Consistent with our expectations, we find in Column 1 of Table 4 that firms in highly unionized industries substantially reduce the number of job postings by a cumulative 14.4% (= (2.2%+2.6%) x 3) over the six-month period before the election. In contrast, firms in industries with a low unionization rate do not reduce their hiring before the election. An F-test further confirms that the differential hiring response between high versus low unionization industries is statistically significant.

[Table 4 around here]

An important concern in interpreting the results in Column 1 is that certain gubernatorial elections may have been contested on issues related to unionization. To alleviate this concern, we exclude elections where unionization is a salient issue among state residents. To identify these

[16] The Union Membership and Coverage Database compiles labor union coverage data from the monthly household Current Population Survey, which classifies industries using Census Industry Code. Transportation, construction, and telecommunications industries typically have high unionization rates, while retail, hospitality, and technology industries tend to have low unionization rates.

elections, we use Google Trends data on search interest for the term "union rights" as a proxy for public interests in union-related matters. Specifically, for each election, we obtain weekly time series data from Google and calculate the growth in search interests by dividing the total search volume six months before the election (months -1 to -6) by the total search volume from the prior six months (months -7 to -12). We then classify an election as being salient on union issues if the growth in search interests for the term "union rights" is above the sample's median. We accordingly exclude the year before and the year after these elections from the sample and display the re-estimated results in Column 2 of Table 4. We continue to find in Column 2 that firms in highly unionized industries cut back on hiring before an election, while those in low-unionization industries do not.

A further concern is that gubernatorial elections may be concurrent with other state elections that affect unionization policies (e.g., referenda on right-to-work laws). To address this issue, we screen all ballot measures from the National Conference of State Legislatures database[17] to identify 18 gubernatorial elections that coincide with ballot measures related to labor rights in corporations.[18] We accordingly we exclude the year before and the year after these elections from the sample, and present the results in Column 3. Having excluded these elections, our conclusions remain the same, namely that firms in highly unionized industries reduce hiring before an election, while those in low-unionization industries do not. Finally, in Column 4, we exclude both elections

[17] https://www.ncsl.org/elections-and-campaigns/statewide-ballot-measures-database

[18] We initially identify 29 "Work and Employment" ballot measures that coincide with 23 gubernatorial elections in our sample. We then manually screen each of the ballot measures and remove eight ballot measures that, while classified as "Work and Employment" by NCSL, are unlikely to affect labor rights in corporations. For instance, the Amendment A "Removal from constitutional of forced unpaid labor for criminals amendments" ballot measure in Colorado in 2014 only affects the prison population. We end up using 21 ballot measures that coincide with 18 gubernatorial elections as the basis for our exclusion in Column 3 of Table 4. The 18 gubernatorial elections that we exclude from the sample and the corresponding 21 ballot measures are listed in Panel A Internet Appendix IA1. For transparency, we also list the ballot measures that are classified as "Work and Employment" by NCSL but are unlikely to affect labor rights in corporation in Panel B.

that could be contested on issues related to unionization and elections that could be concurrent with other state elections that affect unionization policies. Our results are robust.

4.1.3 Worker-skill level

In our final set tests to pin down the irreversibility costs mechanism, we investigate the effect of gubernatorial elections on the skill level of employees that firms seek to hire. As discussed in Prediction 2, when firms face with the uncertainty induced by the upcoming gubernatorial election, they could have differential responses in terms of high- versus low-skill hiring. Because hiring into higher-skill roles is more costly to reverse than hiring into lower-skill roles (Belo et al., 2017; Campello et al. 2024b), we expect gubernatorial elections disproportionately lead to fewer high-skill job postings than low-skill job postings. In Table 5, we test this idea using detailed information on the experience and skill requirements specified in each job posting in Lightcast. We estimate the following job-level regression specifications:

$$Skill\ requirements_{jistm} = \beta_1 \times Gubernatorial\ Election_{stm} + Controls_{itm} + Fixed\ Effects + \varepsilon_{jistm} \quad (2)$$

We use several dependent variables $Skill\ requirements_{jistm}$ to capture the skill or experience levels required for job *j* posted by firm *i* in state *s* in year *t* month *m*. $Gubernatorial\ Election_{stm}$ are dummy variables indicating one or two quarters before a scheduled gubernatorial election in state *s* where the job is based. The regressions include a set of control variables and fixed effects similar to Equation (1). In particular, we include firm, headquarters' state by year, job location state by year, industry by year, and month fixed effects.[19]

[19]Our results remain unchanged if we also include O*NET occupational code fixed effects in the regressions. This allows us to examine changes in the specifications of the same type of jobs advertised by the same firm over time. We do not include these fixed effects to flexibly allow for variation across different types of jobs (e.g., engineers versus office clerks), and also to ensure consistency with the firm-state-month specifications.

The set of firm-level control variables include *Firm size, Firm age, Tobin's Q, ROA, Capital expenditures,* and *Exposure to general economic policy uncertainty*.

In Panel A of Table 5, we measure the skill level of a job posting by mapping each posting's O*NET code to a Job skill zone using the O*NET-Job Skill Zone linking table (Autor et al., 2003). The ONET*Job skill zone is a classification system to group occupations based on the skill level required. It ranges from Job zone 1 to Job zone 5, where Job zone 1 represents the lowest-skill roles and Job zone 5 includes the highest-skill jobs.[20] The dependent variables in Panel A are (i) *Job Zone 5 versus 1*, a dummy variable that equals one if the advertised job has an O*NET occupation code corresponding to Job zone 5, and zero if it corresponds to Job zone 1, and (ii) *Job zone 45 versus 123*, a dummy variable that equals one if the advertised job has an O*NET occupation code corresponding to Job zones 4 or 5, and zero if it corresponds to Job zones 1, 2, or 3.

[Table 5 around here]

In line with Prediction 2, the results in Panel A indicate that firms refrain from advertising for high-skill roles in Job zones 4 and 5 ahead of a scheduled gubernatorial election in the state where the job is based. In particular, firms are less likely to advertised for jobs in Job zone 5 relative to those in Job zone 1 (Column 1) and for jobs in Job zones 4 and 5 relative to those in Job zones 1, 2, and 3 (Column 2).

In Panel B of Table 5, we look at the experience requirements in a job posting. In our sample, 53% of job postings specify a minimum experience requirement. For those jobs, the median required experience is two years. We accordingly use two dependent variables: (i) *Require*

[20] Examples of Job Zone 5 occupations are dentists, astronomers, and chief executives. Examples of Job Zone 1 occupations are dishwashers, rock splitters, and cafeteria attendants. In our sample, approximately 2% of job postings with non-missing Job Skill Zone is in Job Zone 1, 52% in Zone 2, 14% in Zone 3, 27% in Zone 4, and the remaining 5% are in Job Zone 5.

experience, a dummy variable that equals one if the advertised job specifies a minimum experience requirement, and zero otherwise; and (ii) *Require substantial experience*, a dummy variable that equals one if the required minimum experience is two years or more, and zero if the required experience is less than two years or if the job does not have an experience requirement. As shown in Panel B, jobs advertised one and two quarters before an election are less likely to have a minimum experience requirement. Therefore, firms lower the experience requirements in job postings ahead of elections, consistent with Prediction 2.

Finally, in Panel C of Table 5, we look at the skills that a worker must possess to be eligible for a position. Our dependent variables are (i) *Ln(1+Total skills),* the natural logarithms of one plus the total number of skills that are required in a job posting, and (ii) *Ln(1+Specialized skills),* the natural logarithms of one plus the number of specialized skills required in a job posting. Specialized skills refer to specific abilities or knowledge areas that are directly relevant to performing a particular job or task, e.g., coding in specific programming languages. The median job in our sample requires a total of nine skills, with six skills being specialized. As shown in Panel C, jobs advertised one and two quarters before a gubernatorial election require fewer skills.

Overall, the results in Table 5 suggest that firms cut back on hiring high-skill workers when facing uncertainty induced by the upcoming gubernatorial election. Compared to low-skill workers, high-skill workers tend to be more costly and often have less flexible employment contracts (e.g., Campello et al., 2024b). The results are, therefore, consistent with Prediction 2 that election uncertainty causes firms to delay making investments in human capital, particularly those that are more costly to reverse.

4.2 Financial constraints

Financial constraints could amplify the effect of uncertainty on corporate hiring (Alfaro et al., 2024). Because access to external funds could be limited during periods of uncertainty (Berger et al., 2022; Gilchrist et al., 2017), firms may need to scale back on investment. Although investment in new workers is unlikely to require raising external capital, financially constrained firms may still have less flexibility to respond to investment opportunities. Thus, uncertainty may further encourage these firms to adopt a "wait and see" approach and become more cautious in hiring.

We follow Hadlock and Pierce (2010) and use several ex-ante proxies for financial constraints. The first two proxies are based on firm size and age, where younger and smaller firms are considered to be more financially constrained. The third proxy is a size-age index. The index is calculated as $-0.737*\text{Size} + 0.043*\text{Size}^2 - 0.04*\text{Age}$, where size is the log of book assets, and age is the number of years the firm has been listed on Compustat with a non-missing stock price. We further follow Hadlock and Pierce (2010) and replace size with log ($4.5 billion) and age with 37 years if the actual values exceed these thresholds. A higher index indicates that the firm is more financially constrained. To this end, we classify a firm to be financially constrained if their size or age is below the sample's median, or if their size-age index is above the sample's median. We interact our gubernatorial election indicators with two dummies indicating firms with low and high financial constraints, and report the results in Table 6.

[Table 6 around here]

We find limited evidence that financial constraints play a role. Although financially constrained firms appear to cut hiring more, the differential response is not statistically significant. For example, when using a size-age index as a proxy for financial constraints in Column 3, the estimates indicate a cumulative 12.9% (= (2.0%+2.3%) x 3) decline in the number of job postings

over the six-month period before elections for more financially constrained firms, compared to a cumulative 8.4% (= (1.3%+1.5%) x 3) decline before elections for less constrained firms. We obtain a similar conclusion using firm age and size as proxies for constraints in Columns 1 and 2 respectively. It is important to note that, because financial constraints are inherently difficult to measure, the lack of statistical significance in our findings may stem from underlying measurement errors.

4.3 CEO risk preferences

Another potential mechanism is the role of managerial risk preferences. Specifically, increased uncertainty may prompt risk-averse economic agents to save more and reduce investments (Aizenman & Marion, 1999; Nakamura, 1999; Zeira, 1990). Prior studies suggest that risk aversion plays a part in firms' reduced investment amid macroeconomic uncertainty (e.g., Phan et al., 2019; Rashid & Saeed, 2017; Yung & Root, 2019). As such, we predict that the relationship between election uncertainty and reduced hiring is stronger when the CEO is more risk averse.[21]

One challenge in testing this prediction is finding direct proxies for CEO risk preferences based on observable data. For instance, while prior research shows that CEO age and tenure could capture their risk preferences (e.g., Serfling 2014), these variables may be subject to alternative interpretations. For example, they could reflect a CEO's career concerns or levels of "subjective" uncertainty (Jenter & Lewellen 2015; Pan et al., 2015). As a result, we capture CEO risk preferences based on their compensation structure. Specifically, we use the sensitivity of CEO wealth to stock volatility (*vega*), where a higher *vega* indicates greater risk-taking incentives. Existing literature has shown that CEOs with higher *vega* implement riskier corporate policies

[21] We focus on CEOs, because they are the most important decision-maker who sets the tone from the top and shapes corporate decisions (Graham et al., 2022).

(Coles et al., 2006). We classify CEOs to have greater risk preferences if their *vega* is above the sample's median. We interact our gubernatorial election indicators with two dummies indicating CEOs with high and low risk preferences, and report the results in Table 7.

[Table 7 around here]

We observe similar pre-election hiring cuts across CEOs with low and high risk-taking incentives. In particular, the estimates indicate a cumulative 13.2% (= (3.3%+1.1%) x 3)[22] decline in the number of job postings over the six-month period before elections for firms led by CEOs with high vega, compared to a cumulative 13.8% (= (1.8%+2.8%) x 3) decline before elections for firms led by CEOs with low vega. Since the differential responses are economically small and not statistically significant, it is not possible to conclude that risk preferences play a role in moderating the relationship between uncertainty and hiring. As CEO risk preferences are also difficult to measure, the lack of results may be due to measurement errors.

5. Sources of uncertainty

As mentioned in the conceptual framework, gubernatorial elections are likely to create policy uncertainty around several issues, such as budget, taxation, or labor regulations. As highlighted in Campello and Kankanhalli (2024), many of these issues may not be directly relevant to firms' hiring decisions. This section attempts to distinguish between various potential sources of election uncertainty that affect hiring decisions.

First, we categorize gubernatorial elections into those that focus more on labor-related issues and those where labor is less central. To identify elections centered around labor-related issues, we use Google Trends search volume data to measure public interest in each state.

[22] The coefficient on Gubernatorial Election (Q1)*High vega is not statistically significant.

Specifically, we collect Google weekly time series for search volume data on the following terms: "job stability;" "minimum wage;" "paid leave;" "union rights;" and "workplace safety." For each election, we calculate the growth in the combined search volumes for all five search terms six months before the election (months -1 to -6) by the total search volume from the prior six months (months -7 to -12).[23] We then classify an election as high labor-focused if the growth in search interest is above the sample's median. We interact our gubernatorial election indicators with two dummies indicating elections with high and low focus on labor-specific issues and report the results in Table 8.

[Table 8 around here]

Table 8 displays the results. We find that elections that focus more heavily on labor-related issues are associated with a more pronounced reduction in hiring. Specifically, the differential hiring response between high versus low labor-focused elections is statistically significant (p-value=0.013). The estimates indicate a cumulative 12.6% (= (2.0%+2.2%) x 3) decline in the number of job postings over the six-month period before elections that have a greater focus on labor-related issues, compared to a cumulative 8.7% (= (1.3%+1.6%) x 3) decline before elections where labor issues are less salient.

We further find in Table 8 that firms also significantly reduce hiring prior to elections that are less focused on labor-related issues, which suggests that general state-level policy uncertainty also matters to corporate hiring decisions. We confirm this by categorizing gubernatorial elections based on the general state-level policy uncertainty that they generate. For each election, we obtain monthly state-level EPU index from Baker et al (2022) and calculate the growth in the index six months before the election (months -1 to -6) relative to the prior six months (months -7 to -12).

[23] To avoid division by zero, we add one to each total search volume.

We then classify an election to be associated with greater state-level uncertainty if the growth in the EPU index is above the sample's median. We interact our gubernatorial election indicators with two dummies indicating elections associated with high and low uncertainty. Table 9 reports the results.

[Table 9 around here]

As shown in Table 9, all of the interacted coefficients are statistically significant, suggesting that firms reduce hiring ahead of all gubernatorial elections. Moreover, there is a marginally larger reduction in hiring ahead of elections that generate greater state-level economic policy uncertainty. The estimates indicate a cumulative 12.6% (= (1.9%+2.3%) x 3) decline in the number of job postings over the six-month period before elections, which is associated with greater state-level economic policy uncertainty, compared to a cumulative 8.7% (= (1.4%+1.5%) x 3) decline before elections associated with lower uncertainty.

The results provide novel insights into the sources of uncertainty that influence corporate hiring decisions. Specifically, our findings show that uncertainty related to labor policies is a significant factor in explaining a firm's hiring responses to gubernatorial elections. Moreover, we also find that firms reduce hiring ahead of elections where labor issues are less prominent, suggesting that broader policy uncertainty also affects hiring decisions. Importantly, the fact that firms respond more strongly to elections that generate higher levels of general policy uncertainty further reassures us that our main findings capture firms' reactions to positive second-moment shocks (i.e., "uncertainty") rather than reflecting concurrent negative first-moment shocks (i.e., "bad news").

6. First- versus second-moment shocks

So far, our results point to substantial changes to corporate hiring in response to the uncertainty induced by gubernatorial elections. While we attribute these effects to firms' responses to increased uncertainty (i.e., second-moment shocks), these estimates may also partially capture firms' speculation about potential changes in labor policies (i.e., first-moment shocks). For instance, rather than responding to uncertainty brought by an election, a manager might adjust hiring decisions based on the expectation that the incoming governor will worsen labor market conditions.

This section evaluates the extent to which the baseline findings in Table 2 are driven by concurrent first-moment shocks. To do so, we analyze firms' layoff activities in the period leading up to an election. If our results are driven by the anticipation of bad news (a negative first-moment shock), firms would likely respond by both reducing hiring and increasing layoffs to manage costs in anticipation of challenging times. Alternatively, if the results are primarily driven by uncertainty (a positive second-moment shock), there would be no clear incentive for firms to significantly increase layoffs. Thus, analyzing pre-election layoffs allows us to clarify whether election events are primarily uncertainty shocks or reflect the anticipation of bad news.

To test this hypothesis, we obtain mass layoff data from Revelio Labs, which collects the data from the Worker Adjustment and Retraining Notification (WARN) database. The federal WARN Act requires firms that employ over 100 workers to give advance layoff notices to state governments and employees. Because of this relatively low threshold, this reporting requirement covers all firms in our sample. A mass layoff occurs under the WARN Act when (1) at least 50 employees are laid off during a 30-day period, if the laid-off employees made up at least one third of the workforce, or (2) at least 500 employees are laid off during a 30-day period, regardless of

how large the workforce. We aggregate mass layoff data from Revelio Labs into a firm-state-month panel and estimate the following equation:

$$Ln(1 + Mass\ layoffs)_{istm} = \beta_1 \times Gubernatorial\ election_{stm} + Controls_{itm} + Fixed\ effects + \varepsilon_{istm} \quad (3)$$

The dependent variable *Ln(1+ Mass Layoffs)* is the natural logarithm of one plus the number of employees being fired in a mass layoff by firm *i* in state *s* in year *t* month *m*. $Gubernatorial\ eection_{stm}$ are dummy variables indicating one or two quarters before a scheduled gubernatorial election in state *s*. The regressions include a set of control variables and fixed effects similar to Equation (1). Table 10 reports the results.

[Table 10 around here]

The results in Table 10 indicate that firms do not increase their mass layoffs ahead of a gubernatorial election. Specifically, the coefficients on both *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* are statistically insignificant. The findings are at odds with the explanation that the election serves as a negative first-moment shock, prompting managers to increase layoffs to cut costs,[24] instead suggesting that the primary mechanism that elections affect hiring is through second-moment uncertainty shocks.

7. Changes in labor supply

Unlike physical capital, individuals have agency, and workers may strategically adjust their labor supply decisions in response to uncertainty shocks (Matsa, 2018). In this section, we complement

[24] Although it is unlikely for firms to evade the WARN Act since the Act mandates reporting multiple layoffs within a rolling 90-day period if the total number of affected employees surpasses the threshold, firms may still strategically time the initiation and disclosure of mass layoffs. Prior studies find that firms might avoid or delay mass layoffs before elections if they are politically connected (Bertrand et al., 2018) or anticipate negative media coverage (Baloria & Heese, 2018). Therefore, a caveat to our findings is the potential for firms to strategically time their mass layoffs in the lead-up to an election.

the main analyses of firms' labor demand by providing suggestive evidence on how election uncertainty may influence employees' labor supply decisions. We acknowledge that, due to data limitations, we cannot precisely measure labor supply decisions. As a result, the tests in this section are more exploratory in nature. Nonetheless, they offer an opportunity to infer the potential role of concurrent changes in employees' labor supply dynamics in the observed shifts in corporate hiring.

Our first test examines the effect of gubernatorial elections on employee inflows and outflows. From an employee perspective, labor market frictions make job search costly and time consuming, implying a fixed cost for employees in exchange for uncertain future wages (Christensen et al., 2005; Conlon et al., 2018; Miano, 2023). If greater uncertainty prompts individuals toward greater "inaction" in their labor supply decisions, firms may find it difficult to attract new workers, implying that the number of employee inflows would decline under heightened election uncertainty. Similarly, it should be easier for firms to retain current employees. Therefore, employee outflows should decline with uncertainty shocks.

We test these predictions by estimating the following firm-state-month level regressions using data on worker flows from Revelio Labs:

$$Ln(1 + Employee\ in/outflows)_{istm} = \beta_1 \times Gubernatorial\ election_{\ stm} + Controls_{itm} + Fixed\ Effects + \varepsilon_{istm} \quad (4)$$

The dependent variables *Ln(1+ Employee inflows)* and *Ln(1+ Employee outflows)* are the natural logarithm of one plus the number of employees inflows and employee outflows, respectively, from firm *i* in state *s* in year *t* month *m*. $Gubernatorial\ election_{\ stm}$ are the election dummies. The regressions include a set of control variables and fixed effects similar to Equation (1). It is important to note that employee outflow data do not distinguish between voluntary and

involuntary departures. Consequently, any changes in outflows, may not only be attributable to labor supply responses but also may reflect the firm's labor demand response to uncertainty.

[Table 11 around here]

Table 11 displays the results. Consistent with our predictions, the results in Column 1 suggest that the number of employee inflows is lower two quarters before a scheduled gubernatorial election. In Column 2, the coefficient estimates indicate that gubernatorial elections do not have a statistically significant effect on the number of employee outflows. Thus, employees are *not* more likely to leave the firm before an election. Overall, the results in Table 11 are broadly consistent with the interpretation that heightened uncertainty prompts individuals toward greater inaction in their labor supply decisions, leading to lower employee inflows and outflows.

Our second test further examines the effect of gubernatorial elections on the tenure of workers who join the firm during periods of uncertainty. As the matching of workers and firms (Rogerson et al., 2005) may worsen during heightened uncertainty, making it more difficult to find good matches on both sides, workers who join the firm during uncertain periods may leave sooner due to a poor fit with the firm. Using data on employee online resumes from Revelio Labs, we construct the dependent variable, *Early Departure*, as the ratio of employees hired by the firm in a given state-month who leave within 12 months of employment to the total number of employees hired by the firm in that state-month. The regression specifications are similar to Equation 4. Similar to our previous results on employee outflows, it is important to note that these early departures may not solely capture labor supply decisions (voluntary departures) but may include involuntary departures.

[Table 12 around here]

Table 12 displays the results. The coefficient on *Gubernatorial election (Q1)* is positive and statistically significant. This finding suggests that employees hired just before an election are more likely to leave the company in the following 12 months. Collectively, the results indicate that heightened election uncertainty may worsen worker-firm matching, leading to both fewer new hires and shorter tenure for employees hired before the election. The finding in Table 12 also partially explains our main results on the number of job postings: firms reduce hiring ahead of a gubernatorial election because hiring during this uncertain period tends to result in worse matches and earlier departures.

8. Conclusions

We contribute to the literature on uncertainty and corporate decisions by examining how election uncertainty shapes firms' human capital investment decisions. Using granular data on job postings and employee flows, we find that firms reduce job postings in the six months leading up to gubernational elections. The hiring cuts are more pronounced for job positions that are more costly to reverse, such as those in high-skilled, less flexible, and unionized roles. Our overall findings align with the real options framework, where firms adopt a "wait and see" approach during periods of uncertainty.

We also explore the sources of uncertainty associated with gubernational elections and find that firms react more strongly to elections that focus more heavily on labor-related issues, such as job stability, minimum wage, and union rights, suggesting that labor-related policy uncertainty is particularly relevant to firms' human capital investment decisions. Our evidence also indicates that the broader state-level uncertainty also plays a role in influencing hiring decisions. Finally, we find that that fewer employees join firms before elections, and those who do are more likely to

leave shortly after (within 12 months), suggesting that worker-firm matching may worsen during uncertainty.

While the overall results suggest that state-level policy uncertainty (i.e., a positive second-moment shock) is the main driver of reduced hiring before gubernatorial elections, there remains a possibility that any negative sentiment concerning labor market conditions (i.e., a negative first-moment shock) could play a role. Since gubernational elections are staggered across states, and our empirical specifications absorb any unobserved variation at the industry-year and at both HQ- and job-location-state-year levels, any confounding first-moment shocks will need to occur at the location-month or industry-month level.

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Table 1: Summary statistics

The table presents summary statistics for the main variables used in the study. The sample period is from 2010 to 2019. Definitions of all variables are included in Appendix 1.

	(1) Obs.	(2) Mean	(3) S.D.	(4) p25	(5) Median	(6) p75
Firm-state-month (Lightcast)						
Firm size	2,805,091	8.380	1.641	7.233	8.293	9.474
Firm age	2,805,091	30.020	16.340	17.000	26.000	47.000
ROA	2,805,091	0.015	0.023	0.006	0.015	0.026
Capital expenditures	2,805,091	0.012	0.012	0.004	0.008	0.015
Tobin's Q	2,805,091	1.850	0.808	1.267	1.620	2.210
Exposure to general economic policy uncertainty	2,805,091	-0.020	0.094	-0.026	-0.003	0.020
Ln(1 + Job postings)	2,805,091	0.545	0.957	0.000	0.000	0.693
Number of job postings	2,805,091	2.829	9.134	0.000	0.000	1.000
Job-level (Lightcast)						
Job zone 5 versus 1	363,940	0.710	0.454	0.000	1.000	1.000
Job zone 45 versus 123	5,776,573	0.315	0.465	0.000	0.000	1.000
Require experience	7,718,879	0.529	0.499	0.000	1.000	1.000
Require substantial experience	7,718,879	0.337	0.473	0.000	0.000	1.000
Ln(1+ Total Skills)	7,718,879	2.191	0.672	1.792	2.303	2.639
Ln(1+ specialized skills)	7,718,879	1.924	0.659	1.386	1.946	2.398
Firm-state-month (Revelio Labs)						
Ln(1 + Layoffs)	7,156,088	0.001	0.066	0.000	0.000	0.000
Ln(1 + Inflows)	7,156,088	0.334	0.715	0.000	0.000	0.000
Ln(1 + Outflows)	7,156,088	0.299	0.669	0.000	0.000	0.000
Early Departures	1,557,064	0.342	0.374	0.000	0.248	0.563

Table 2: The impact of gubernatorial elections on job postings

This table reports regression results estimating the effect of gubernatorial elections on a firm's job posting activities. The dependent variable is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions by a firm in a given state in a given month. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)		
	(1)	(2)	(3)
Gubernatorial election (Q1)	-0.010**		-0.016***
	[0.005]		[0.005]
Gubernatorial election (Q2)		-0.013***	-0.019***
		[0.004]	[0.004]
Firm size	0.144***	0.144***	0.144***
	[0.028]	[0.028]	[0.028]
Firm age	0.068	0.068	0.068
	[0.081]	[0.081]	[0.081]
ROA	0.202	0.202	0.203
	[0.162]	[0.162]	[0.162]
Capital expenditures	0.142	0.142	0.143
	[0.326]	[0.326]	[0.326]
Tobin's Q	0.078***	0.078***	0.078***
	[0.016]	[0.016]	[0.016]
Exposure to general economic policy uncertainty	0.004	0.004	0.004
	[0.066]	[0.066]	[0.066]
Firm fixed effects	Yes	Yes	Yes
HQ state x year fixed effects	Yes	Yes	Yes
Job location state x year fixed effects	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes
Sample	Lightcast	Lightcast	Lightcast
Observations	2,805,091	2,805,091	2,805,091
Adjusted R^2	0.374	0.374	0.374

Table 3: The impact of gubernatorial elections on job postings – Role flexibility

This table examines heterogeneity in the effect of gubernatorial elections on firm hiring across role flexibility. The dependent variables in Columns 1 and 2 of Panel A are the natural logarithm of one plus the total number of job postings by a firm in a given state in a given month for full-time and part-time positions, respectively. The dependent variable in Column 3 of Panel A is *%Full-time posts*, the proportion of full-time job postings relative to the total number of full- and part-time job postings. The dependent variable in Panels B and C is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions by a firm in a given state in a given month. *HQ state* is a dummy variable that indicates the firm's headquarters state. *Non-HQ states* is a dummy variable that indicates job locations outside the firm's headquarters state. Panel B also reports the *F*-statistic from the hypothesis test on whether Gubernatorial election (Q1)*HQ state + Gubernatorial election (Q2)*HQ state is statistically different from Gubernatorial election (Q1)*Non-HQ states + Gubernatorial election (Q2)*Non-HQ states. *High (Low) remote work* is a dummy variable that equals one for firms in 4-digit NAICS code below (above) median of work-from-home difficulty index (Papanikolaou & Schmidt, 2022). Panel C also reports the *F*-statistic from the hypothesis test on whether Gubernatorial election (Q1)*High remote work + Gubernatorial election (Q2)*High remote work is statistically different from Gubernatorial election (Q1)*Low remote work + Gubernatorial election (Q2)*Low remote work. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Panel A: Full-time versus part-time

Dependent variables	Ln(1 + Job postings)		%Full-time posts
Samples	Full-time	Part-time	Full-time and part-time
	(1)	(2)	(3)
Gubernatorial election (Q1)	-0.016***	0.004	-0.012***
	[0.005]	[0.003]	[0.003]
Gubernatorial election (Q2)	-0.019***	0.003	-0.006**
	[0.004]	[0.003]	[0.003]
Control variables	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
HQ state x year fixed effects	Yes	Yes	Yes
Job location state x year fixed effects	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes
Sample	Lightcast	Lightcast	Lightcast
Observations	2,805,091	2,805,091	1,023,131
Adjusted R^2	0.374	0.433	0.373

Panel B: HQ versus non-HQ states

Dependent variable	Ln(1 + Job postings)
	(1)
Gubernatorial election (Q1)*HQ state	-0.036***
	[0.012]
Gubernatorial election (Q2)*HQ state	-0.040***
	[0.012]
Gubernatorial election (Q1)*non-HQ states	-0.014***
	[0.005]
Gubernatorial election (Q2) *non-HQ states	-0.017***
	[0.004]
HQ state	0.916***
	[0.024]
F-test: HQ state versus non-HQ states	4.730**
Control variables	Yes
Firm fixed effects	Yes
HQ state x year fixed effects	Yes
Job location state x year fixed effects	Yes
Industry x year fixed effects	Yes
Month fixed effects	Yes
Sample	Lightcast
Observations	2,805,091
Adjusted R^2	0.407

Panel C: Flexible work arrangement

Dependent variable	Ln(1 + Job postings)
	(1)
Gubernatorial election (Q1)*High remote work	-0.008
	[0.009]
Gubernatorial election (Q2)*High remote work	-0.028***
	[0.007]
Gubernatorial election (Q1)*Low remote work	-0.018*
	[0.010]
Gubernatorial election (Q2)*Low remote work	-0.010
	[0.008]
F-test: High Remote Work versus Low remote work	0.220
Control variables	Yes
Firm fixed effects	Yes
HQ state x year fixed effects	Yes
Job location state x year fixed effects	Yes
Industry x year fixed effects	Yes
Month fixed effects	Yes
Sample	Lightcast
Observations	1,669,303
Adjusted R^2	0.301

Table 4: The impact of gubernatorial elections on job postings – Unionization

This table examines heterogeneity in the effect of gubernatorial elections on firm hiring across unionization rate. *High (Low) unionization coverage* is a dummy variable that equals one if the proportion of workers covered by collective bargaining agreements in a given industry (based on the Census Industry Classification) is above (below) the sample median. Column 1 includes the full-sample. Column 2 excludes the year before and the year after elections that are more salient on union issues. Column 3 excludes the year before and the year after elections that could be concurrent with other state elections that affect unionization policies (e.g., referenda on right-to-work laws). Column 4 excludes the year before and the year after elections that are salient on union issues and those that could be concurrent with other state elections that affect unionization policies. The dependent variable is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions by a firm in a given state in a given month. Table 4 also reports the *F*-statistics from the hypothesis test on whether Gubernatorial election (Q1)*High unionization coverage + Gubernatorial election (Q2)*High unionization coverage is statistically different from Gubernatorial election (Q1)*Low unionization coverage + Gubernatorial election (Q2)*Low unionization coverage. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)			
Samples	Full sample	Exclude elections salient on union issues	Exclude elections that could affect union policies	Exclude elections in Columns 2 and 3
	(1)	(2)	(3)	(4)
Gubernatorial election (Q1)*High unionization coverage	-0.022***	-0.021**	-0.020**	-0.020**
	[0.008]	[0.008]	[0.008]	[0.008]
Gubernatorial election (Q2)*High unionization coverage	-0.026***	-0.026***	-0.024***	-0.025***
	[0.007]	[0.007]	[0.007]	[0.007]
Gubernatorial election (Q1)*Low unionization coverage	-0.005	-0.002	-0.004	-0.001
	[0.010]	[0.010]	[0.010]	[0.011]
Gubernatorial election (Q2)*Low unionization coverage	-0.009	-0.007	-0.01	-0.008
	[0.008]	[0.009]	[0.008]	[0.008]
High unionization coverage	0.004	0.003	0.005	0.002
	[0.022]	[0.022]	[0.022]	[0.023]
F-test: High unionization coverage versus Low unionization coverage	3.73*	4.17**	2.86*	3.52*
Control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
HQ state x year fixed effects	Yes	Yes	Yes	Yes
Job location state x year fixed effects	Yes	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes	Yes
Sample	Lightcast	Lightcast	Lightcast	Lightcast
Observations	2,388,105	2,139,381	2,222,552	2,021,374
Adjusted R^2	0.363	0.358	0.365	0.360

Table 5: The impact of gubernatorial elections on skill requirements

This table reports regression results estimating the effect of gubernatorial elections on a firm's hiring skill requirements. The dependent variables in Panel A are *Job zone 5 versus 1*, a dummy variable that equals one if the advertised job has an O*NET occupation code corresponding to Job zone 5, and zero if it corresponds to Job zone 1 (Column 1) and *Job zone 45 versus 123*, a dummy variable that equals one if the advertised job has an O*NET occupation code corresponding to Job zones 4 or 5, and zero if it corresponds to Job zones 1, 2, or 3 (Column 2). The dependent variables in Panel B are *Require experience*, a dummy variable that equals one if the advertised job specifies a minimum experience requirement, and zero otherwise (Column 1), and *Require substantial experience*, a dummy variable that equals one if the required minimum experience is two years or more, and zero if the required experience is less than two years or if the job does not have an experience requirement (Column 2). The dependent variables in Panel C are *Ln(1+Total skills),* the natural logarithms of one plus the total number of skills that are required in a job posting (Column 1) and *Ln(1+Specialized skills),* the natural logarithms of one plus the number of specialized skills required in a job posting (Column 2). *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Panel A: O*NET job skill zones

Dependent variables	Job Zone 5 versus 1	Job Zone 45 versus 123
	(1)	(2)
Gubernatorial election (Q1)	-0.005*	-0.005
	[0.003]	[0.004]
Gubernatorial election (Q2)	0.004	-0.006**
	[0.003]	[0.003]
Control variables	Yes	Yes
Firm fixed effects	Yes	Yes
HQ state x year fixed effects	Yes	Yes
Job location state x year fixed effects	Yes	Yes
Industry x year fixed effects	Yes	Yes
Month fixed effects	Yes	Yes
Sample	Lightcast	Lightcast
Observations	363,940	5,776,573
Adjusted R^2	0.834	0.346

Panel B: Experience requirement

Dependent variables	Requires experience	Requires substantial experience
	(1)	(2)
Gubernatorial election (Q1)	-0.008*	-0.006
	[0.005]	[0.004]
Gubernatorial election (Q2)	-0.007**	-0.010***
	[0.004]	[0.004]
Control variables	Yes	Yes
Firm fixed effects	Yes	Yes
HQ state x year fixed effects	Yes	Yes
Job location state x year fixed effects	Yes	Yes
Industry x year fixed effects	Yes	Yes
Month fixed effects	Yes	Yes
Sample	Lightcast	Lightcast
Observations	7,718,879	7,718,879
Adjusted R^2	0.318	0.275

Panel C: Skill requirement

Dependent variables	Ln(1+ Total skills)	Ln(1+ Specialized skills)
	(1)	(2)
Gubernatorial election (Q1)	-0.019**	-0.016**
	[0.008]	[0.008]
Gubernatorial election (Q2)	-0.014*	-0.014**
	[0.008]	[0.007]
Control variables	Yes	Yes
Firm fixed effects	Yes	Yes
HQ state x year fixed effects	Yes	Yes
Job location state x year fixed effects	Yes	Yes
Industry x year fixed effects	Yes	Yes
Month fixed effects	Yes	Yes
Sample	Lightcast	Lightcast
Observations	7,718,879	7,718,879
Adjusted R^2	0.327	0.286

Table 6: The impact of gubernatorial elections on job postings – Financial constraints

This table reports regression results estimating the effect of gubernatorial elections on a firm's job posting activities. In Column 1, *High (Low) fin constraints* is a dummy variable that equals one if *Firm size* is below (above) the sample's median. In Column 2, *High (Low) fin constraints* is a dummy variable that equals one if *Firm age* is below (above) the sample's median. In Column 3, *High (Low) fin constraints* is a dummy variable that equals one if the *Size-age index* (Hadlock & Pierce 2010) is above (below) the sample's median. The dependent variable is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions posted by a firm in a given state in a given month. We also report the *F*-statistics from the hypothesis test on whether Gubernatorial election (Q1)* High fin constraints + Gubernatorial election (Q2)* High fin constraints is statistically different from Gubernatorial election (Q1)*Low fin constraints + Gubernatorial election (Q2)*Low fin constraints. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)		
Fin constraints measures	Firm size	Firm age	Size-age index
	(1)	(2)	(3)
Gubernatorial election (Q1)*High fin constraints	-0.021***	-0.020***	-0.020***
	[0.006]	[0.006]	[0.007]
Gubernatorial election (Q2)*High fin constraints	-0.016***	-0.021***	-0.023***
	[0.006]	[0.006]	[0.007]
Gubernatorial election (Q1)*Low fin constraints	-0.011	-0.012*	-0.013*
	[0.008]	[0.007]	[0.007]
Gubernatorial election (Q2)*Low fin constraints	-0.022***	-0.016**	-0.015**
	[0.008]	[0.007]	[0.006]
High fin constraints	-0.035	0.044	-0.014
	[0.029]	[0.057]	[0.031]
F-test: High fin constraints versus Low fin constraints	0.06	0.64	0.78
Control variables	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
HQ state x year fixed effects	Yes	Yes	Yes
Job location state x year fixed effects	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes
Sample	Lightcast	Lightcast	Lightcast
Observations	2,805,091	2,805,091	2,804,685
Adjusted R^2	0.374	0.374	0.374

Table 7: The impact of gubernatorial elections on job postings – CEO risk preferences

This table reports regression results estimating the effect of gubernatorial elections on a firm's job posting activities. A CEO is classified as receiving a high (low) vega if the sensitivity of CEO wealth to stock volatility (vega) is above (below) the sample median. The dependent variable is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions posted by a firm in a given state in a given month. The table also reports the *F*-statistics from the hypothesis test on whether Gubernatorial election (Q1)*High vega + Gubernatorial election (Q2)*High vega is statistically different from Gubernatorial election (Q1)*Low vega + Gubernatorial election (Q2)*Low vega. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)
	(1)
Gubernatorial election (Q1)*High vega	-0.011
	[0.008]
Gubernatorial election (Q2)*High vega	-0.033***
	[0.007]
Gubernatorial election (Q1)*Low vega	-0.018**
	[0.007]
Gubernatorial election (Q2)*Low vega	-0.028***
	[0.007]
High vega	-0.015
	[0.017]
F-test: High vega versus Low vega	0.01
Control variables	Yes
Firm fixed effects	Yes
HQ state x year fixed effects	Yes
Job location state x year fixed effects	Yes
Industry x year fixed effects	Yes
Month fixed effects	Yes
Sample	Lightcast
Observations	2,295,837
Adjusted R^2	0.368

Table 8: Sources of election uncertainty

This table reports regression results estimating the effect of gubernatorial elections on a firm's job posting activities. An election is classified as *High (low) labor-focused flections* if the pre-election growth in Google Trends search interest for labor-related terms is above (below) the sample median. This table also reports the *F*-statistics from the hypothesis test on whether High labor-focused elections (Q1) + High labor-focused elections (Q2) is statistically different from Low labor-focused elections (Q1) + Low labor-focused elections (Q2)). The dependent variable is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions posted by a firm in a given state in a given month. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)
	(1)
High labor-focused elections (Q1)	-0.020***
	[0.005]
High labor-focused elections (Q2)	-0.022***
	[0.004]
Low labor-focused elections (Q1)	-0.013***
	[0.005]
Low labor-focused elections (Q2)	-0.016***
	[0.004]
F-test: High labor-focused versus Low labor-focused	6.13**
Control variables	Yes
Firm fixed effects	Yes
HQ state x year fixed effects	Yes
Job location state x year fixed effects	Yes
Industry x year fixed effects	Yes
Month fixed effects	Yes
Sample	Lightcast
Observations	2,805,091
Adjusted R^2	0.374

Table 9: Intensity of election uncertainty

This table reports regression results estimating the effect of gubernatorial elections on a firm's job posting activities. An election is classified to be associated with High (low) uncertainty if the pre-election growth in the state's EPU index (Baker et al., 2012) is above (below) the sample median. also report the *F*-statistics from the hypothesis test on whether High uncertainty election (Q1) + High uncertainty election (Q2) is statistically different from Low uncertainty election (Q1)+ Low uncertainty election (Q2). The dependent variable is *Ln(1 + Job postings),* the natural logarithm of one plus the total number of job postings for full-time positions posted by a firm in a given state in a given month. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)
	(1)
High uncertainty election (Q1)	-0.019***
	[0.006]
High uncertainty election (Q2)	-0.023***
	[0.004]
Low uncertainty election (Q1)	-0.014***
	[0.005]
Low uncertainty election (Q2)	-0.015***
	[0.005]
F-test: High uncertainty election versus low uncertainty election	2.47
Control variables	Yes
Firm fixed effects	Yes
HQ state x year fixed effects	Yes
Job location state x year fixed effects	Yes
Industry x year fixed effects	Yes
Month fixed effects	Yes
Sample	Lightcast
Observations	2,805,091
Adjusted R^2	0.374

Table 10: The impact of gubernatorial elections on mass layoffs

This table reports regression results estimating the effect of gubernatorial elections on a firm's mass layoffs. The dependent variable is *Ln(1 + Mass layoffs),* the natural logarithm of one plus the number of employees being fired in a mass layoff by a firm in a given state in a given month. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variables	Ln(1+ Mass layoffs)		
	(1)	(2)	(3)
Gubernatorial election (Q1)	-0.0001		-0.00002
	[0.0001]		[0.0001]
Gubernatorial election (Q2)		0.0001	0.0001
		[0.0001]	[0.0001]
Control variables	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
HQ state x year fixed effects	Yes	Yes	Yes
Job location state x year fixed effects	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes
Sample	Revelio	Revelio	Revelio
Observations	7,156,088	7,156,088	7,156,088
Adjusted R^2	0.002	0.003	0.002

Table 11: The impact of gubernatorial elections on employee inflows and outflows

This table reports regression results estimating the effect of gubernatorial elections on the number of employee inflows and outflows. The dependent variables *Ln(1+ Employee inflows)* and *Ln(1+ Employee outflows)* are the natural logarithm of one plus the number of employees inflows and employee outflows, respectively. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variables	Ln(1+inflows)	Ln(1+outflows)
	(1)	(2)
Gubernatorial election (Q1)	-0.001	0.001
	[0.001]	[0.001]
Gubernatorial election (Q2)	-0.004***	0.0003
	[0.001]	[0.001]
Control variables	Yes	Yes
Firm fixed effects	Yes	Yes
HQ state x year fixed effects	Yes	Yes
Job location state x year fixed effects	Yes	Yes
Industry x year fixed effects	Yes	Yes
Month fixed effects	Yes	Yes
Sample	Revelio	Revelio
Observations	7,156,088	7,156,088
Adjusted R^2	0.408	0.408

Table 12: The impact of gubernatorial elections on early employee departures

This table presents regression results estimating the effect of gubernatorial elections on early employee departures. The dependent variable is *Early departure,* which describes the number of employees that leave the firm within 12 months divided by the total number of employees that join the firm in a given state in a month-year. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Appendix 1 displays variable definition. Standard errors clustered at the firm level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variables	Early departure		
	(1)	(2)	(3)
Gubernatorial election (Q1)	0.003**		0.004**
	[0.001]		[0.001]
Gubernatorial election (Q2)		-0.0001	0.001
		[0.001]	[0.002]
Control variables	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
HQ state x year fixed effects	Yes	Yes	Yes
Job location state x year fixed effects	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes
Sample	Revelio	Revelio	Revelio
Observations	1,557,019	1,557,019	1,557,019
Adjusted R^2	0.090`	0.090	0.090

Appendix 1: Variable definitions

Variable	Description	Source
Election indicators		
Gubernatorial election (Q1)	A dummy variable that indicates one quarter before a gubernatorial election is scheduled to take place at the job location's state	Congressional Quarterly Electronic Library
Gubernatorial election (Q2)	A dummy variable that indicates two quarters before a gubernatorial election is scheduled to take place at the job location's state	Congressional Quarterly Electronic Library
Job postings data (Lightcast)		
Ln(1 + Job postings)	The natural logarithm of one plus the total number of job postings for full-time positions advertised by a firm in a given state during a given month	Lightcast
%Full-time posts	The proportion of job postings advertised for full-time positions relative to the total number of job postings for full- and part-time positions advertised by a firm in a given state during a given month	Lightcast
Job zone 5 versus 1	A job-level dummy variable that equals one if the advertised position has an O*NET occupation code corresponding to Job Zone 5, and zero if it corresponds to Job Zone 1	Lightcast
Job zone 45 versus 123	A job-level dummy variable that equals one if the advertised position has an O*NET occupation code corresponding to Job Zones 4 or 5, and zero if it corresponds to Job Zones 1, 2, or 3.	Lightcast
Require experience	A job-level dummy variable that equals one if the advertised position specifies a minimum experience requirement, and zero if the position does not specify an experience requirement	Lightcast
Require substantial experience	A job-level dummy variable that equals one if the advertised position requires two or more years of experience, and zero if it requires less than two years of experience or does not specify an experience requirement.	Lightcast
Ln(1+Total skills)	A job-level measure of total skills, defined as the natural logarithms of one plus the total number of skills that are required in a job posting	Lightcast
Ln(1+Specialized skills)	A job-level measure of specialized skills, defined as the natural logarithms of one plus the number of specialized skills required in a job posting, defined by Lightcast in terms of specialized skills as specific skills or abilities that are directly relevant to performing a particular job or task, e.g., coding in specific programming languages	Lightcast
Worker flows data (Revelio)		
Ln(1 + Mass layoffs)	The natural logarithm of one plus the number of employees being fired in a mass layoff by a firm in a given state during a given month	Revelio Labs
Ln(1+ Employee inflows)	The natural logarithm of one plus the number of employees inflows into a firm in a given state during a given month	Revelio Labs
Ln(1+ Employee outflows)	The natural logarithm of one plus the number of employees outflows out of a firm in a given state during a given month	Revelio Labs
Early departure	The ratio of employees hired by the firm in a given state during a given month who leave within 12 months of employment to the total number of employees hired by the firm in that state-month	Revelio Labs

Firm/CEO/industry/location characteristics

Firm size	Firm-quarter measure of firm size, defined as the natural logarithm of total assets	Compustat Quarterly
Firm age	Firm-quarter measure of firm age, defined as the number of years the firm has been listed on Compustat with a non-missing stock price	Compustat Annual
ROA	Firm-quarter measure of firm profitability, defined as net income scaled by total assets	Compustat Quarterly
Leverage	Firm-quarter measure of firm leverage, defined as current debt plus long-term debt scaled by total assets	Compustat Quarterly
Capital expenditures	Firm-quarter measure of capital expenditures, defined as capital expenditures scaled by total assets	Compustat Quarterly
Tobin's Q	Firm-quarter measure of Tobin's Q, defined as market value of assets (total assets + market value of common equity – common equity – deferred taxes)/(0.9*book value of assets + 0.1*market value of assets)	Compustat Quarterly
Exposure to general economic policy uncertainty	Industry-year measure of exposure to policy uncertainty, defined as the product of the absolute value of the sensitivity of risk-adjusted stock return to the growth in US economic policy uncertainty (EPU as measured by Baker, Bloom, and David, 2016) and the change in the 252-day average of trading-day EPU. The sensitivity of risk-adjusted stock return is estimated at the 2-digit SIC code level.	Alfaro et al. (2024)
Size-age index	Firm-year measure of financial constraints. The index is calculated as $-0.737*Size + 0.043*Size^2 - 0.04*Age$. We replace size with log ($4.5 billion) and age with 37 years if the actual values exceed these thresholds.	Compustat Annual; Hadlock and Pierce (2010)
High remote work	An industry-level dummy variable that equals one for firms in NAICS-4 industry groups with a work-from-home difficulty index below the median	Papanikolaou and Schmidt (2022)
Low remote work	An industry-level dummy variable that equals one for firms in NAICS-4 industry groups with a work-from-home difficulty index above the median	Papanikolaou and Schmidt (2022)
High unionization coverage	An industry-year dummy variable that equals one if the proportion of workers covered by collective bargaining agreements in a given industry (based on the Census Industry Classification) is above the sample median, and zero otherwise	Unionstat.com
Low unionization coverage	An industry-year dummy variable that equals one if the proportion of workers covered by collective bargaining agreements in a given industry (based on the Census Industry Classification) is below the sample median, and zero otherwise	Unionstat.com
High labor-focused elections	A state-year dummy that equals one for elections where the pre-election growth in Google Trends search interest for labor-related terms is above the sample median, and zero otherwise	Google Trends
Low labor-focused elections	A state-year dummy that equals one for elections where the pre-election growth in Google Trends search interest for labor-related terms is below the sample median, and zero otherwise	Google Trends
High uncertainty election	A state-year dummy that equals one for elections where the pre-election growth in the state's EPU index (Baker et al., 2012) is above the sample median, and zero otherwise.	Google Trends
Low uncertainty election	A state-year dummy that equals one for elections where the pre-election growth in the state's EPU index (Baker et al., 2012) is below the sample median, and zero otherwise.	Google Trends
High fin constraints	A firm-year dummy variable that equals one if firm size or firm age is below the sample median, or if the size-age index is above the sample median, and zero otherwise.	Compustat Annual

Low fin constraints	A firm-year dummy variable that equals one if firm size or firm age is above the sample median, or if the size-age index is below the sample median, and zero otherwise.	Compustat Annual
High vega	A firm-year dummy variable that equals one if the sensitivity of CEO wealth to stock volatility (vega) is above the sample median, and zero otherwise	Execucomp
Low vega	A firm-year dummy variable that equals one if the sensitivity of CEO wealth to stock volatility (vega) is below the sample median, and zero otherwise	Execucomp
HQ state	A firm-state-year dummy variable that equals one if the job postings are in the same state as the firm's headquarters, and zero otherwise.	Lightcast
Non-HQ states	A firm-state-year dummy variable that equals one if the job postings are not in the same state as the firm's headquarters, and zero otherwise.	Lightcast

Appendix 2: Robustness tests of baseline results

This table reports several robustness tests on our baseline finding on the effect of gubernatorial elections on a firm's job posting activities. The dependent variable is *Ln(1 + Job Postings),* the natural logarithm of one plus the total number of job postings for full-time positions by a firm in a given state in a given month. *Gubernatorial election (Q1)* and *Gubernatorial election (Q2)* indicate one and two quarters before an election is scheduled to take place at the job location's state, respectively. Control variables are collapsed for brevity and are identical to those in Table 2. Column 3 omits *Firm age* and *Exposure to General economic policy uncertainty* due to the presence of the firm-by-year fixed effects. Appendix 1 displays variable definition. Standard errors clustered at the firm-level are reported in brackets. Statistical significance at 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Dependent variable	Ln(1 + Job postings)			
	Poisson fixed effects model	Exclude presidential election years	Firm-year FE instead of firm FE	Double cluster at firm and job location state
	(1)	(2)	(3)	(6)
Gubernatorial election (Q1)	-0.020**	-0.029***	-0.016***	-0.016**
	[0.008]	[0.006]	[0.005]	[0.007]
Gubernatorial election (Q2)	-0.021***	-0.021***	-0.018***	-0.019***
	[0.008]	[0.005]	[0.004]	[0.005]
Control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	No	Yes
Firm x year fixed effects	No	No	Yes	No
HQ state x year fixed effects	Yes	Yes	No	Yes
Job location state x year fixed effects	Yes	Yes	Yes	Yes
Industry x year fixed effects	Yes	Yes	No	Yes
Month fixed effects	Yes	Yes	Yes	Yes
Sample	Lightcast	Lightcast	Lightcast	Lightcast
Observations	2,804,654	2,220,675	2,805,069	2,805,091
(Pseudo) Adjusted R^2	0.472	0.379	0.442	0.366

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